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Chapter Summaries

HRG4+ 2022/23 Local Payment Grouper

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Introduction

This document provides an overview of the scope, composition and relevant grouping logic of individual HRG subchapters, and highlights the most significant changes that have been implemented in the latest HRG4+ payment design.

For further details regarding the constituent elements that contribute to HRG grouping, reference data such as the ICD-10 and OPCS-4 codes used in the design, procedure and diagnosis hierarchies relevant to a specific design, and the Complication and Comorbidities (CC) lists for HRG subchapters, please see the Code to Group Excel file that accompanies each Grouper release.

Unless otherwise specified, any comparison between HRG designs in this document refers to those made between the HRG4+ 2022/23 Local Payment Grouper and the previous HRG4+ 2021/22 Local Payment Grouper.

As well as changes highlighted in each subchapter, there are cross-chapter changes implemented in the HRG4+ 2022/23 Local Payment Grouper that may have an impact on multiple subchapters. In addition, some changes to specific subchapters may have an impact on HRG grouping within other subchapters. Changes affecting multiple subchapters are described here.

Updates to Underlying Classifications

The ICD-10 and OPCS-4 National Clinical Coding Standards and guidance are updated annually. Changes to coding standards and guidance are reviewed for their potential impact on the HRG design, and changes to design logic may be made to ensure compliance with the latest coding standards and guidance.

Accommodation of Updates to the CDS Schema

In April 2021 schema CDS 6.2.0 was implemented, with updates to 3 new main specialty codes (MSCs) and 25 new treatment function codes (TFCs). These were introduced for use from 1 April 2021 and have already been added to the MSC and TFC lists used for validation within the Grouper, along with updates to the descriptions.

From April 2022, CDS 6.3 has been introduced and as a result, amendments have been made to the underlying Casemix reference data. To note, the National Casemix Office have decided not to implement any proposed deletions at this stage, so the grouping algorithm will not U group activity using the codes proposed for deletion e.g., ADMIMETH Code 28, even if organisations have transitioned to the updated schema.

The NHS Data Dictionary has been updated to reflect these changes, with further details available at: datadictionary.nhs.uk

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Below is a list of the codes which have been added to the underlying reference data. These are now considered as valid values with relation to the mandatory Grouper input field:

ADMISORC	37	Court
ADMISORC	40	Penal establishment
ADMISORC	42	Police Station / Police Custody Suite
ADMISORC	55	Care Home with Nursing
ADMISORC	56	Care Home without Nursing
DISDEST	40	Penal establishment
DISDEST	42	Police Station / Police Custody Suite
DISDEST	55	Care Home with Nursing
DISDEST	56	Care Home without Nursing
DISDEST	89	Organisation responsible for forced repatriation
DISMETH	6	Patient discharged him/herself
DISMETH	7	Patient discharged by a relative or advocate
SEX	X	Not known (person stated gender code not recorded)

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Subchapter AA – Nervous System Procedures and Disorders

Subchapter **AA Nervous System Procedures and Disorders** covers procedures for patients of all ages and the treatment of nervous system disorders in adults. It includes activity undertaken in inpatient, day case and non-admitted care settings.

It does not include percutaneous procedures on the nervous system, which map to Subchapter **YA Neurological Imaging Interventions**, nor intradural spinal procedures, which map to Subchapter **HC Spinal Procedures and Disorders**.

The majority of procedures performed on peripheral nerves do not map to this subchapter.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**101**	**101**
Total HRG Roots	**29**	**29**
Procedure-driven HRGs	51	51
Diagnosis-driven HRGs	50	50
Age Splits	Yes	Yes
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

The neurosurgery HRGs in this subchapter (**AA5***) are separated based on the expected complexity of the procedures, into a maximum of 7 levels (minimal, minor, intermediate, major, very major, complex and very complex).

In addition, there are HRGs for specific high-cost specialised activity, such as the insertion of neurostimulators and intrathecal drug delivery pumps, stereotactic radiosurgery and intracranial telemetry.

- There is specific logic on the neurostimulator HRGs. When the primary diagnosis code is indicative of faecal incontinence, urinary incontinence or a pain disorder, or where a primary diagnosis code relating to a complication or adjustment of neurostimulator (alongside a secondary diagnosis code indicating one of these conditions is recorded), the activity maps to the appropriate HRGs in Subchapters **FF Digestive System Open and Laparoscopic Procedures**, **LB Urological and Male Reproductive System Procedures and Disorders** and **AB Pain Management**, respectively.
- The stereotactic radiosurgery HRGs are differentiated based on the reason for treatment, whether for arteriovenous malformation (AVM) or other (predominantly cancer).

The remaining procedure-driven HRGs are specific to neuropsychology and neurophysiology tests, with HRGs for EEG, EMG and nerve conduction studies, and sleep studies.

- The long-term EEG monitoring HRGs are separated into standard and complex, with both requiring a length of stay of a week or less. The complex HRG is reached where an additional procedure code indicating sleep studies is recorded, or where a primary diagnosis code indicating an underlying neurological disorder is recorded.

Some activity with a dominant procedure mapped to an HRG root in this subchapter maps to an HRG in Subchapter **AB Pain Management** where either TFC **191 Pain Management Service** or TFC **241 Paediatric Pain Management Service** is recorded, or where the primary diagnosis code indicates that the patient is undergoing treatment as part of a pain management programme.

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Multiple Procedure Recognition

Multiple-procedure escalation logic is employed by many of the procedure-driven HRGs in this subchapter to escalate activity to an HRG with a higher expected resource usage (up to a maximum of 3 levels) where significant additional procedures are recorded.

The multiple-procedure escalation logic uses a scoring system which escalates activity to a higher resource HRG when a specific procedure score is reached. For this subchapter, the escalation logic uses the **AA_Proc_List**, which contains neurosurgical procedures; neurological imaging interventions; head, neck, sinus, mouth and throat procedures; maxillofacial procedures; spinal procedures; and certain skin procedures. Each procedure on the list has a value based on its expected resource use. These values, including that of the dominant procedure, are used to calculate the procedure score that triggers escalation.

- For example, where a Major dominant procedure, with a value of 3 on the **AA_Proc_List** is recorded with another Major procedure, with a value of 3 on the **AA_Proc_List**, the procedure score is 6. As a procedure score of at least 5 is required to escalate to the Very Major HRGs, this activity escalates up 1 level. If an additional Intermediate procedure is also recorded, with a value of 2 on the **AA_Proc_List** then the procedure score is 8. As a procedure score of at least 8 is required to escalate to the Complex HRGs, this activity escalates up 2 levels.

In general, procedure codes for revisional surgery are directly mapped to an HRG with a higher expected resource usage than their equivalent initial procedure. Escalation up 1 level can also occur with a subsidiary OPCS-4 code indicating that a procedure is the first revisional procedure.

Escalation up 2 levels can also occur where a subsidiary OPCS-4 code indicating that the procedure is a second or greater revisional procedure is recorded, or where there is an additional procedure indicating advanced monitoring, e.g., EPR or cortical mapping.

Certain procedures employ additional escalation logic whereby activity escalates to an HRG with a higher expected resource use where a primary diagnosis code indicative of a mid-brain tumour is recorded.

The multiple-procedure and other (revisional, mid-brain tumour diagnosis) escalation logic can act in combination with each other to escalate activity a maximum of 3 levels.

- For example, activity can escalate up 2 levels where a subsidiary OPCS-4 code indicating first revisional operation is recorded alongside additional procedure(s) that meet the next relevant score threshold, or where a subsidiary OPCS-4 code indicating first revisional operation is recorded with a primary diagnosis indicating a mid-brain tumour.

This subchapter also includes escalation logic whereby activity escalates to an HRG with a higher expected resource usage if the treatment of subdural haematomas is undertaken via open craniotomy, triggered by the presence of a subsidiary OPCS-4 code for the craniotomy approach.

Many of the procedure-driven HRG roots in this subchapter employ age splits: there are specific HRGs for adult activity (19 years and over) and others for paediatric activity (18 years and under).

Several of the less resource-intensive HRGs within this subchapter have maximum length of stay logic to ensure that minor procedures, such as a neuropsychology test or nerve conduction studies, are not used to determine the HRG for a long-stay medical patient, for example, a person who has suffered a stroke.

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All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in Chapter **P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework. The adult diagnosis-driven HRGs are differentiated by disorder type, with HRGs specific to disorders such as stroke, multiple sclerosis and motor neuron disease. Where a secondary diagnosis code indicating foot ulcer is recorded alongside a primary diagnosis code of diabetes with neurological complications, activity maps to an HRG in Subchapter **KB Diabetic Medicine**.

Interactive CC splits are employed within the majority of both diagnosis-driven and procedure-driven HRG roots within this subchapter – up to a maximum of 6 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to logic

Logic has been added to escalate operations on midbrain tumours to a higher expected resource HRG as these are expected to be more complex than operations performed on other, more accessible parts of the brain. Escalation can occur when a primary diagnosis code from new list **AA_MidBrain**, classifying a tumour of middle brain, e.g., supratentorial region, is recorded. Where appropriate, this logic works in combination with the multiple-procedure and revisional escalation logic within this subchapter.

Logic has been added to escalate subdural haematoma surgery to a higher expected resource HRG when a subsidiary OPCS-4 code indicating craniotomy (open) approach from new list **AA_Craniotomy** is recorded. This logic enables this more complex surgery to be mapped to higher expected resource HRGs than surgery performed to treat less severe subdural haematomas using the simpler burr hole approach.

Pain management logic has been expanded to include conditions likely to require treatment as part of a pain management programme, resulting in diagnosis codes being added to list **AB_Paindiag**. Pain management logic has also been applied to additional OPCS-4 codes classifying neurological procedures to ensure an HRG from Subchapter **AB Pain Management** is derived, when a primary diagnosis code indicating pain, from list **AB_Paindiag**, or where Treatment Function Code (TFC) 191 Pain Management or TFC 241 Paediatric Pain Management, is recorded. This has led to a shift in activity from this subchapter to the pain management HRGs in Subchapter AB.

Remapping / Creation of combination codes

OPCS-4 code ***A48.5 Reprogramming of neurostimulator adjacent to spinal cord*** has been remapped to **AA57 Minimal Intracranial Procedures**, for patient of all ages, to reflect the low resource use associated with this non-invasive procedure.

OPCS-4 code ***A20.3 Monitoring of pressure in ventricle of brain*** has been remapped to **AA54 Intermediate Intracranial Procedures, 19 years and over** for adult patients, and to. **AA56 Minor or Intermediate, Intracranial Procedures, 18 years and under** for child patients, to more appropriately reflect the resource usage associated with this procedure

Due to the creation of specific HRGs within Subchapter **AB Pain Management** for procedures performed under image control, 3 new procedure combination codes have been created: ***A288+IMAGE Other specified extracranial extirpation of other cranial nerve under image control***, ***A365+IMAGE Denervation of trigeminal nerve (v) under image control***, ***A368+IMAGE Other specified other operations on cranial nerve under image control***. These map to base HRG root **AA55 Minor Intracranial Procedures** with logic to map to the appropriate pain management HRGs.

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OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could be split out and captured using a new procedure combination code formed using a ***.8 Other specified*** OPCS-4 code and mapped accordingly.

Within this subchapter, these global reviews have resulted in 25 ***.8 Other specified*** OPCS-4 codes and 15 ***.9 Unspecified*** OPCS-4 codes being remapped to lower resource HRGs, including:

- ***A70.8 Other specified neurostimulation of peripheral nerve*** and ***A70.9 Unspecified neurostimulation of peripheral nerve*** have been remapped from base HRG root **AA57 Minimal Intracranial Procedures** to be ignored for grouping because the code category is too broad to be able to determine expected resource usage for these non-specific codes
- ***V02.8 Other specified other plastic repair of cranium*** and ***V02.9 Unspecified other plastic repair of cranium*** have been remapped from base HRG root **AA53 Major Intracranial Procedures** to **UZ01Z Data Invalid for Grouping** as these are ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes from an extended category and coding rules state they should not be used

New procedure combination code ***L348+REP Other specified open repair of cerebral artery*** has been created to identify procedures performed to repair the cerebral artery and has been mapped to base HRG root **AA53 Major Intracranial Procedures**. To support the different types of surgical repairs, the **CL_Rep** combination list associated with this, and other procedure combination codes classifying repair procedures, has been expanded to include all types of plastic and other repair of organs, such as those for insertion of mesh and graft to organ.

New procedure combination code ***A208+Y037 Removal of prosthesis from ventricle of brain*** has been created and mapped to base HRG root **AA55 Minor Intracranial Procedures, 19 years and over** for adults and **AA56 Minor or Intermediate, Intracranial Procedures, 18 years and under** for children.

Changes to list membership

The membership and values of the procedure codes on **AA_Proc_List**, used in multiple-procedure escalation logic employed within this subchapter, have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design and to remove redundant procedure codes from escalation lists.

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **AA_CC**.

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Subchapter AB – Pain Management

Subchapter **AB Pain Management** relates to treatments for pain management and covers activity for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**16**	**16**
Total HRG Roots	**16**	**16**
Procedure-driven HRGs	16	16
Diagnosis-driven HRGs	0	0
Age Splits	No	No
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	Yes	Yes

The HRGs within this subchapter are all procedure-driven and are procedure-specific rather than being separated by complexity level.

There are HRGs specific to high-volume pain management procedures, for example joint injections or acupuncture. There are also HRGs for specific high-cost specialised activity, such as the insertion of neurostimulators, and intrathecal drug delivery pumps for pain management.

- Additional logic is applied to neurostimulator procedure codes that default to an HRG root within Subchapter **AA Nervous System Procedures and Disorders** to ensure that, where the primary diagnosis relates to a complication or adjustment of neurostimulator, but a secondary diagnosis indicates that the device has been inserted for pain management treatment, activity maps to the appropriate HRG within this subchapter.
- The pain management HRGs for nerve block / destruction, injection into joint and epidural procedures are split based on whether the procedure is undertaken under image control. This uses "**+IMAGE**" procedure combination codes constructed using a subsidiary OPCS-4 code indicating 'under image control'.

Whilst some procedure codes map directly to HRGs within this subchapter, the vast majority of the HRGs within this subchapter are derived with a relevant dominant procedure which would otherwise map to HRGs within other subchapters such as **AA Nervous System Procedures and Disorders**, **HC Spinal Procedures and Disorders** or **HN Orthopaedic Non-Trauma Procedures**. There is logic on these procedure codes to map to the HRGs within this subchapter when the primary diagnosis code indicates a pain disorder, or where a TFC of **191 Pain Management Service** or **241 Paediatric Pain Management Service** is recorded.

As ICD-10 diagnosis codes are not yet mandated for use in the non-admitted care setting, only activity with a pain management TFC derives the pain management HRGs in outpatients, as the pain diagnosis logic cannot be triggered.

There are no paediatric specific HRGs within this subchapter due to the low volume of paediatric pain management activity.

The majority of HRGs within this subchapter have maximum length of stay logic to ensure that minor procedures, such as injection into joint, are not used to determine the HRG for a long-stay medical patient, for example, a person who has suffered a stroke.

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As the majority of activity for treatment as part of a pain management programme is short stay, there are no complication and comorbidity splits within this subchapter.

Differences from the HRG4+ 2021/22 Local Payment Grouper

New HRGs have been created / Existing HRGs deleted

Two existing HRGs (**AB17Z Nerve Block or Destruction of Nerve, for Pain Management** and **AB19Z Injection of Therapeutic Substance into Joint for Pain Management**) have been deleted and replaced with 4 new HRGs that differentiate between whether or not the intervention was undertaken using image control:

The new HRGs are:

AB25Z Nerve Block or Destruction of Nerve, Under Image Control, for Pain Management

AB26Z Nerve Block or Destruction of Nerve, for Pain Management

AB27Z Injection of Therapeutic Substance into Joint Under Image Control for Pain Management

AB28Z Injection of Therapeutic Substance into Joint for Pain Management

These HRGs are specific to interventions performed under image control and have been created to capture the expected resource usage involved with the use of image control, used to maximise the clinical outcome of treatment for the patient.

AB24Z Alteration of Function of Nerve for Pain Management has been created for the application of capsaicin patches. This procedure-specific HRG is required to appropriately capture the nature of this specialist procedure, including the significant cost of the patch(es).

Changes to logic

The majority of pain management activity is undertaken in the non-admitted care (outpatient) setting and relies on procedure codes such as those classifying joint injections or therapeutic infusions. However, these same procedures can be used to treat other non-pain related conditions, so it has not been possible previously to appropriately identify the majority of pain management activity. As ICD-10 diagnosis codes are not mandated for use in the non-admitted patient care setting, new logic has been introduced that uses Treatment Function Code (TFC) 191 Pain Management and TFC 241 Paediatric Pain Management to identify pain management procedures, within this service. This logic, applied across both admitted patient care and non-admitted care settings, enables a much wider range of pain management activity to map to an HRG in this subchapter. Previously this activity would have either mapped to procedure-driven HRGs outwith this subchapter or may have been either ignored for grouping in outpatients, or mapped to diagnosis-driven HRGs outwith this subchapter.

Pain diagnosis logic (both primary diagnosis and TFC check) has been added to 6 existing cranial nerve procedure codes and 2 new ***“+IMAGE***” procedure combination codes, including insertion and renewal of cranial nerve stimulators and electrodes. This is to ensure that when these procedures are undertaken for pain management, they appropriately map to HRGs within this subchapter, rather than to HRGs within Subchapter **AA Nervous System Procedures and Disorders**.

Incontinence logic has been removed from OPCS-4 code ***A70.4 Insertion of neurostimulator electrodes into peripheral nerve*** to reflect that there is a combination code for temporary insertion that already maps appropriately in the design to various HRGs depending on diagnosis. On its own, this code is used for a different, lower expected

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resource procedure, and it now defaults to **AB15Z Radiofrequency Ablation or Cryoablation, for Pain Management**. This change is expected to result in a shift in activity from Subchapters **LB Urological and Male Reproductive System Procedures and Disorders** and **FF Digestive System Open and Laparoscopic Procedures** to this subchapter.

Creation of combination codes

To generate the new nerve block or therapeutic injection under image control HRGs, 88 new "***+IMAGE***" procedure combination codes have been created using subsidiary OPCS-4 codes classifying under image control approach, e.g., ***A541+IMAGE Injection of destructive substance into cerebrospinal fluid under image control***. 20 of these new procedure combination codes map directly to **AB25Z Nerve Block or Destruction of Nerve, Under Image Control, for Pain Management**, while 68 map to base HRG roots within another subchapter but have pain management logic (both primary diagnosis and TFC check) so that they map to the under image control HRGs within this subchapter when undertaken as part of a pain management programme.

Changes to list membership

Over 100 diagnosis codes have been added to the **AB_Paindiag** list. These codes classify conditions that are likely to require treatment as part of a pain management programme, such as ***M43.0 Spondylolysis*** and ***M48.0 Spinal stenosis***. The inclusion of these codes on list **AB_Paindiag** ensures that certain procedures map to the HRGs within this subchapter where the patient is being treated as part of a pain management programme.

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

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Subchapter BZ – Eyes and Periorbita Procedures and Disorders

Subchapter **BZ Eyes and Periorbita Procedures and Disorders** covers procedures for patients of all ages and diagnoses for adults relating to the eyes and periorbita. It includes activity undertaken in inpatient, day case and non-admitted care settings.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**95**	**93**
Total HRG Roots	**49**	**48**
Procedure-driven HRGs	91	89
Diagnosis-driven HRGs	4	4
Age Splits	Yes	Yes
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	Yes	Yes
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

The majority of the procedure-driven HRGs in this subchapter are differentiated based on the type of eye surgery, and are separated into the following surgical areas:

BZ3* Cataract and Lens Procedures
BZ4* Oculoplastics Procedures
BZ5* Orbit and Lacrimal Procedures
BZ6* Cornea and Sclera Procedures
BZ7* Ocular Motility Procedures
BZ8* Vitreous Retinal Procedures
BZ9* Glaucoma Procedures

The HRGs within each of the surgical areas are further separated based on the expected complexity of the procedures into a maximum of 6 levels. The potential complexity level range includes 7 levels (minimal, minor, intermediate, major, very major, complex and very complex), however most surgical areas do not utilise all available complexity levels.

There are also a number of HRGs that relate to specific high-volume procedures, such as phacoemulsification cataract extraction and lens implantation, and tests such as retinal tomography.

Multiple Procedure Recognition

Multiple-procedure escalation logic is employed by many of the procedure-driven HRGs in this subchapter to escalate activity to an HRG with a higher expected resource usage (up to a maximum of 2 levels) where significant additional procedures are recorded.

The multiple-procedure escalation logic uses a scoring system which escalates activity to a higher resource HRG when a certain procedure score is reached. For this subchapter the escalation logic uses the **BZ_Proc_List** which contains eye and periorbita procedures. Each procedure on the list has a value based on its expected resource use. These values, including that of the dominant procedure, are used to calculate the procedure score that triggers escalation.

- For example, where an Intermediate dominant procedure, with a value of 2 on list **BZ_Proc_List** is recorded with another Intermediate procedure, with a value of 2 on list **BZ_Proc_List**, the procedure score is 4. As a procedure score of at least 3 is required to escalate to the Major HRGs, this activity escalates up 1 level. However, when an additional Intermediate procedure is also recorded, with a value of 2 on list **BZ_Proc_List** then the procedure score is 6. As a procedure score of at least 5 is required to escalate to the Complex HRGs, this activity escalates up 2 levels.

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Escalation up 1 level also occurs when procedures are undertaken under general anaesthetic (GA), but only where the expectation is that the procedures would typically be performed under local anaesthetic. This logic is therefore not applied to the **BZ7* Ocular Motility Procedures** HRGs, or the higher complexity level HRGs, where there is an expectation that the majority of operations would be undertaken under GA.

In general, revisional procedure codes are directly mapped to an HRG with a higher expected resource usage than their equivalent initial procedure. In addition, escalation up 1 level also occurs, where a subsidiary OPCS-4 code indicating a revisional operation is recorded.

Escalation up 1 level occurs when a subsidiary OPCS-4 code indicating bilateral operation is recorded, with the exception of some cataract and glaucoma procedures. There is also an HRG root, **BZ35 Bilateral Phacoemulsification Cataract Extraction and Lens Implant**, specific to this procedure being performed bilaterally within the same hospital admission.

The multiple-procedure and other (GA, revisional, bilateral) escalation logic can act in combination with each other to escalate up a maximum of 2 levels.

- For example, activity can escalate up 2 levels where a subsidiary OPCS-4 code indicating revisional operation is recorded with additional procedures that meet the next relevant score threshold, or where subsidiary OPCS-4 codes indicating a procedure was performed bilaterally and under GA are recorded.

There is logic on the excision of lesion of eyelid procedures to escalate activity to an HRG with a higher expected resource usage where a primary diagnosis of eyelid cancer is recorded.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure.In this subchapter they tend to be used to differentiate the renewal of various devices.

Many of the procedure-driven HRG roots in this subchapter employ age splits: there are specific HRGs for adult activity (19 years and over) and others for paediatric activity (18 years and under) across the oculoplastics, orbit and lacrimal, ocular motility and vitreous retinal procedure HRG roots. In addition, there are some HRGs that differentiate the treatment of younger children (0 to 3 years of age) from the treatment of older children (4 to 18 years of age).

The majority of minor procedure and ophthalmic test HRGs within this subchapter employ maximum length of stay logic to ensure that minor procedures, such as irrigation of tear duct, are not used to determine the HRG for a long-stay medical patient, e.g., a person who has suffered a stroke.

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in Chapter **P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework. The 1 diagnosis-driven HRG root in this subchapter, **BZ24 Non-Surgical Ophthalmology**, which is exclusively for adult activity, has both interactive CC and intervention splits. The former enables differentiation in expected resource usage between routine and complex patients, while the latter enables “minor interventions” to be used as proxies indicating additional resource usage.

Interactive CC splits are also employed within some of the procedure-driven HRG roots – up to a maximum of 3 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

As the majority of eye surgery is day case the complications and comorbidities list (**BZ_CC**) contains secondary diagnoses that predominantly impact theatre time and nursing resources. This includes mental health disorders such as dementia and autism, underlying

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heart conditions, other eye disorders such as infections and injury, congenital disorders such as Down syndrome and disorders likely to make the patient immunocompromised.

Differences from the HRG4+ 2021/22 Local Payment Grouper

New HRGs have been created / Existing HRGs deleted

The age split HRGs (**BZ74A Minor Ocular Motility Procedures, 19 years and over** and **BZ74B Minor Ocular Motility Procedures, 18 years and under**) have been deleted as the paediatric HRG no longer met HRG design criteria in terms of required volume. They have therefore been replaced by a single all-age HRG, **BZ74Z Minor Ocular Motility Procedures**.

BZ35A Bilateral Phacoemulsification Cataract Extraction and Lens Implant, with CC Score 2+ and **BZ35B Bilateral Phacoemulsification Cataract Extraction and Lens Implant, with CC Score 0-1** have been created to accommodate simultaneous bilateral cataract procedures where they are undertaken in clinically appropriate circumstances.

Changes to logic

OPCS-4 code ***C12.1 Excision of lesion of eyelid*** has been remapped to a lower expected resource base HRG root, **BZ46 Minor Oculoplastics Procedures**, to reflect the fact that this procedure code is most often used to record the removal of a wart or skin tag. However, diagnosis-qualified logic has been added to this code to ensure that when this procedure is undertaken to treat a malignancy or a suspected malignancy, indicated by the presence of a diagnosis code from new list **BZ_Eyelid_Neo**, escalation occurs to HRG root **BZ45 Intermediate Oculoplastics Procedures** to account for the greater complexity of the procedure, and any associated pathology costs.

Multiple-procedure escalation logic has been removed from most ophthalmic tests to ensure that when multiple tests are undertaken, there is not inappropriate escalation to a higher expected resource HRG. There is a single exception to this, as escalation can occur when certain electroretinography tests are recorded together with a procedure code classifying electrooculography, from list **BZ_EOG**. These changes have resulted in the deletion of redundant flag logic **BZ_p_2_Bil**.

New grouping logic (**BZ_Tomog_LoS_0**) has been introduced to ensure retinal tomography evaluations continue to drive grouping when recorded alongside digital retinal tomography.

With the deletion of the 2 phacoemulsification cataract extraction and lens implant procedure combination codes, which mapped directly to base HRG root **BZ34 Unilateral Phacoemulsification Cataract Extraction and Lens Implant**, new logic has been added to OPCS-4 code ***C75.1 Insertion of prosthetic replacement for lens NEC***. This logic escalates activity to HRG root **BZ34 Unilateral Phacoemulsification Cataract Extraction and Lens Implant** when additional OPCS-4 code ***C71.2 Phacoemulsification of lens*** is recorded, and to **BZ35 Bilateral Phacoemulsification Cataract Extraction and Lens Implant** when additional new procedure combination code ***C712+Z941 Bilateral phacoemulsification of lens*** is recorded.

Logic has been added to OPCS-4 code ***C60.5 Insertion of tube into anterior chamber of eye*** **(**to assist drainage of aqueous humour), to ensure that when minimally invasive glaucoma surgery (MIGS) is performed with either a uni- or bilateral cataract procedure, activity escalates to HRG root **BZ30 Complex Cataract or Lens, Procedures**.

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Remapping / Creation of combination codes

A review of eye injection and implant procedures has been undertaken, which has resulted in the following changes:

- All surgical recession and resection of eye muscle procedures that previously mapped to **BZ74Z Minor Ocular Motility Procedures** have been remapped to base HRG root **BZ73 Intermediate Ocular Motility Procedures**. OPCS-4 code ***C37.8 Other specified other operations on muscle of eye*** **(**which is predominantly used for injection of botulinum toxin) is now the only procedure mapped to **BZ74Z Minor Ocular Motility Procedures**, however this now requires a length of stay of zero days. Escalation logic has also been removed from this procedure to ensure this activity remains separate from surgical ocular motility activity.

- ***C86.7 Injection of therapeutic substance around the eye*** has been remapped from base HRG root **BZ87 Minor Vitreous Retinal Procedures** to **BZ86 Intermediate Vitreous Retinal Procedures** to more appropriately reflect the expected resource usage of this procedure.

- ***C89.1 Insertion of sustained release device into posterior segment of eye*** has been remapped from base HRG root **BZ86 Intermediate Vitreous Retinal Procedures** to **BZ84 Major Vitreous Retinal Procedures, 19 years and over** for adults and to **BZ85Z Very Major or Major, Vitreous Retinal Procedures, 18 years and under** for children, to more appropriately reflect the expected resource usage of this specialised procedure.

- ***C82.4 Plaque radiotherapy to lesion of retina*** has been remapped from base HRG root **BZ83 Very Major Vitreous Retinal Procedures, 19 years and over** to **BZ81 Complex Vitreous Retinal Procedures, 19 years and over** for adults, to take into account the expected resource usage associated with the hospital stay required when patients are admitted for plaque radiotherapy. This activity will escalate to HRG root **BZ80 Very Complex Vitreous Retinal Procedures, 19 years and over** when it is recorded alongside ***C84.8 Other specified other operations on retina***, (the code classifying removal of radioactive plaque). Both this insertion, with or without, removal, will map to **BZ82Z Very Complex or Complex, Vitreous Retinal Procedures, 18 years and under** for children.

A review of ophthalmic tests has been undertaken, which has resulted in the following changes:

- Most ophthalmic test procedures have been remapped to lower expected resource HRGs to reflect that although many of these tests are time consuming, they do not consume as much resource usage as surgical vitreous retinal procedures, and they typically take place in a non-admitted care setting.

- ***C518+US Ultrasound of cornea*** has been remapped from **BZ65Z Minor, Cornea or Sclera Procedures** to be ignored for grouping because this simple test (corneal pachymetry) is either part of an outpatient attendance or is expected to be no more resource intensive than a standard outpatient consultation.

- New procedure combination codes specific to ophthalmic tests have been created: ***C873+Z352 Tomography evaluation of ophthalmic artery*** has been mapped to base HRG root **BZ87 Minor Vitreous Retinal Procedures**, and ***C868+Y442 Monitoring of***

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pressure of eye is ignored for grouping as this intervention is considered no more resource intensive than a standard outpatient consultation.

OPCS-4 codes ***C03.2 Insertion of prosthetic replacement for eyeball*** and ***C04.2 Revision of prosthetic replacement for eyeball*** have been remapped from base HRG roots **BZ54 Major, Orbit or Lacrimal Procedures, 19 years and over** and **BZ53 Very Major, Orbit or Lacrimal Procedures, 19 years and over**, respectively, for adults, and from **BZ55Z Very Major or Major, Orbit or Lacrimal Procedures, 18 years and under** for children to **BZ56 Intermediate, Orbit or Lacrimal Procedures**, to more appropriately reflect the expected resource usage of these procedures, which are expected to be undertaken in an outpatient setting and should therefore not map to an expected high-resource HRG.

OPCS-4 code ***C09.3 Replacement of medial canthal tendon using periosteal strip*** has been remapped from base HRG root **BZ45 Intermediate Oculoplastics Procedures** to **BZ54 Major, Orbit or Lacrimal Procedures, 19 years and over** for adults and to **BZ55Z Very Major or Major, Orbit or Lacrimal Procedures, 18 years and under** for children, to match the mapping of the other canthal tendon procedures within the same OPCS-4 code category.

Procedure combination code ***C518+PDT Photodynamic therapy to cornea*** has been deleted and replaced with more specific procedure combination code ***C518+Y371 Introduction of photodynamic substance into cornea***. The new combination code has been mapped to base HRG root **BZ63 Major, Cornea or Sclera Procedures** to reflect that although there is a significant cost associated with the photodynamic drug, this is not expected to be as high as undertaking a surgical procedure.

OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could be split out and captured using a new procedure combination code formed using a ***.8 Other specified*** OPCS-4 code and mapped accordingly.

Within this subchapter, these global reviews have resulted in 3 ***.8 Other specified*** OPCS-4 codes and 3 **.9 Unspecified** OPCS-4 codes being remapped to lower resource HRGs This includes ***C48.8 Other specified removal of foreign body from cornea*** and ***C48.9 Unspecified removal of foreign body from cornea***, which have been remapped from base HRG root **BZ63 Major, Cornea or Sclera Procedures** to **BZ65Z Minor, Cornea or Sclera Procedures** to more appropriately reflect that these tend to be minor outpatient procedures.

New procedure combination code ***C648+Y18 Freeing of adhesions of iris*** has been created and mapped to base HRG root **BZ93 Major, Glaucoma or Iris Procedures**.

New procedure combination code ***C048+Y032 Renewal of prosthetic replacement for eyeball*** has been created and mapped to base HRG root **BZ53 Very Major, Orbit or Lacrimal Procedures, 19 years and over** for adults and to **BZ55Z Very Major or Major, Orbit or Lacrimal Procedures, 18 years and under** for children.

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Changes to list membership

The membership and values of the procedure codes on **BZ_Proc_List**, used in multiple-procedure escalation logic employed within this subchapter, have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design and to remove redundant procedure codes from escalation lists.

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **BZ_CC**.

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Subchapter CA – Ear, Nose, Mouth, Throat, Head and Neck Procedures

Subchapter **CA Ear, Nose, Mouth, Throat, Head and Neck Procedures** covers ear, nose, mouth, throat, head and neck procedures for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

It does not include dental or orthodontic procedures, which are covered by Subchapter **CD Dental and Orthodontic Procedures**.

It does not include percutaneous procedures performed on the head and neck: these map to Subchapter **YC Head and Neck Imaging Interventions**.

The HRGs within this subchapter are generally differentiated based on the site of surgery – e.g., neck, ear, nose etc. – but there are also HRGs specific to maxillofacial and audiology procedures. In addition, there are procedure-specific HRGs for high-volume procedures such as tonsillectomy, septoplasty and diagnostic nasopharyngoscopy.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**122**	**122**
Total HRG Roots	**70**	**70**
Procedure-driven HRGs	122	122
Diagnosis-driven HRGs	0	0
Age Splits	Yes	Yes
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

The HRGs within this subchapter are separated into the following areas:
CA0* Head and Neck Procedures
CA1*-CA2* Nose and Sinus Procedures
CA3*-CA5* Ear procedures, including audiology
CA6*-CA8* Mouth and Throat Procedures, including endoscopy
CA9* Maxillofacial Surgery Procedures

The HRGs within each of the surgical areas are further separated based on the expected complexity of the procedures into a maximum of 7 levels. The potential range includes 7 levels (minimal, minor, intermediate, major, very major, complex and very complex), however most surgical areas do not utilise all available complexity levels.

Multiple Procedure Recognition

Multiple-procedure escalation logic is employed by many of the procedure-driven HRGs in this subchapter to escalate activity to an HRG with a higher expected resource usage (up to a maximum of 2 levels) where significant additional procedures are recorded.

The multiple-procedure escalation logic uses a scoring system which escalates activity to a higher resource HRG when a certain procedure score is reached. For this subchapter the escalation logic uses different lists for each organ - **CA_Ear_Nose** for ear and nose procedures, **CA_Mastoid** for mastoid procedures, **CA_FESS** for sinus procedures, **CA_Mouth** for mouth and throat procedures, **CA_Neck** for head and neck procedures and **CA_MaxFac** for maxillofacial procedures. Each list contains procedures that would not be expected to be part and parcel of the operations on those specific organs. Each procedure on the list has a value based on its expected resource use. These values, including that of the dominant procedure, are used to calculate the procedure score that triggers escalation.

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- For example, where an Intermediate ear dominant procedure, with a value of 3 on list **CA_Ear_Nose** is recorded with another Intermediate procedure, with a value of 2 on list **CA_Ear_Nose**, the procedure score is 5. As a procedure score of at least 4 is required to escalate to the Major Ear HRGs, this activity escalates up 1 level. However, when an additional Intermediate procedure is also recorded, with a value of 2 on list **CA_Ear_Nose** then the procedure score is 7. As a procedure score of at least 7 is required to escalate to the Complex Ear HRGs, this activity escalates up 2 levels.

There is logic on some examination procedure codes to escalate to an HRG with a higher expected resource usage where a subsidiary OPCS-4 code indicating that the examination was under general anaesthetic (GA) is recorded.

There is logic on the relevant excision of lesion of nose procedure codes mapped to **CA15Z Excision or Biopsy, of Lesion of Internal Nose** to trigger escalation to **CA21Z Very Major Nose Procedures** where a primary diagnosis indicating a vascular nasal tumour is recorded.

CA12Z Major Treatment of Epistaxis can be generated using OPCS-4 codes indicating major treatment, or via escalation when 2 minor treatments are recorded.

The Cochlear Implant HRGs are split into unilateral and bilateral HRGs – the latter are generated where a subsidiary OPCS-4 code indicating bilateral operation is recorded.

CA61Z Adenotonsillectomy is reached where a dominant tonsillectomy procedure is recorded alongside an additional adenoidectomy procedure.

CA70Z Diagnostic Examination of Upper Respiratory Tract and Upper Gastrointestinal Tract can be generated either directly with an OPCS-4 code indicating rigid oesophagoscopy, or via escalation, when a pharyngoscopy or laryngoscopy is recorded alongside a flexible oesophagogastroscopy procedure.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. In this subchapter they tend to be used to identify subsidiary site of head or neck for soft tissue procedures, to differentiate renewal of various devices, or so that endoscopic procedures can be differentiated from the equivalent percutaneous procedures mapped to HRGs within Subchapter **YC Head and Neck Imaging Interventions**.

The majority of HRG roots in this subchapter employ age splits: there are specific HRGs for adult activity (19 years and over) and others for paediatric activity (18 years and under). In addition, there are some HRGs that differentiate the treatment of infants (0 to 1 year of age) from the treatment of older children (2 to 18 years). Some of the audiology HRGs differentiate preschool-aged children (4 years and under) and school-aged children (5 to 18 years) whereas the tonsillectomy HRGs differentiate between children 0-3 years age and children 4 to 18 years of age.

Most of the diagnostic, minor and minimal procedure HRGs within this subchapter have maximum length of stay logic to ensure that minor procedures, such as drainage of ear wax, are not used to determine the HRG for a long-stay medical patient, e.g., a person who has suffered a stroke.

Interactive CC splits are employed within many of the HRG roots within this subchapter – up to a maximum of 3 levels – to differentiate complex patients from routine patients.

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Differences from the HRG4+ 2021/22 Local Payment Grouper

New HRGs have been created / Existing HRGs deleted

Due to a shift in activity resulting from the procedure hierarchy review, there is sufficient activity within HRG root **CA01 Complex Neck Procedures** to warrant differentiating resource usage between patients with varying levels of complications and comorbidities. Thus, **CA01Z Complex Neck Procedures** has been deleted and replaced with 3 new HRGs: **CA01C Complex Neck Procedures, with CC Score 7+**; **CA01B Complex Neck Procedures, with CC Score 3-6**; and **CA01A Complex Neck Procedures, with CC Score 0-2**.

Younger children undergoing a tonsillectomy procedure typically consume much greater resource than older children undergoing the same procedure, with older children typically consuming a similar level of resource to adult patients. To reflect this, the age split for HRG root **CA60 Tonsillectomy** has been amended. As a result, **CA60A Tonsillectomy, 19 years and over** and **CA60B Tonsillectomy, 18 years and under** have been deleted and replaced with **CA60C Tonsillectomy, 4 years and over** and **CA60D Tonsillectomy, 3 years and under.**

Change to chapter, subchapter and HRG labels

The labels of Chapter C and Subchapter CA have been amended to clarify that HRGs in this subchapter include procedures undertaken on the head.
The new labels are as follows:

C Ear, Nose, Mouth, Throat, Head, Neck and Dental
CA Ear, Nose, Mouth, Throat, Head and Neck Procedures

The labels of HRG roots **CA01-CA05** and that of their associated HRGs have been amended to clarify that these HRGs include procedures undertaken on the tissue of the head.
The revised HRG root labels are:

CA02* Very Major, Head or Neck Procedures

CA03* Major, Head or Neck Procedures

CA04* Intermediate, Head or Neck Procedures

CA05* Minor, Head or Neck Procedures

Changes to logic

Escalation logic has been added to OPCS-4 codes ***D28.2 Examination of ear under anaesthetic*** and ***E27.6 Examination of pharynx under anaesthetic*** to escalate activity to a higher expected resource HRG where a subsidiary OPCS-4 code indicating general anaesthetic is also recorded. This logic enables the resource difference between exams performed under general anaesthetic and those performed under no, or local, anaesthetic to be acknowledged. In addition, ***D28.2 Examination of ear under anaesthetic*** has been remapped to a lower resource base HRG root **CA55 Minimal Ear Procedures**, where length of stay is less than 2 days.

The escalation logic on OPCS-4 code ***E03.6 Septoplasty of nose NEC*** has been amended so that it escalates to the functional endoscopic sinus surgery (FESS) HRGs rather than to

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the open nose procedure HRGs, acknowledging that a septoplasty is often undertaken as part of FESS access.

Remapping / Creation of combination codes

The creation of a new subchapter specific to neck imaging interventions, Subchapter **YC Neck Imaging Interventions**, has resulted in the remapping of procedure codes relating to percutaneous excisions, biopsies, and drainage of soft tissue of the head and neck from HRGs within this subchapter, to the new HRGs within Subchapter **YC Neck Imaging Interventions**.

New "***+HEAD***" and "***+NECK***" procedure combination codes, have been created and mapped directly to HRGs within Subchapter **YC Neck Imaging Interventions**, and 4 redundant combination codes that previously mapped to HRGs within this subchapter have been deleted. The new combination codes use the existing combination lists of head and neck subsidiary OPCS-4 site codes, **CL_Head** and **CL_Neck**.

Updated clinical coding guidance clarifies that there are 4 ways to code a sialendoscopy (examination of the ducts of the salivary glands) depending on what is being done. A procedure combination code has been created for each of these 4 methods:

- ***F51.1+Y76.3 Endoscopic extraction of calculus from parotid duct***, ***F51.2+Y76.3 Endoscopic extraction of calculus from submandibular duct***, ***F55.1+Y76.3 Endoscopic dilation of parotid duct*** and ***F55.2+Y76.3 Endoscopic dilation of submandibular duct***, and all codes have been mapped to base HRG root **CA84 Intermediate, Mouth or Throat Procedures**.
- ***F51.1 Open extraction of calculus from parotid duct***, ***F51.2 Open extraction of calculus from submandibular duct***, ***F55.1 Dilation of parotid duct*** and ***FF5.2 Dilation of submandibular duct*** have been remapped from base HRG root **CA85 Minor, Mouth or Throat Procedures** to **YC10Z Percutaneous Therapeutic, Head or Neck Procedures** following the creation of the procedure combination codes.

9 new "***+HEAD***" combination codes relating to soft tissue and lymph node procedures have been created and mapped to the same **CA01-CA05 Head and Neck Procedure** base HRG roots as their equivalent "***+NECK***" procedure combination codes, to reflect that these HRGs should include procedures on both the head and neck.

A review of audiological tests has resulted in the remapping of OPCS-4 code ***D24.5 Transtympanic electrocochleography*** to **CA38* Evoked Potential Recording**, to reflect that this is a form of EPR. Also, the hearing aid implant and maintenance OPCS-4 codes ***D05.5 Placement of hearing implant in external ear***, ***D05.6 Attention to hearing implant in external ear*** and ***D05.7 Removal of hearing implant from external ear*** have been remapped from base HRG root **CA53 Intermediate Ear Procedures** to ignored for grouping, as these interventions are part of a hearing aid service. This has resulted in the now redundant procedure combination code ***D056+Y032 Renewal of hearing implant in external ear*** being deleted.

OPCS-4 code ***X39.3 Intranasal administration of therapeutic substance*** has been remapped from being ignored for grouping, to **CA12Z Major Treatment of Epistaxis**, the appropriate OPCS-4 code for the insertion of haemostasis agents used to treat epistaxis.

New procedure combination code, ***E342+Y403 Microtherapeutic endoscopic resection of lesion of larynx and balloon dilation*** has been created and mapped to base HRG root

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CA67 Complex Therapeutic Endoscopic, Larynx or Pharynx Procedures to reflect the expected resource use of this specific procedure.

OPCS-4 procedure code ***D05.4 Attention to fixtures for auricular prosthesis*** has been remapped from base HRG root **CA54 Minor Ear Procedures** to **CA55 Minimal Ear Procedures**, and ***E42.7 Removal of tracheostomy tube*** has been remapped from base HRG root **CA86 Minimal, Mouth or Throat Procedures** to **CA85 Minor, Mouth or Throat Procedures**. Both procedures have been remapped to reflect that they consume less resource than the equivalent insertion of device procedures.

Procedure combination code ***L671+NECK Biopsy of artery NEC of neck*** has been deleted and replaced with ***L671+O121 Biopsy of temporal artery***, which has been mapped to a new procedure-specific HRG, **YQ43Z Biopsy of Temporal Artery**. This will result in a shift of activity from HRG root **CA05 Minor, Head or Neck Procedures** to this new HRG in Subchapter **YQ Vascular Procedures and Disorders**.

A review of maxillofacial surgery procedure code mappings has been undertaken, resulting in OPCS-4 codes classifying various maxillofacial surgery procedures being remapped to better reflect expected resource use:

- ***V14.2 Extensive excision of mandible NEC*** has been remapped from base HRG root **CA92 Very Major Maxillofacial Procedures** to **CA91 Complex Maxillofacial Procedures**.
- ***V10.6 Osteotomy of bones of face and translocation of orbit*** and ***V10.7 Subcranial U-osteotomy of bones of face and translocation of orbit*** have been remapped from base HRG root **CA92 Very Major Maxillofacial Procedures** to **CA91 Complex Maxillofacial Procedures** to ensure these highly complex paediatric procedures are mapped to the same HRG root as similarly complex maxillofacial surgery procedures.
- ***V14.3 Partial excision of mandible NEC*** and ***V20.1 Total prosthetic replacement of temporomandibular joint*** have been remapped from base HRG root **CA93 Major Maxillofacial Procedures** to **CA92 Very Major Maxillofacial Procedures**.
- ***V19.1 Reconstruction of mandible*** has been remapped from base HRG root **CA94 Intermediate Maxillofacial Procedures** to **CA93 Major Maxillofacial Procedures** to better reflect the complexity of reconstructive surgery.
- ***V07.3 Excision of lesion of bone of face*** has been remapped from base HRG root **CA93 Major Maxillofacial Procedures** to **CA94 Intermediate Maxillofacial Procedures**.
- ***F39.1 Reconstruction of mouth using flap NEC*** has been remapped from base HRG root **CA80 Very Complex, Mouth or Throat Procedures** to **CA81 Complex, Mouth or Throat Procedures** to reflect that this type of reconstruction can involve both simple local, or more complex distant, flaps. However, escalation logic applied to this code ensures that records with this dominant procedure will escalate to **CA80 Very Complex, Mouth or Throat Procedures** where additional distant flap skin reconstruction procedures are recorded.

OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could be split out and captured using a new procedure combination code formed using a ***.8 Other specified*** OPCS-4 code and mapped accordingly.

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Within this subchapter, these global reviews have resulted in 21 ***.8 Other specified*** OPCS-4 codes and 15 ***.9 Unspecified*** OPCS-4 codes being remapped to lower resource HRGs.

3 new procedure combination codes***, D158+ATT Myringotomy with attention to ventilation tube through tympanic membrane***, ***D158+Y037 Myringotomy with removal of ventilation tube through tympanic membrane*** and ***D158+Y032 Myringotomy with renewal of ventilation tube through tympanic membrane***, have been created to identify the “attention to”, “removal of” and “renewal of” grommets. The “attention to” and “removal of” grommets procedure combination codes have been mapped to base HRG root **CA55 Minimal Ear Procedures** and the “renewal of” code has been mapped in the same way as the initial insertion procedure, to base HRG root **CA35 Insertion of Grommets**.

New procedure combination code ***E038+CAUT Cauterisation of septum of nose*** has been created and mapped to base HRG root **CA13 Minor Treatment of Epistaxis**. This procedure combination code uses new combination list **CL_CAUT**, which contains subsidiary coblation, cauterisation and electrocauterisation OPCS-4 codes.

New procedure combination code ***F588+REP Repair of salivary duct*** has been created and mapped to base HRG root **CA84 Intermediate, Mouth or Throat Procedures.** To support the different types of surgical repairs, the **CL_Rep** combination list associated with this and other procedure combination codes classifying repair procedures has been expanded to include codes for all types of plastic and other repair of organ codes such as those for insertion of mesh and graft to organ.

2 new procedure combination codes have been created for endoscopic examination of ear and otoscopy: ***D288+Y763 Other specified endoscopic operations on ear*** has been mapped to base HRG root **CA55 Minimal Ear Procedures** and **D288+EXAM Other specified examination of ear** is ignored for grouping purposes reflecting that an otoscopy is routinely carried out in an outpatient consultation and is not considered to consume additional resource.

Changes to list membership

The membership and values of the procedure codes on the various lists used in multiple-procedure escalation logic employed within this subchapter have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design and to remove redundant procedure codes from escalation lists.

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **CACB_CC**.

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Subchapter CB – Ear, Nose, Mouth, Throat, Head and Neck Disorders

Subchapter **CB Ear, Nose, Mouth, Throat, Head and Neck Disorders** includes all ear, nose, mouth, throat, head and neck disorders for adults only. It includes activity undertaken in inpatient and day case settings.

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in Chapter **P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework.

The HRGs within this subchapter are separated into 2 HRG roots, malignant and non-malignant ear, nose, mouth, throat, head and neck disorders.

Both HRG roots employ intervention splits to acknowledge where "minor interventions" undertaken during a patient admission are expected to result in additional resource usage.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	12	12
Total HRG Roots	2	2
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	12	12
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	Yes	Yes
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Interactive CC splits are employed within both HRG roots in this subchapter – up to a maximum of 3 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Change to chapter, subchapter and HRG labels

The labels of Chapter C and Subchapter CB have been amended to clarify that HRGs in this subchapter include disorders of the head.

The new labels are as follows:

C Ear, Nose, Mouth, Throat, Head, Neck and Dental
CB Ear, Nose, Mouth, Throat, Head and Neck

The labels of HRG roots **CB01**-**CB02** and that of their associated HRGs have been amended to clarify that these HRGs also include disorders of the bones and soft tissue of the head.

The revised HRG root labels are:

CB01* Malignant, Ear, Nose, Mouth, Throat, Head or Neck Disorders

CB02* Non-Malignant, Ear, Nose, Mouth, Throat, Head or Neck Disorders

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Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

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Subchapter CD – Dental and Orthodontic Procedures

Subchapter **CD Dental and Orthodontic Procedures** covers dental and orthodontic procedures for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

Other mouth procedures and maxillofacial procedures are covered alongside ear, nose, throat, head and neck procedures within Subchapter **CA Ear, Nose, Mouth, Throat, Head and Neck Procedures**.

Dental disorders are covered in Subchapter **CB Ear, Nose, Mouth, Throat, Head and Neck Disorders**.

The HRGs within this subchapter are differentiated based on the type of dental or orthodontic procedure performed and cover dental surgery, tooth extractions, orthodontics and restorative dentistry procedures.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**23**	**23**
Total HRG Roots	**12**	**12**
Procedure-driven HRGs	23	23
Diagnosis-driven HRGs	0	0
Age Splits	Yes	Yes
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

Some dental surgery HRGs are further separated based on the expected complexity of the procedures into a maximum of 3 levels (minor, intermediate and major).

There is logic on tooth procedures to escalate to an HRG with a higher expected resource use where a subsidiary OPCS-4 code of **O36.1 Multiple teeth** is recorded, to acknowledge the additional resource associated with performing procedures on multiple teeth.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. In this subchapter they are used to differentiate renewal of prosthesis and to identify specific graft to gingiva procedures.

Most HRG roots within this subchapter employ age splits: there are specific HRGs for adult activity (19 years and over) and others for paediatric activity (18 years and under).

All the HRGs within this subchapter have maximum length of stay logic to ensure that minor procedures, such as tooth extraction, are not used to determine the HRG for a long-stay medical patient, e.g., a person who has suffered a stroke.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to logic

Multiple teeth escalation logic has been added to OPCS-4 code ***F10.5 Extraction of retained root of tooth*** to escalate activity to HRG root **CD06 Extraction of Multiple Teeth** to reflect the additional resource usage associated with performing the procedure on multiple teeth.

Changes to list membership

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

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Subchapter DX – COVID-19 Infection

Subchapter **DX COVID-19 Infection** is is designed specifically to identify patients with a primary diagnosis of either ***U07.1 COVID-19, virus identified*** or ***U07.2 COVID-19, virus not identified*** who have no significant procedures recorded. It covers patients of all ages and includes activity undertaken in admitted patient care settings only. As the HRGs are diagnosis-driven, they cannot be generated in a non-admitted care setting.

Subchapter **DX COVID-19 Infection** was created in response to updates to national coding guidance regarding the recording of COVID-19 infections, which confirmed that the two COVID-19 ICD-10 codes are effectively identifying a cohort of patients with the same disease and treatment pathway.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	6	6
Total HRG Roots	3	3
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	6	6
Age Splits	Yes	Yes
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

U07.1 COVID-19, virus identified must only be assigned for laboratory confirmed cases of COVID-19 (i.e. positive test result).

U07.2 COVID-19, virus not identified is used when COVID-19 is diagnosed clinically or epidemiologically but laboratory testing is inconclusive or not available.

There are 6 HRGs within this subchapter, as follows:

DX01A COVID-19 Infection, with Major Manifestations, 19 years and over
DX01B COVID-19 Infection, with Major Manifestations, 18 years and under
DX11A COVID-19 Infection, with Pneumonia, 19 years and over
DX11B COVID-19 Infection, with Pneumonia, 18 years and under
DX21A COVID-19 Infection, 19 years and over
DX21B COVID-19 Infection, 18 years and under

Subchapter DX COVID-19 Infection HRG Grouping Logic

The Subchapter **DX COVID-19 Infection** HRGs require a primary diagnosis of either ***U07.1 COVID-19, virus identified*** or ***U07.2 COVID-19, virus not identified***, and no significant procedures recorded. They cover patients of all ages and can only be generated from the APC data set.

The HRG Grouping logic makes use of two lists, effectively “escalating” from the DX21* “infection-only” base HRGs when specified secondary diagnoses are recorded.

For example:

- If the patient has 1 or more major manifestations recorded as secondary diagnoses in the patient record (as identified by one of the 125 ICD-10 codes on the “Major Manifestation” list **DX_Major**, see below), the HRG root that will be generated will be **DX01 COVID-19 Infection, with Major Manifestations**

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The Major Manifestations list includes conditions clinically identified as major manifestations of other diseases caused by the COVID-19 infection, such as sepsis, blood clots, organ failure and paediatric multisystem inflammatory syndrome.

- If the patient does not have a Major Manifestation recorded but does have a manifestation of “COVID-pneumonia”, recorded in accordance with national coding standards as a secondary diagnosis of ***J12.8 Other viral pneumonia***, the HRG root that will be generated will be **DX11 COVID-19 Infection, with Pneumonia**. The ICD-10 code ***J12.8 Other viral pneumonia*** is the only ICD-10 code on the “COVID-Pneumonia” list (list **DX_Pneumonia**)

If the patient has COVID-Pneumonia and 1 or more of the manifestations on list **DX_Major**, then the HRG root generated will be **DX01 COVID-19 Infection, with Major Manifestations**.

- If the patient has a primary diagnosis of either ***U07.1 COVID-19, virus identified*** or ***U07.2 COVID-19, virus not identified*** and has no manifestations of the disease recorded that are included on either the Major Manifestations or COVID-Pneumonia lists, the HRG root that will be generated will be **DX21 COVID-19 Infection**

The HRGs within this subchapter employ standard adult / child age splits (19 years and over / 18 years and under) and do not employ any CC or Intervention splits.

The Subchapter **DX COVID-19 Infection** HRGs do not take into account whether or not patients have subsequently been admitted to intensive care facilities, as the data, and the appropriate unbundled HRG design, is reliant upon the Critical Care Minimum Data Sets.

As both episode and spell admitted patient care grouping are based on the patient’s adjusted rather than total length of stay, the days relating to Critical Care, Rehabilitation or Specialist Palliative Care should be included in the grouping input file, as per standard HRG grouping.

Event-based unbundled HRGs, recorded using OPCS-4 procedure codes and relating to services such as dialysis for acute renal failure, will also be generated in addition to the admitted patient care core Subchapter **DX COVID-19 Infection** HRGs, for patients admitted with a COVID-19 infection primary diagnosis, as per the Casemix design principles. Please see the respective unbundled HRG subchapters for further information on how these HRGs are generated.

Understanding HRG Grouping Methods

The HRGs in Subchapter **DX COVID-19 Infection** are diagnosis-driven and so not all patients with a primary diagnosis of ***U07.1 COVID-19, virus identified*** or ***U07.2 COVID-19, virus not identified*** will group to this subchapter

For example:

- In line with standard grouping methodology, these HRGs will not be generated if any elements of the data in the mandated fields required for grouping are invalid. If this is the case, the HRG **UZ01Z Data Invalid for Grouping** will be generated

- **Core 1** procedure-driven grouping takes precedence over **Core 1** diagnosis-driven grouping in the HRG design. Where a patient has a significant procedure (determined by the procedure hierarchy within the design), a procedure-driven HRG will be generated. However, the design also includes maximum length of stay logic for some procedures. For these procedures, grouping will effectively “flip” to diagnosis-driven HRG grouping where the maximum adjusted length of stay for the procedure has been exceeded. These are the basic principles of **Core 1** Logic

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- Where the dominant procedure has a procedure hierarchy (PH) value of 5 or more and has no maximum length of stay logic check (at either the episode or spell level), the HRG generated will be procedure-driven.

- For patients with a primary diagnosis of either ***U07.1 COVID-19, virus identified*** or ***U07.2 COVID-19, virus not identified*** who have a significant procedure recorded (that is not subject to a maximum length of stay check), the HRG generated will be from a subchapter other than Subchapter **DX COVID-19 Infection**.

- For patients with a primary diagnosis of either ***U07.1 COVID-19, virus identified*** or ***U07.2 COVID-19, virus not identified*** who have a significant procedure recorded (that is subject to a maximum length of stay check), HRGs from Subchapter **DX COVID-19 Infection** will be generated where the maximum length of stay for the dominant procedure (at either the episode or spell level) is exceeded.

- Where the dominant procedure in the admitted patient care record has a PH value of 2, an unbundled HRG will be derived (in addition to the core HRG). Procedures with a PH value of 1 are deemed insignificant for grouping purposes, so the HRG derived will be generated from the spell primary diagnosis.

- Where the dominant procedure in the patient record has a PH value of zero, the procedure is not valid for Casemix Grouping and will generate the HRG **UZ01Z Data Invalid for Grouping**, irrespective of the primary diagnosis of the patient.

- Where patients are admitted as a result of Multiple Trauma injuries, **Core 4** grouping logic is employed, and as such a Subchapter **DX COVID-19 Infection** HRG cannot be generated, as neither ***U07.1 COVID-19, virus identified*** or ***U07.2 COVID-19, virus not identified*** are present on the Multiple Trauma primary diagnoses "entry list".

- Where patients have a second- or third-degree burn with diagnoses recorded in any position, **Core 7** logic (and subsequently **Core 3** escalation logic) is employed. As such a Subchapter **DX COVID-19 Infection** HRG will not be generated, as "burns" logic takes precedence over **Core 1** grouping logic. The resultant HRG will be from Subchapter **JB Burns Procedures and Disorders**.

- **Core 5** logic is referred to as "global exception logic" and takes precedence over **Core 1** logic within the grouping process. For example, this allows for planned procedures not carried out (recorded via ICD-10 secondary diagnoses codes) to override **Core 1** grouping using diagnoses that would ordinarily result in a different HRG.

  - Coding standard **DCS.XXI.11: Cancelled procedures and abandoned procedures (Z53)** states that "*Codes in category Z53.- Persons encountering health services for specific procedures, not carried out must never be assigned in a primary position. Z53.- must only be used for patients admitted electively for a procedure which is subsequently cancelled/not carried out/not started for any reason and no other procedure has been carried out, i.e. the coded record contains no OPCS-4 procedure codes within that particular consultant episode*."

    Therefore, if the ICD-10 codes (**Z53***) are recorded in the patient record, the HRG root **WH50 Procedure Not Carried Out** will be derived, for patients of all ages.

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- **Core 5** grouping logic is also employed to override HRG derivation in specific circumstances to allow the generation of HRGs that identify patients who, irrespective of their primary diagnosis, are admitted or attend for one of the following reasons:
    - Solely for radiotherapy treatment and have a length of stay of zero days
    - Solely for chemotherapy treatment and have a length of stay of zero days
    - Solely for nuclear medicine investigations under Treatment Function Code **371 Nuclear Medicine**
    - Solely for diagnostic imaging investigations under Treatment Function Code **812 Diagnostic Imaging**

Further details of the Casemix grouping logic and design principles can be found in The Casemix Companion.

Subchapter DX: List of ICD-10 diagnosis codes on the DX_Major, major manifestation of COVID-19 list

ICD-10 Code	Code Description
A02.1	Salmonella sepsis
A08.3	Other viral enteritis
A20.7	Septicaemic plague
A22.7	Anthrax sepsis
A26.7	Erysipelothrix sepsis
A32.7	Listerial sepsis
A40.0	Sepsis due to streptococcus, group A
A40.1	Sepsis due to streptococcus, group B
A40.2	Sepsis due to streptococcus, group D
A40.3	Sepsis due to Streptococcus pneumoniae
A40.8	Other streptococcal sepsis
A40.9	Streptococcal sepsis, unspecified
A41.0	Sepsis due to Staphylococcus aureus
A41.1	Sepsis due to other specified staphylococcus
A41.2	Sepsis due to unspecified staphylococcus
A41.3	Sepsis due to Haemophilus influenzae
A41.4	Sepsis due to anaerobes
A41.5	Sepsis due to other Gram-negative organisms
A41.8	Other specified sepsis
A41.9	Sepsis, unspecified
A42.7	Actinomycotic sepsis
A85.8	Other specified viral encephalitis
A87.8	Other viral meningitis
B17.8	Other specified acute viral hepatitis
B33.2	Viral carditis
B37.7	Candidal sepsis
B44.0	Invasive pulmonary aspergillosis
B44.1	Other pulmonary aspergillosis
B44.2	Tonsillar aspergillosis
B44.7	Disseminated aspergillosis
B44.8	Other forms of aspergillosis
B44.9	Aspergillosis, unspecified
D65.X	Disseminated intravascular coagulation [defibrination syndrome]

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ICD-10 Code	Code Description
D89.8	Other specified disorders involving the immune mechanism, not elsewhere classified
F05.8	Other delirium
G02.0	Meningitis in viral diseases classified elsewhere
G05.1	Encephalitis, myelitis and encephalomyelitis in viral diseases classified elsewhere
G61.0	Guillain-Barre syndrome
G93.1	Anoxic brain damage, not elsewhere classified
I11.0	Hypertensive heart disease with (congestive) heart failure
I12.0	Hypertensive renal disease with renal failure
I13.0	Hypertensive heart and renal disease with (congestive) heart failure
I13.1	Hypertensive heart and renal disease with renal failure
I13.2	Hypertensive heart and renal disease with both (congestive) heart failure and renal failure
I26.0	Pulmonary embolism with mention of acute cor pulmonale
I26.9	Pulmonary embolism without mention of acute cor pulmonale
I27.0	Primary pulmonary hypertension
I27.2	Other secondary pulmonary hypertension
I30.1	Infective pericarditis
I32.1	Pericarditis in other infectious and parasitic diseases classified elsewhere
I33.0	Acute and subacute infective endocarditis
I41.1	Myocarditis in viral diseases classified elsewhere
I43.0	Cardiomyopathy in infectious and parasitic diseases classified elsewhere
I47.0	Re-entry ventricular arrhythmia
I47.1	Supraventricular tachycardia
I47.2	Ventricular tachycardia
I47.9	Paroxysmal tachycardia, unspecified
I50.0	Congestive heart failure
I50.1	Left ventricular failure
I50.9	Heart failure, unspecified
I63.0	Cerebral infarction due to thrombosis of precerebral arteries
I63.1	Cerebral infarction due to embolism of precerebral arteries
I63.3	Cerebral infarction due to thrombosis of cerebral arteries
I63.4	Cerebral infarction due to embolism of cerebral arteries
I63.6	Cerebral infarction due to cerebral venous thrombosis, nonpyogenic
I74.0	Embolism and thrombosis of abdominal aorta
I74.1	Embolism and thrombosis of other and unspecified parts of aorta
I74.2	Embolism and thrombosis of arteries of upper extremities
I74.3	Embolism and thrombosis of arteries of lower extremities
I74.4	Embolism and thrombosis of arteries of extremities, unspecified
I74.5	Embolism and thrombosis of iliac artery
I74.8	Embolism and thrombosis of other arteries
I74.9	Embolism and thrombosis of unspecified artery
I80.1	Phlebitis and thrombophlebitis of femoral vein
I80.2	Phlebitis and thrombophlebitis of other deep vessels of lower extremities
I80.8	Phlebitis and thrombophlebitis of other sites
I81.X	Portal vein thrombosis
I82.1	Thrombophlebitis migrans
I82.2	Embolism and thrombosis of vena cava
I82.3	Embolism and thrombosis of renal vein
I82.8	Embolism and thrombosis of other specified veins
J80.X	Adult respiratory distress syndrome
J81.X	Pulmonary oedema
J84.0	Alveolar and parietoalveolar conditions
J84.1	Other interstitial pulmonary diseases with fibrosis

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ICD-10 Code	Code Description
J84.8	Other specified interstitial pulmonary diseases
J84.9	Interstitial pulmonary disease, unspecified
J93.0	Spontaneous tension pneumothorax
J93.1	Other spontaneous pneumothorax
J93.8	Other pneumothorax
J93.9	Pneumothorax, unspecified
J96.0	Acute respiratory failure
J96.00	Acute respiratory failure: Type I [hypoxic]
J96.01	Acute respiratory failure: Type II [hypercapnic]
J96.09	Acute respiratory failure: Type unspecified
J96.1	Chronic respiratory failure
J96.10	Chronic respiratory failure: Type I [hypoxic]
J96.11	Chronic respiratory failure: Type II [hypercapnic]
J96.19	Chronic respiratory failure: Type unspecified
J98.1	Pulmonary collapse
K72.0	Acute and subacute hepatic failure
N17.0	Acute renal failure with tubular necrosis
N17.1	Acute renal failure with acute cortical necrosis
N17.2	Acute renal failure with medullary necrosis
N17.8	Other acute renal failure
N17.9	Acute renal failure, unspecified
O85.X	Puerperal sepsis
O88.3	Obstetric pyaemic and septic embolism
O90.3	Cardiomyopathy in the puerperium
P22.8	Other respiratory distress of newborn
P25.1	Pneumothorax originating in the perinatal period
P28.5	Respiratory failure of newborn
P29.0	Neonatal cardiac failure
P36.0	Sepsis of newborn due to streptococcus, group B
P36.1	Sepsis of newborn due to other and unspecified streptococci
P36.2	Sepsis of newborn due to Staphylococcus aureus
P36.3	Sepsis of newborn due to other and unspecified staphylococci
P36.4	Sepsis of newborn due to Escherichia coli
P36.5	Sepsis of newborn due to anaerobes
P36.8	Other bacterial sepsis of newborn
P36.9	Bacterial sepsis of newborn, unspecified
P60.X	Disseminated intravascular coagulation of fetus and newborn
R57.2	Septic shock
R65.0	Systemic Inflammatory Response Syndrome of infectious origin without organ failure
R65.1	Systemic Inflammatory Response Syndrome of infectious origin with organ failure
U07.5	Multisystem inflammatory syndrome associated with COVID-19

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

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Subchapter DZ – Respiratory System Procedures and Disorders

Subchapter **DZ Respiratory System Procedures and Disorders** covers both adult respiratory diagnoses and thoracic and respiratory tract procedures for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**176**	**176**
Total HRG Roots	**52**	**52**
Procedure-driven HRGs	46	46
Diagnosis-driven HRGs	130	130
Age Splits	Yes	Yes
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	Yes	Yes
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

It does not include percutaneous procedures performed on the respiratory tract which map to Subchapter **YD Thoracic Imaging Interventions**.

The thoracic surgery HRGs within this subchapter are separated based on the expected complexity of the procedures into a maximum of 5 levels (minor, intermediate, major, complex and very complex). There is also an HRG specific to lung transplantation.

There are HRGs specific to bronchoscopic procedures that are separated into diagnostic and therapeutic procedures, with the latter also differentiated based on the expected complexity of the procedures into 3 levels (standard, major, complex).

There are also HRGs specific to respiratory physiology and other minor tests.

- **DZ52Z Full Pulmonary Function Testing** is generated where a combination of bronchodilator studies or spirometry, carbon monoxide transfer factor test and lung volume studies are recorded, with a length of stay of zero days.

Multiple Procedure Recognition

Multiple-procedure escalation logic is employed by the majority of procedure-driven HRGs within this subchapter to escalate activity to an HRG with a higher expected resource usage where significant additional procedures are recorded.

The multiple-procedure escalation logic escalates activity up 1 level when an additional procedure of the same complexity level as the dominant procedure is recorded, or 2 additional procedures of the next lowest complexity level are recorded.

- For example, when the dominant procedure is a Major procedure, escalation to the related Complex HRG can occur where either an additional procedure from list **DZ_Major** is recorded, or 2 additional procedures from list **DZ_Intermediate** are recorded.

Escalation up 1 level also occurs when a subsidiary OPCS-4 code indicating a bilateral operation is recorded.

Some activity with a dominant procedure mapped to an HRG within this subchapter maps to an HRG in another subchapter in certain scenarios. Where a disarticulation of bone of rib is performed on a patient with a primary diagnosis indicating a vascular disorder, activity derives an amputation of single limb HRG within Subchapter **YQ Vascular Open Procedures and Disorders**.

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Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. In this subchapter they tend to be used to identify the subsidiary site of rib for bone and associated tissue procedures.

Many of the procedure-driven HRG roots in this subchapter employ age splits: There are specific HRGs for adult activity (19 years and over) and others for paediatric activity (18 years and under). In addition, there are some HRGs that differentiate the treatment of infants (0 to 1 year of age) from the treatment of older children (2 to 18 years).

All the minor procedure HRGs within this subchapter, including the respiratory physiology HRGs and the majority of bronchoscopy HRGs, have maximum length of stay logic to ensure that minor procedures, such as oxygen assessment, are not used to determine the HRG for a long-stay medical patient, e.g., a person who has lung cancer.

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in Chapter **P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework. The adult diagnosis-driven HRGs for respiratory system disorders are disease-specific such as asthma, pleural effusion, respiratory neoplasms.

- **DZ51Z Complex Tuberculosis** is generated for patients with a primary ICD-10 diagnosis of tuberculosis and a length of stay of 29 days or more. Where the length of stay is less than 29 days, activity maps to HRG root **DZ14 Pulmonary, Pleural or Other Tuberculosis**.

Intervention splits, including those that differentiate between whether a single “minor intervention” or multiple “minor interventions” have been undertaken, are employed within the majority of the diagnosis-driven HRG roots in this subchapter. Intervention splits are used to acknowledge where “minor interventions” undertaken during a patient admission are expected to result in additional resource usage.

Interactive CC splits are employed within the majority of HRG roots within this subchapter – up to a maximum of 5 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Change to HRG label

The label **DZ32Z Field Exercise Test or Measurement of Fractional Exhaled Nitric Oxide** has been amended to clarify which respiratory physiology tests map to this HRG.

Remapping of codes

Diagnosis code ***B39.9 Histoplasmosis, unspecified*** has been remapped from base HRG root **EB14 Other Acquired Cardiac Conditions** to **DZ11 Lobar, Atypical or Viral Pneumonia** – where the rest of the diagnosis codes in the category map – to reflect that this is a lung disorder rather than a heart disorder.

OPCS-4 code ***E91.3 Overnight oximetry*** has been remapped from HRG root **DZ37 Non-Invasive Ventilation Support Assessment** to be ignored for grouping following an update in clinical guidance.

OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could

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be split out and captured using a new procedure combination code formed using a .***8 Other specified*** OPCS-4 code and mapped accordingly.

Within this subchapter, these global reviews have resulted in ***T01.9 Unspecified partial excision of chest wall*** being remapped from base HRG root **DZ63 Major Thoracic Procedures** to HRG **DZ71Z Minor Thoracic Procedures**.

Changes to list membership

The membership of the various procedure code lists used in multiple-procedure escalation logic employed within this subchapter have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design and to remove redundant procedure codes from escalation lists.

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **DZ_CC**.

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Subchapter EB – Cardiac Disorders

Subchapter **EB Cardiac Disorders** covers all cardiac diagnoses for adults. It includes activity undertaken in inpatient and day case settings.

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in **Chapter P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework.

The HRGs within this subchapter are differentiated based on disorder type, such as endocarditis, cardiac arrest, myocardial infarction.

Interactive CC splits are employed within the majority of HRG roots within this subchapter – up to a maximum of 3 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**48**	**48**
Total HRG Roots	**13**	**13**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	48	48
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Differences from the HRG4+ 2021/22 Local Payment Grouper

Remapping of codes

Diagnosis code ***B39.9 Histoplasmosis, unspecified*** has been remapped from base HRG root **EB14 Other Acquired Cardiac Conditions** to **DZ11 Lobar, Atypical or Viral Pneumonia** – where the rest of the diagnosis codes in the category map – to reflect that this is a lung disorder rather than a heart disorder.

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **EB_CC**.

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Subchapter EC – Open and Interventional Procedures for Congenital Heart Disease

Subchapter **EC Open and Interventional Procedures for Congenital Heart Disease** covers most paediatric (18 years or under) procedure-driven cardiac activity, as well as procedures carried out as a result of adult patients having congenital heart disease. The exception to this is transplant surgery, which maps to HRGs within Subchapter **ED Open Cardiac Procedures for Acquired Conditions**, and percutaneous transluminal chemical mediated septal ablation and pacemaker testing, which map to HRGs within Subchapter **EY Interventional Cardiology for Acquired Conditions**, irrespective of the age of the patient or their primary diagnosis.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**21**	**21**
Total HRG Roots	**9**	**9**
Procedure-driven HRGs	21	21
Diagnosis-driven HRGs	0	0
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

The majority of procedures only map to HRGs within this subchapter where the patient is a child or where an adult patient has a primary diagnosis indicating congenital heart disease; however, some procedures that are inherently almost exclusively used to treat congenital heart disease, e.g., procedures to repair Tetralogy of Fallot and fetal echocardiography map directly to HRGs within this subchapter.

This subchapter includes activity undertaken in inpatient, day case and non-admitted care settings. However, as ICD-10 diagnosis codes are not yet mandated for use in the non-admitted care setting, only activity where the patient is 18 years or under derives the HRGs within this subchapter in outpatients, as the congenital heart disease logic cannot be triggered.

All other cardiac procedure-driven activity is covered within Subchapters **ED Open Cardiac Procedures for Acquired Conditions** or **EY Interventional Cardiology for Acquired Conditions**.

The therapeutic congenital cardiac procedure HRGs within this subchapter are separated based on the expected complexity of the procedures into 6 levels (minor, intermediate, major, very major, complex, and very complex). There are also HRGs specific to diagnostic congenital cardiac procedures and tests.

Multiple Procedure Recognition

Multiple-procedure escalation logic is employed by many of the procedure-driven HRGs in this subchapter to escalate activity to an HRG with a higher expected resource usage (up to a maximum of 2 levels) where significant additional procedures are recorded.

The multiple-procedure escalation logic uses a scoring system which escalates activity to a higher resource HRG when a certain procedure score is reached. For this subchapter, the escalation logic uses the **EC_Proc_List** which contains cardiac procedures, thoracic and vascular procedures, as well as procedure codes indicative of active cooling and robotic surgery. Each procedure on the list has a value based on its expected resource use. These

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values, including that of the dominant procedure, are used to calculate the procedure score that triggers escalation.

- For example, where a Major dominant procedure, with a value of 3 on list **EC_Proc_List** is recorded with another Major procedure, with a value of 3 on list **EC_Proc_List**, the procedure score is 6. As a procedure score of at least 5 is required to escalate to the Very Major HRGs, this activity escalates up 1 level. However, when an additional Major procedure is also recorded, with a value of 3 on list **EC_Proc_List,** the procedure score is 9. As a procedure score of at least 8 is required to escalate to the Complex HRGs, this activity escalates up 2 levels.

Escalation up 1 level can also occur when a subsidiary OPCS-4 code indicating that the procedure has been performed under general anaesthetic (GA) is recorded, where the expectation is that the procedures would typically be performed under local anaesthetic. This logic is thus limited to certain percutaneous procedures.

In general, revisional procedure codes are directly mapped to an HRG with higher expected resource usage than their equivalent initial procedure. In addition, escalation up 1 level can also occur, where a subsidiary OPCS-4 code indicating a revisional operation is recorded.

The multiple-procedure and other (GA, revisional) escalation logic can act in combination with each other to escalate up a maximum of 2 levels

- For example, activity can escalate up 2 levels where a subsidiary OPCS-4 code indicating a revisional operation is recorded, and where additional procedures are recorded that meet the next relevant score threshold (which on its own, would escalate the activity up 1 level), or where subsidiary OPCS-4 codes indicating a revisional operation has been performed under GA are recorded.

The congenital cardiac physiology HRGs have maximum length of stay logic to ensure that minor procedures such as ECGs are not used to determine the HRG for a long-stay medical patient, e.g., a person who has suffered a heart attack.

Interactive CC splits are employed within the majority of HRG roots within this subchapter – up to a maximum of 3 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Remapping / Creation of combination codes

Percutaneous cardiac procedures within OPCS-4 procedure categories K13 Transluminal repair of defect of septum, K16 Other therapeutic transluminal operation of septum of heart and L03 Transluminal operations on abnormalities of great vessel, which are almost exclusively undertaken to treat congenital disorders, have been remapped directly to base HRG root **EC14 Intermediate Procedures for Congenital Heart Disease**, irrespective of patient age or diagnosis. This reflects the fact that the resource used to treat these conditions will be similar for all types of patients. The exception to this is OPCS-4 code ***K16.6 Percutaneous transluminal chemical mediated septal ablation***, which is not mapped directly to this subchapter, instead retaining mapping to HRG root **EY22 Complex Other Percutaneous Transluminal Repair of Acquired Defect of Heart**. The congenital logic previously applied to this procedure has been removed, reflecting the fact that this procedure is performed to treat hypertrophic cardiomyopathy, which is an inherited, rather than congenital, disorder.

New procedure combination code ***K232+IMAGE Biopsy of lesion of heart wall under image control*** has been created and mapped to base HRG root **EY42 Complex Cardiac**

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Catheterisation. However, where the patient is 18 years or under, or has a diagnosis code indicating congenital heart disease in any position, activity will map to HRG root **EC20 Diagnostic Percutaneous Intervention for Congenital Heart Disease**.

Procedure combination code ***K753+Y146 Percutaneous transluminal balloon angioplasty and insertion of 1-2 biodegradable stents into coronary artery*** has been deleted as a result of the redesign of the coronary angiography HRGs within Subchapter **EY Interventional Cardiology for Acquired Conditions**. However, as the mapping of this code was the same as that of its driving code (***K753 Percutaneous transluminal balloon angioplasty and insertion of 1-2 stents into coronary artery)***, there should be no impact on grouping from the deletion of this combination code.

As a result of updates to coding guidance, the 4 procedure combination codes specific to aortic arch procedures that used a ***.8 Other specified*** OPCS-4 code alongside ***Z34.2 Aortic arch*** have been deleted and replaced with 4 new procedure combination codes created using more specific OPCS-4. The new procedure combination codes, ***L182+Z342 Emergency replacement of aneurysmal segment of aortic arch by anastomosis of aorta to aorta***, ***L192+Z342 Replacement of aneurysmal segment of aortic arch by anastomosis of aorta to aorta NEC***, ***L202+Z342 Emergency bypass of segment of aortic arch by anastomosis of aorta to aorta NEC*** and ***L212+Z342 Bypass of segment of aortic arch by anastomosis of aorta to aorta NEC***, have been mapped to **ED18Z Complex Repair of Descending Thoracic Aorta or Aortic Arch**, but like the procedure combination codes they replace, activity will map to HRG root **EC10 Very Complex Procedures for Congenital Heart Disease** where the patient is 18 years or under or has a diagnosis of congenital heart disease in any position.

New procedure combination codes ***L221+Z342 Revision of prosthesis of aortic arch*** and ***L221+Z343 Revision of prosthesis of descending thoracic aorta*** have been created and mapped to **ED17Z Very Complex Repair of Descending Thoracic Aorta or Aortic Arch**. However, where the patient is 18 years or under or has a diagnosis code of congenital heart disease in any position, activity will map to base HRG root **EC20 Diagnostic Percutaneous Intervention for Congenital Heart Disease**.

OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could be split out and captured using a new procedure combination code formed using a ***.8 Other specified*** OPCS-4 code and mapped accordingly.

Within this subchapter, these global reviews have resulted ***in U19.8 Other specified diagnostic electrocardiography*** being remapped to be ignored for grouping as the interventions classified by this code are not expected to incur any more resource usage than would occur at a standard cardiac outpatient attendance.

4 new procedure combination codes have been created to identify other specified and unspecified temporary pacing interventions:

- ***K608+Y705 Temporary other specified cardiac pacemaker system introduced through vein***,
- ***K609+Y705 Temporary unspecified cardiac pacemaker system introduced through vein***,
- ***K618+Y705 Temporary other specified other cardiac pacemaker system*** and
- ***K619+Y705 Temporary unspecified other cardiac pacemaker system***.

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These procedure combination codes map to the same HRGs as their non-temporary equivalent codes; however, they have been excluded from the **EC_Proc_List** so that they do not trigger escalation to a higher expected resource HRG when recorded with another procedure of which they are part and parcel.

Changes to list membership

The membership and values of the procedure codes within the **EC_Proc_List** used in multiple-procedure escalation logic employed within this subchapter have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design and to remove redundant procedure codes from escalation lists.

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **EC_CC**.

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Subchapter ED – Open Cardiac Procedures for Acquired Conditions

Subchapter **ED Open Cardiac Procedures for Acquired Conditions** covers open cardiac procedures for acquired heart disease for adult patients. It includes activity undertaken in inpatient, day case and non-admitted care settings.

Percutaneous cardiac procedures map to Subchapter **EY Interventional Cardiology for Acquired Heart Disease**.

With the exception of the HRGs specific to transplantation, surgical procedures that are either carried out on children (patients 18 years or under) or are carried out as a result of adult patients having congenital heart disease are covered within Subchapter **EC Open and Interventional Procedures for Congenital Heart Disease**.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**50**	**50**
Total HRG Roots	**26**	**26**
Procedure-driven HRGs	50	50
Diagnosis-driven HRGs	0	0
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	No	No

Also, procedures that are inherently almost exclusively used to treat congenital heart disease, e.g., procedures to repair Tetralogy of Fallot, map directly to HRGs within Subchapter **EC Open and Interventional Procedures for Congenital Heart Disease**, irrespective of patient age or primary diagnosis.

Most of the HRGs in this subchapter are differentiated based on the type of heart surgery performed, and are separated into the following surgical areas:
ED0* Cardiac transplant procedures
ED1* Thoracic aortic repair procedures
ED2* Coronary artery bypass and heart valve repair procedures
ED3* Other cardiac surgery procedures

The related HRGs within each of the surgical areas are separated based on the expected complexity of the procedures, often through the differentiation between Standard and Complex HRGs.

Multiple Procedure Recognition

Multiple-procedure escalation logic is employed by the majority of HRGs in this subchapter to escalate activity to an HRG with a higher expected resource usage, typically from the Standard to Complex HRGs. For some HRGs there are 3 levels of complexity: Standard, Major and Complex. This escalation occurs where significant additional procedures are recorded, which are on specific lists.

In general, revisional procedure codes directly map to an HRG with higher expected resource usage than their equivalent initial procedure.

For the (**ED0***) Cardiac transplant HRGs, escalation from the Standard to Complex HRGs occurs where a diagnosis code indicating amyloidosis or congenital heart disease is recorded, or where an additional procedure code indicating that patient has a mechanical assistance device is recorded.

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For the (**ED1***) surgical repair of thoracic aorta HRGs, escalation up a level can occur where:

- procedures are undertaken on both the descending thoracic aorta and aortic arch, or
- an additional complex cardiovascular procedure is recorded, or
- an OPCS-4 code indicating active cooling is performed is recorded, or
- a subsidiary OPCS-4 code indicating a revisional operation is recorded, or
- a diagnosis code indicating cardiovascular infection is recorded in any position.

In addition, for the descending aorta or aortic arch repair HRGs, escalation up 2 levels can occur with a combination of the above, e.g., where a subsidiary OPCS-4 code indicating a revisional operation is recorded with a diagnosis code indicating the patient has a heart infection.

ED16Z Hybrid Repair of Descending Thoracic Aorta or Aortic Arch is derived where a dominant procedure of open repair of the descending thoracic aorta or aortic arch is recorded alongside an additional procedure indicating endovascular insertion of stent graft.

For the (**ED2***) Coronary artery bypass (CABG) HRGs, the repair of 1 or 2 coronary arteries map to the Standard HRGs, the repair of 3 coronary arteries map directly to the Major HRGs and the repair of 4 or more coronary arteries map directly to the Complex HRGs. In addition, escalation from the Standard to Major HRGs can occur where an additional diagnostic percutaneous intervention is recorded, and escalation from the Standard or Major to the Complex HRGs can occur where an additional therapeutic open, or percutaneous, procedure is recorded, or where a subsidiary OPCS-4 code indicating a revisional operation is recorded.

For the (**ED2***) Heart valve replacement or repair HRGs, the escalation from the Standard to the Complex HRGs can occur where an additional therapeutic open or percutaneous procedure is recorded, or a subsidiary OPCS-4 code indicating a revisional operation is recorded. Escalation to the ‘CABG with valve repair’ HRGs occurs where an additional CABG procedure code is recorded, and escalation to the ‘repair of multiple valve’ HRGs occurs where an additional valve replacement, or repair procedure code, is recorded. The Standard to Complex escalation logic can act in combination with the CABG and multiple valve escalation logic e.g., activity can map to the Complex CABG and valve HRGs when there is an additional CABG procedure, and other open, or percutaneous therapeutic procedure, recorded.

For the (**ED3***) Open procedures on the heart or pericardium HRGs, the escalation from Standard to the Complex HRGs can occur where an additional therapeutic open or percutaneous procedure is recorded, or where a subsidiary OPCS-4 code indicating revisional operation is recorded. In addition, for procedures on the pericardium, escalation from the Standard to the Complex HRGs can occur when a diagnosis code indicating constrictive pericarditis is recorded in any position.

Some activity with a dominant procedure mapped to an HRG in this subchapter maps to an HRG in another subchapter in certain scenarios. Where an abdominal aorta procedure is undertaken in addition to a repair of descending thoracic aorta or aortic arch, activity maps to the thoracoabdominal repair HRGs within Subchapter **YQ Vascular Open Procedures and Disorders**.

Interactive CC splits are employed within the majority of HRG roots within this subchapter – up to a maximum of 3 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

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Differences from the HRG4+ 2021/22 Local Payment Grouper

New HRGs have been created / Existing HRGs deleted

A cross-chapter review of aortic aneurysm repair procedures has led to the redesign of HRGs within Subchapters **ED Open Cardiac Procedures for Acquired Conditions**, **YQ Vascular Open Procedures and Disorders** and **YR Vascular Imaging Interventions**. Within this subchapter, this has led to the creation of 3 new HRGs.

The new HRGs are:

ED16Z Hybrid Repair of Descending Thoracic Aorta or Aortic Arch

ED17Z Very Complex Repair of Descending Thoracic Aorta or Aortic Arch

ED18Z Complex Repair of Descending Thoracic Aorta or Aortic Arch

These HRGs replace the now-deleted **ED10Z Complex Repair of Descending Thoracic Aorta** and accommodate open aortic arch repairs and descending thoracic aortic repairs. The hybrid repair HRG is specific to what is commonly known as the frozen elephant trunk procedure, which involves both the open surgical repair of the aorta alongside the deployment of an endovascular stent graft, performed to treat extensive aortic aneurysms.

Changes to logic

As a result of the redesign and creation of new open repair of descending thoracic aorta or aortic arch HRGs, logic to shift activity to the (now-deleted) open thoracoabdominal aortic repair HRGs within **YQ Vascular Open Procedures and Disorders** has been deleted or amended.

New logic has been added to the open repair of descending thoracic aorta or aortic arch procedures to escalate activity to an HRG with higher expected resource use where:

- an additional complex cardiovascular procedure or active cooling is recorded, or
- a subsidiary code is recorded indicating the procedure is revisional, or
- a diagnosis of cardiovascular infection is recorded in any position.

For certain open repair of the descending thoracic aorta or aortic arch procedures, new logic has been added to escalate activity to **ED16Z Hybrid Repair of Descending Thoracic Aorta or Aortic Arch** when an additional procedure indicating endovascular insertion of stent graft is recorded.

Redundant list **ED_Root** (Aortic root procedures) and its associated logic have been deleted.

Remapping / Creation of combination codes

As part of the review and redesign of the open repair of aortic aneurysm procedures, the aortic aneurysm repair procedure codes that do not specify the segment of aorta operated on have been remapped from base HRG root **ED15 Standard Repair of Ascending Thoracic Aorta** to the open repair of abdominal aortic aneurysm HRG roots within Subchapter **YQ Vascular Open Procedures and Disorders**. This change reflects that, although not specified, these procedures are more likely to involve the abdominal aorta rather than the thoracic aorta.

As a result of updates to coding guidance, the 4 procedure combination codes specific to aortic arch procedures that used a ***.8 Other specified*** OPCS-4 code alongside ***Z34.2 Aortic arch*** have been deleted and replaced with 4 new procedure combination codes created using more specific OPCS-4. The new procedure combination codes, ***L182+Z342 Emergency replacement of aneurysmal segment of aortic arch by anastomosis of aorta to aorta***, ***L192+Z342 Replacement of aneurysmal segment of aortic arch by***

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anastomosis of aorta to aorta NEC, ***L202+Z342 Emergency bypass of segment of aortic arch by anastomosis of aorta to aorta NEC*** and ***L212+Z342 Bypass of segment of aortic arch by anastomosis of aorta to aorta NEC***, have been mapped to **ED18Z Complex Repair of Descending Thoracic Aorta or Aortic Arch**.

New procedure combination codes ***L221+Z342 Revision of prosthesis of aortic arch*** and ***L221+Z343 Revision of prosthesis of descending thoracic aorta*** have been created and mapped to **ED17Z Very Complex Repair of Descending Thoracic Aorta or Aortic Arch**.

Changes to list membership

The membership of the various procedure lists used in multiple-procedure escalation logic employed within this subchapter have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design and to remove redundant procedure codes from escalation lists.

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **EDEY_CC**.

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Subchapter EY – Interventional Cardiology for Acquired Conditions

Subchapter **EY Interventional Cardiology for Acquired Conditions** covers interventional cardiology procedures for acquired conditions for adult patients. It includes activity undertaken in inpatient, day case and non-admitted care settings.

Open procedures for acquired heart disease map to Subchapter **ED Open Cardiac Procedures for Acquired Conditions**.

With the exception of percutaneous transluminal chemical mediated septal ablation and pacemaker testing, interventional cardiology procedures that are either carried out on children (patients 18 years or under) or are carried out as a result of adult patients having congenital heart disease are covered within Subchapter **EC Open and Interventional Procedures for Congenital Heart Disease**.

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**73**	**73**
Total HRG Roots	**29**	**29**
Procedure-driven HRGs	73	73
Diagnosis-driven HRGs	0	0
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

Most of the HRGs in this subchapter are differentiated based on the type of interventional cardiology performed, and are separated into the following areas:
EY0*-EY1* Pacemaker procedures
EY2* Percutaneous cardiac repair procedures
EY3* Percutaneous ablation and electrophysiology procedures
EY4* Coronary angiography and angioplasty procedures
EY5* Cardiac physiology

Within some groups of related HRGs, they are separated based on the expected complexity of the procedures, often through the differentiation between Standard and Complex HRGs.

Multiple Procedure Recognition

Multiple-procedure escalation logic is employed by the majority of HRGs in this subchapter to escalate activity to an HRG with a higher expected resource usage, typically from the Standard to Complex HRGs. For some HRGs there are 3 levels of complexity: Standard, Complex and Very Complex. This escalation occurs where significant additional procedures are recorded, which are on specific lists.

The HRGs for implantation of ICD / ICD-CRT with extraction / major open procedures (**EY14*–EY15***) are derived with a dominant ICD or ICD-CRT procedure and with:

- an additional major open cardiac procedure from list **EY_Major** or
- an additional procedure indicating removal of an ICD / ICD-CRT alongside either.
    - a diagnosis code indicating infection or complication of ICD / ICD-CRT in any position, or
    - an additional OPCS-4 code of transthoracic echocardiogram is recorded, or
    - a subsidiary OPCS-4 code indicating that the procedure was performed under general anaesthetic (GA).

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For the insertion of pacemaker HRGs (**EY03*–EY08***), escalation to the "with other Percutaneous Intervention" HRGs can occur where an additional percutaneous cardiac intervention is recorded alongside the pacemaker procedure.

The **EY16 Extraction of Cardiac Pacemaker or Cardioverter Defibrillator** HRGs are derived with a dominant procedure of pacemaker removal, or when there is a dominant procedure of pacemaker insertion or renewal, and an additional pacemaker removal procedure. In addition, both require one of the following:

- a diagnosis code indicating infection or complication of pacemaker recorded in any position, or
- an additional OPCS-4 code of transthoracic echocardiogram, or
- a subsidiary OPCS-4 code indicating that the procedure was performed under GA.

The Transcatheter Aortic Valve Implantation (TAVI) HRGs (**EY20*–EY21*)** are differentiated by transcatheter access site, which uses subsidiary OPCS-4 site codes to form the procedure combination codes which map to the appropriate HRGs.

The complex percutaneous repair of acquired defect of heart and cardiac ablation HRGs (**EY22*–EY23***, **EY30*–EY31***) have logic to escalate from the Standard to the Complex HRGs where an additional therapeutic cardiac intervention from list **EY_Therap** is recorded, or to the **EY07 Implantation of Single-Chamber Pacemaker with Other Percutaneous Intervention** HRGs where an additional permanent insertion of single-chamber pacemaker procedure is recorded. In addition, for the cardiac ablation HRGs, escalation from the Standard to the Complex HRGs can occur where a subsidiary OPCS-4 code indicating a revisional operation is recorded.

For the coronary angiography HRGs (**EY42*–EY43*)** escalation from the Standard to the Complex HRGs can occur where a subsidiary OPCS-4 code indicating intravascular ultrasound (IVUS), fractional flow reserve (FFR) or optical coherence tomography (OCT) is recorded. There is additional logic on OPCS-4 code ***L13.3 Arteriography of pulmonary artery*** to escalate activity to the Complex HRG when an additional coronary angiography procedure is recorded.

For the percutaneous coronary angioplasty HRGs (**EY40*–EY41***, **EY44***) escalation from the Standard to the Complex HRGs can occur where an additional procedure from list **EY_PCI_Proc** (contains coronary angioplasty and angiography procedures as well as codes indicative of approaches such as IVUS, FFR, OCT, complex stents) with a summed score, including the dominant procedure, of 5 are recorded, or where subsidiary OPCS-4 codes indicating dual-access (via femoral and radial arteries) approaches are recorded. Escalation from the Standard or Complex to the Very Complex HRGs can occur where either:

- additional procedure codes from list **EY_PCI_Proc** with a summed score including the dominant procedure of 6, plus subsidiary OPCS-4 codes indicating a dual-access approach are recorded, or
- additional procedure codes from list **EY_PCI_Proc** with a summed score including the dominant procedure of 7 are recorded, or
- a primary diagnosis code indicative of chronic total occlusion of coronary artery is recorded.

In addition, there is logic to escalate activity to **EY07* Implantation of Single-Chamber Pacemaker with Other Percutaneous Intervention** where an additional permanent insertion of single-chamber pacemaker procedure is recorded.

The cardiac testing and physiology HRGs (**EY11*–EY13***, **EY50–EY51*)** have maximum length of stay logic to ensure that minor procedures such as ECGs are not used to determine the HRG for a long-stay medical patient, e.g., a person who has suffered a heart attack.

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Interactive CC splits are employed within the majority of HRG roots within this subchapter – up to a maximum of 6 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

New HRGs have been created

4 new HRGs have been created to specifically identify the additional resource usage associated with patients admitted for major surgery, e.g., CABG or valve repair that is undertaken alongside the implantation of ICD or ICD-CRT, or complex patients that require device extraction before renewal.

The new HRGs are:

EY14A Implantation of Cardioverter Defibrillator with Cardiac Resynchronisation Therapy, with Extraction or Major Open Procedure, with CC Score 9+

EY14B Implantation of Cardioverter Defibrillator with Cardiac Resynchronisation Therapy, with Extraction or Major Open Procedure, with CC Score 0-8

EY15A Implantation of Cardioverter Defibrillator, with Extraction or Major Open Procedure, with CC Score 9+

EY15B Implantation of Cardioverter Defibrillator, with Extraction or Major Open Procedure, with CC Score 0-8

4 new HRGs have been created to accommodate multiple complex percutaneous coronary interventions (PCI).

The new HRGs are:

EY44A Very Complex Percutaneous Transluminal Coronary Angioplasty with CC Score 12+

EY44B Very Complex Percutaneous Transluminal Coronary Angioplasty with CC Score 8-11

EY44C Very Complex Percutaneous Transluminal Coronary Angioplasty with CC Score 4-7

EY44D Very Complex Percutaneous Transluminal Coronary Angioplasty with CC Score 0-3

Activity will escalate to these new HRGs from the existing standard and complex PCI HRGs.

Changes to logic

Logic has been added so the new HRGs for implantation of ICD/ICD-CRT with extraction, or major open procedures, are reached when an ICD or ICD-CRT procedure is recorded as the dominant procedure and 1 of the following is recorded:

- an additional major open cardiac procedure from list **EY_Major**, or
- an additional procedure indicating removal of an ICD/ICD-CRT alongside either:
- a diagnosis code indicating infection or complication of ICD/ICD-CRT in any position, or
- an additional OPCS-4 code of transthoracic echocardiogram, or

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- a subsidiary OPCS-4 code indicating that the procedure was undertaken under general anaesthetic.

Escalation logic on the coronary angioplasty HRGs has been amended and expanded so that escalation to an HRG with a higher expected resource use occurs when 1 of the following is recorded:

- additional procedures codes from list **EY_PCI_Proc** (contains coronary angioplasty and angiography procedures as well as codes indicative of approaches such as IVUS, FFR, OCT, complex stents) – the summed score will determine whether escalation up one or two complexity levels, or
- a subsidiary code indicating a dual-access (via femoral and radial arteries) approach, or
- a primary diagnosis indicative of chronic total occlusion of coronary artery (to **EY44 Very Complex Percutaneous Transluminal Coronary Angioplasty**)

Escalation up 2 complexity levels can occur if both multiple procedures and dual-access approach are recorded.

Logic has been added to escalate activity to HRG root **EY07 Implantation of Single-Chamber Pacemaker with Other Percutaneous Intervention** when a dominant procedure of coronary angioplasty or another percutaneous repair of acquired heart defect is recorded, with an additional permanent insertion of single-chamber pacemaker procedure.

Logic has been added to OPCS-4 code ***L13.3 Arteriography of pulmonary artery*** to escalate activity to HRG root **EY42 Complex Cardiac Catheterisation** where both pulmonary and coronary angiography have been undertaken.

Remapping of codes

Percutaneous cardiac procedures within OPCS-4 procedure code categories K13 Transluminal repair of defect of septum, K16 Other therapeutic transluminal operation of septum of heart and L03 Transluminal operations on abnormalities of great vessel, which are almost exclusively undertaken to treat congenital disorders, have been remapped directly to base HRG root **EC14 Intermediate Procedures for Congenital Heart Disease**, irrespective of patient age or diagnosis. This reflects the fact that the resource used to treat these conditions will be similar for all types of patients. The exception to this is OPCS-4 code ***K16.6 Percutaneous transluminal chemical mediated septal ablation***, which is not mapped directly to this subchapter, instead retaining mapping to HRG root **EY22 Complex Other Percutaneous Transluminal Repair of Acquired Defect of Heart**. The congenital logic previously applied to this procedure has been removed, reflecting the fact that this procedure is performed to treat hypertrophic cardiomyopathy, which is an inherited, rather than congenital, disorder.

The “removal of”, “attention to”, and associated ***.8 other specified*** and ***.9 unspecified*** OPCS-4 codes within code category K56 Transluminal hear assistance operations have been remapped from base HRG root **EY22 Complex Other Percutaneous Transluminal Repair of Acquired Defect of Heart** to **EY23 Standard Other Percutaneous Transluminal Repair of Acquired Defect of Heart** to reflect that unlike the equivalent insertion of intra-aortic balloon pump procedure, there is no device cost associated with these procedures.

OPCS-4 codes ***K58.3 Percutaneous transluminal right ventricular biopsy*** and ***K58.4 Percutaneous transluminal left ventricular biopsy*** have been remapped from base HRG root **EY23 Standard Other Percutaneous Transluminal Repair of Acquired Defect of Heart** to **EY42 Complex Cardiac Catheterisation** to reflect the fact that these are catheterisation procedures with significant pathology costs, rather than percutaneous heart repair procedures. In addition, new procedure combination code ***K232+Y53 Biopsy of***

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lesion of heart wall under image control has been created and mapped directly to HRG root **EY42 Complex Cardiac Catheterisation**.

The OPCS-4 codes indicating catheterisation of both sides of the heart have been remapped from base HRG root **EY43 Standard Cardiac Catheterisation** to **EY42 Complex Cardiac Catheterisation** to reflect the additional resource associated with these procedures when compared to the catheterisation of just 1 side of the heart.

Procedure combination code ***K753+Y146 Percutaneous transluminal balloon angioplasty and insertion of 1-2 biodegradable stents into coronary artery*** has been deleted. However, escalation lists and logic have been amended to ensure that the use of biodegradable stents contributes to HRG escalation where appropriate.

OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could be split out and captured using a new procedure combination code formed using a ***.8 Other specified*** OPCS-4 code and mapped accordingly.

Within this subchapter, these global reviews have resulted in ***U19.8 Other specified diagnostic electrocardiography*** being remapped to be ignored for grouping, as the interventions classified by this code are not expected to incur any more resource usage than would occur at a standard cardiac outpatient attendance.

4 new procedure combination codes have been created to identify other specified and unspecified temporary pacing interventions: ***K608+Y705 Temporary other specified cardiac pacemaker system introduced through vein, K609+Y705 Temporary unspecified cardiac pacemaker system introduced through vein***, ***K618+Y705 Temporary other specified other cardiac pacemaker system*** and ***K619+Y705 Temporary unspecified other cardiac pacemaker system***. These procedure combination codes map to the same HRG roots as their non-temporary equivalent codes; however, they have been excluded from all of the escalation lists in this subchapter so that they do not trigger escalation to a higher expected resource HRG when recorded with another procedure of which they are part and parcel.

Changes to list membership

The membership of the various procedure lists used in multiple-procedure escalation logic employed within this subchapter have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design and to remove redundant procedure codes from escalation lists.

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **EDEY_CC**.

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Subchapter FD – Digestive System Disorders

Subchapter **FD Digestive System Disorders** covers gastroenterology medicine for adults. It includes activity undertaken in admitted patient care settings.

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in Chapter **P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework.

The majority of digestive system disorders are mapped to either the Malignant Gastrointestinal Tract Disorders HRG root or the Non-Malignant Gastrointestinal Tract Disorders HRG root. However, there are disease-specific HRG roots for gastrointestinal infections, inflammatory bowel disease, gastrointestinal bleed, nutritional disorders, and abdominal pain.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**54**	**54**
Total HRG Roots	**7**	**7**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	54	54
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	Yes	Yes
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Intervention splits, including those that differentiate between whether a single “minor intervention” or multiple “minor interventions” have been undertaken, are employed within all HRG roots in this subchapter. Intervention splits are used to acknowledge where “minor interventions” undertaken during a patient admission are expected to result in additional resource usage.

Interactive CC splits are employed within 6 of the 7 HRG roots within this subchapter – up to a maximum of 4 levels – to differentiate the expected resource usage of routine and complex patients.

There are certain ICD-10 diagnosis codes that have an inherent complication within the single code, e.g., ***K40.1 Bilateral inguinal hernia, with gangrene*** or ***K35.2 Acute appendicitis with generalized peritonitis***. Logic on HRG roots **FD03 Gastrointestinal Bleed** and **FD10 Non-Malignant Gastrointestinal Tract Disorders** ensures that where one of these ICD-10 diagnosis codes is recorded as the primary ICD-10 diagnosis code, any complication inherent in the code is taken into account when calculating the CC score. This contrasts with standard grouping logic, where the primary ICD-10 diagnosis code is not considered when calculating a CC score.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Remapping of codes

3 congenital diagnosis codes, ***Q39.0 Atresia of oesophagus without fistula***, ***Q39.1 Atresia of oesophagus with tracheo-oesophageal fistula*** and ***Q41.0 Congenital absence, atresia and stenosis of duodenum***, previously U grouped (i.e., generated the HRG **UZ01Z Data Invalid for Grouping**) where the patient was 19 years or over. These codes have been remapped to base HRG root **FD10 Non-Malignant Gastrointestinal Tract Disorders** to reflect the fact that although extremely rare for a patient to survive to adulthood

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with one of these conditions, there are no coding rules preventing the use of congenital diagnosis codes for adults.

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **FDFEFFYF_CC**.

CC list **FDFEFFYF_CC** has been updated to include paediatric-specific CCs such as disorders of prematurity and autistic spectrum disorders to reflect the additional resource usage associated with treating patients with these underlying conditions. In addition, the list value of diagnosis code ***E34.0 Carcinoid syndrome*** on **FDFEFFYF_CC** has been increased to a value of 2 to reflect that this disorder is considered a major comorbidity.

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Subchapter FE – Digestive System Endoscopic Procedures

Subchapter **FE Digestive System Endoscopic Procedures** covers endoscopic digestive system procedures for patients of all ages. It includes activity undertaken in admitted or non-admitted care settings.

It does not include open surgical or percutaneous procedures performed on the digestive system, which map to Subchapters **FF Digestive System Open and Laparoscopic Procedures** and **YF Gastrointestinal Imaging Interventions**, respectively.

It also does not include procedures performed on the hepatobiliary and pancreatic system, which are instead found within Chapter **G Hepatobiliary and Pancreatic System** and Subchapter **YG Hepatobiliary and Pancreatic Imaging Interventions**.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**41**	**41**
Total HRG Roots	**27**	**27**
Procedure-driven HRGs	41	41
Diagnosis-driven HRGs	0	0
Age Splits	Yes	Yes
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

The HRGs in this subchapter are differentiated based on the area of the gastrointestinal tract where the endoscopy is performed and are separated into the following areas:
FE0*-FE1* Intermediate to complex therapeutic gastrointestinal tract endoscopy
FE2* Diagnostic and minor therapeutic upper gastrointestinal tract endoscopy
FE3* Diagnostic and minor therapeutic lower gastrointestinal tract endoscopy
FE4* Combined upper and lower gastrointestinal tract endoscopy
FE5* Wireless capsule endoscopy

The endoscopy HRGs are also separated based on the type of scope used and whether the intervention is diagnostic, diagnostic with biopsy, or therapeutic. The therapeutic HRGs are also differentiated based on the expected complexity of the procedures, into 4 levels (standard, intermediate, major, and complex).

Multiple Procedure Recognition

Multiple-procedure escalation logic is employed by many of the HRGs in this subchapter to escalate activity to an HRG with a higher expected resource usage (up to a maximum of 2 complexity category of HRGs) where significant additional procedures are recorded.

The multiple-procedure escalation logic escalates therapeutic activity up 1 level where an additional procedure of the same complexity level as the dominant procedure is recorded, or for certain procedures where 2 additional procedures of the next lowest complexity level are recorded.

- For example, where the dominant procedure is an intermediate therapeutic endoscopy, escalation to the major therapeutic endoscopy HRG can occur where an additional procedure from list **FE_Intermed_End** is recorded. This includes escalating some more complex endoscopy activity to HRGs in Subchapter **FF Digestive System Open and Laparoscopic Procedures**.

Procedure codes that map to base HRG root **FE03 Intermediate Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures** can also escalate to **FE02 Major**

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Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures when a subsidiary OPCS-4 code indicating that the procedure was performed under image control is recorded.

Escalation to the (**FE4***) combined upper and lower gastrointestinal tract endoscopy HRGs can occur when a lower gastrointestinal tract endoscopic procedure is recorded alongside an additional upper gastrointestinal tract endoscopic procedure, and vice versa.

Although some procedure codes map directly to **FE13Z Endoscopic Insertion of, Gastrojejunostomy or Jejunostomy Tube**, there is also logic on some of the insertion of gastrostomy tube procedure codes to escalate to this HRG where a subsidiary OPCS-4 site code of 'jejunum' is recorded.

Some non-endoscopic intermediate gastrointestinal procedures group to HRGs in this subchapter when undertaken on paediatric patients, but when undertaken on adults these same procedures group to an HRG in Subchapter **FF Digestive System Open and Laparoscopic Procedures**. For this type of activity, the fact that the patient is a child is more indicative of expected resource use than the method of operation, and by combining this activity with clinically similar endoscopic activity that is expected to consume a similar level of resource, it is possible to maintain paediatric-specific HRGs.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. In this subchapter they include several made up of 3 OPCS-4 codes. Many of the combination codes enable endoscopic procedures to be differentiated from the equivalent percutaneous procedures, which are mapped to HRG roots within Subchapter **YF Gastrointestinal Imaging Interventions**, while others identify specific ablation procedures, biopsy or cytology procedures, or renewal of prosthesis or stent procedures.

Many of the procedure-driven HRG roots in this subchapter employ age splits: There are specific HRGs for adult activity (19 years and over) and others for paediatric activity (18 years and under). In addition, there are some HRGs that differentiate the treatment of infants (0 to 1 year of age) from the treatment of older children (2 to 18 years). There are also age-specific HRG roots that separate adult and paediatric activity at the root level.

The less-resource intensive HRGs within this subchapter have maximum length of stay logic to ensure that minor procedures, such as diagnostic colonoscopy, are not used to determine the HRG for a long-stay medical patient, e.g., a person who has a gastrointestinal tract bleed.

Interactive CC splits are employed within several HRG roots within this subchapter – up to a maximum of 4 levels – to differentiate the expected resource usage of routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

New HRGs have been created / Existing HRGs deleted

FE03A Intermediate Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures, 19 years and over and **FE03B Intermediate Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures, 18 years and under** have been created to accommodate intermediate therapeutic endoscopic gastrointestinal tract procedures, such as endoscopic mucosal resection of lesion and decompression of lower bowel.

With the remapping of activity to these new HRGs, there is no longer enough paediatric activity within either **FE02D Major Therapeutic Endoscopic, Upper or Lower**

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Gastrointestinal Tract Procedures, between 2 and 18 years or **FE02E Major Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures, 1 year and under** to sustain these paediatric splits. These HRGs have therefore been deleted and replaced with a single HRG, **FE02F Major Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures, 18 years and under**.

The 4 paediatric age specific HRGs (**FE23A Endoscopic or Intermediate, Upper Gastrointestinal Tract Procedures, between 2 and 18 years**; **FE23B Endoscopic or Intermediate, Upper Gastrointestinal Tract Procedures, 1 year and under**; **FE37A Endoscopic or Intermediate, Lower Gastrointestinal Tract Procedures, between 2 and 18 years**; and **FE37B Endoscopic or Intermediate, Lower Gastrointestinal Tract Procedures, 1 year and under**) have been deleted and replaced with splits that differentiate preschool-age children (4 years and under) from school-age children (between 5 and 18 years), resulting in 4 new HRGs.

The new HRGs are:

FE23C Endoscopic or Intermediate, Upper Gastrointestinal Tract Procedures, between 5 and 18 years

FE23D Endoscopic or Intermediate, Upper Gastrointestinal Tract Procedures, 4 years and under

FE37C Endoscopic or Intermediate, Lower Gastrointestinal Tract Procedures, between 5 and 18 years

FE37D Endoscopic or Intermediate, Lower Gastrointestinal Tract Procedures, 4 years and under

The combined upper and lower gastrointestinal tract endoscopic procedure HRGs have been redesigned to include a split on device type, e.g., colonoscope or sigmoidoscope. These HRGs already include splits to separate therapeutic procedures, diagnostic with biopsy procedures, and diagnostic-only procedures. This has also enabled better differentiation of combined procedures on paediatric patients, irrespective of type, to reflect that a procedure performed on a child is expected to consume greater resource than when the same procedure is performed on an adult.

This has resulted in the deletion of 4 HRGs (**FE47Z Combined Upper and Lower Gastrointestinal Tract Therapeutic Endoscopic Procedures**; **FE48A Combined Upper and Lower Gastrointestinal Tract Diagnostic Endoscopic Procedures with Biopsy, 19 years and over**; **FE48B Combined Upper and Lower Gastrointestinal Tract Diagnostic Endoscopic Procedures with Biopsy, 18 years and under**; and **FE49Z Combined Upper and Lower Gastrointestinal Tract Diagnostic Endoscopic Procedures**). These HRGs have been replaced with 7 new HRGs.

The new HRGs are:

FE40Z Combined Upper and Lower Gastrointestinal Tract Therapeutic Endoscopic Procedures Using Colonoscope, 19 years and over

FE41Z Combined Upper and Lower Gastrointestinal Tract Therapeutic Endoscopic Procedures Using Sigmoidoscope, 19 years and over

FE42Z Combined Upper and Lower Gastrointestinal Tract Diagnostic Endoscopic Procedures Using Colonoscope with Biopsy, 19 years and over

FE43Z Combined Upper and Lower Gastrointestinal Tract Diagnostic Endoscopic Procedures Using Sigmoidoscope with Biopsy, 19 years and over

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FE44Z Combined Upper and Lower Gastrointestinal Tract Diagnostic Endoscopic Procedures Using Colonoscope, 19 years and over

FE45Z Combined Upper and Lower Gastrointestinal Tract Diagnostic Endoscopic Procedures Using Sigmoidoscope, 19 years and over.

FE46Z Upper Gastrointestinal Tract Endoscopic Procedure, with Colonoscopy or Sigmoidoscopy, 18 years and under

Changes to logic

All procedure codes mapped to new base HRG root **FE03 Intermediate Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures** have logic to escalate activity to **FE02 Major Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures** if an additional intermediate procedure is recorded from list **FE_Intermed_End**, or if a subsidiary OPCS-4 code indicating the procedure is performed under image control is recorded.

The logic to generate the combined upper and lower gastrointestinal tract endoscopy HRGs has been amended to reflect the different types of lower gastrointestinal tract scope used.

Remapping / Creation of combination codes

19 intermediate procedures have been remapped from the standard and major therapeutic endoscopic HRG roots to the new HRG root **FE03 Intermediate Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures**

OPCS-4 code ***H26.4 Endoscopic cryotherapy to lesion of sigmoid colon using rigid sigmoidoscope*** has been remapped from base HRG root **FE02 Major Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures** to **FE01Z Complex Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures** to map the procedure to the same HRG as other radiofrequency ablation and cryoablation procedures. In addition, procedure combination code ***G092+Y763 Endoscopic oesophagomyotomy*** has been created according to clinical coding guidance and mapped to **FE01Z Complex Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures** alongside other complex endoscopies.

OPCS-4 code ***H27.3 Endoscopic insertion of tubal prosthesis into sigmoid colon using rigid sigmoidoscope*** has been remapped from base HRG root **FE10 Endoscopic Insertion of Luminal Stent into Gastrointestinal Tract** to **FE36Z Diagnostic or Therapeutic, Rigid Sigmoidoscopy** to reflect that this code alone does not represent the insertion of a stent. However, new procedure combination code ***H273+Y14 Endoscopic insertion of stent into sigmoid colon using rigid sigmoidoscope*** has been created to specifically capture the insertion of a stent, and has been mapped to base HRG root **FE10 Endoscopic Insertion of Luminal Stent into Gastrointestinal Tract**.

OPCS-4 code ***H62.6 Proctoscopy*** has been remapped from **FE35Z Diagnostic Flexible Sigmoidoscopy, 19 years and over** to **FE36Z Diagnostic or Therapeutic, Rigid Sigmoidoscopy, 19 years and over** to ensure this procedure is mapped to the same HRG as clinically similar procedures.

Procedure combination code ***G604+Y763+Y032 Endoscopic renewal of jejunostomy tube*** has been remapped from base HRG root **FE12 Endoscopic Insertion of Gastrostomy Tube** to **FE13Z Endoscopic Insertion of, Gastrojejunostomy or Jejunostomy Tube**. In addition, new procedure combination code ***G345+Y022+Z275 Insertion of prosthesis into jejunum via gastrostomy tube*** has been created and mapped directly to **FE13Z Endoscopic Insertion of, Gastrojejunostomy or Jejunostomy Tube**.

New procedure combination code ***J611+Y764 Endoscopic ultrasonic cystogastrostomy of pancreas*** has been created according to clinical coding guidance and mapped to base

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HRG root **FE02 Major Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures** to ensure EUS cystogastrostomy groups to an endoscopic procedure HRG, rather than to an open surgery HRG.

New procedure combination code ***A843+Z113 Nerve conduction studies of pudendal nerve*** maps to a base HRG root in Subchapter **FF Digestive System Open and Laparoscopic Procedures** for adult patients. However, for children, this procedure combination code maps to **FE37 Endoscopic or Intermediate, Lower Gastrointestinal Tract Procedures, 18 years and under**.

OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could be split out and captured using a new procedure combination code formed using a ***.8 Other specified*** OPCS-4 code and mapped accordingly.

Within this subchapter, these global reviews have resulted in ***G79.9 Unspecified therapeutic endoscopic operations on ileum*** being remapped from **FE01Z Complex Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures** to **FE20Z Therapeutic Endoscopic Upper Gastrointestinal Tract Procedures, 19 years and over** for adults and to HRG root **FE23 Endoscopic or Intermediate, Upper Gastrointestinal Tract Procedures, 18 years and under** for children.

For patients 18 years and under, 4 ***.9 Unspecified*** OPCS-4 codes will now map to HRGs within this subchapter as they have been remapped to lower resource HRG roots, **FE23 Endoscopic or Intermediate, Upper Gastrointestinal Tract Procedure** or **FE37 Endoscopic or Intermediate, Lower Gastrointestinal Tract Procedures, 18 years and under**. In addition, the ***H32.1 Resiting of colostomy*** procedure has been remapped from base HRG root **FE37 Endoscopic or Intermediate, Lower Gastrointestinal Tract Procedures, 18 years and under** to more appropriate HRGs within Subchapter **FF Digestive System Open and Laparoscopic Procedures**.

2 new procedure combination codes, ***G448+Y378 Fibreoptic endoscopic introduction of substance into upper gastrointestinal tract*** and ***G458+Y442 Fibreoptic endoscopic monitoring of pressure in organ of upper gastrointestinal tract*** (for endoscopic insertion of haemostatic powder), have been mapped to HRG roots **FE03 Intermediate Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures** and **FE02 Major Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures**, respectively.

2 new procedure combination codes, ***G478+Y763 Endoscopic intubation of stomach*** and ***J608+Y763 Endoscopic operation on pancreatic duct***, have been created to identify specific endoscopic procedures. These have been mapped to **FE20Z Therapeutic Endoscopic Upper Gastrointestinal Tract Procedures, 19 years and over** for adults and to HRG root **FE23 Endoscopic or Intermediate, Upper Gastrointestinal Tract Procedures, 18 years and under** for children. The activity classified by the latter would have previously mapped to HRGs within Subchapter **GA Hepatobiliary and Pancreatic System Open and Laparoscopic Procedures**.

Procedure combination codes ***G648+Y032 Endoscopic renewal of tubal prosthesis into jejunum***, ***G438+RFA Fibreoptic endoscopic radiofrequency extirpation of lesion of upper gastrointestinal tract*** and ***H208+RFA Fibreoptic endoscopic radiofrequency controlled thermal extirpation of lesion of colon*** have been deleted following clarification of clinical coding guidance.

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Changes to list membership

The membership of the various procedure lists used in multiple-procedure escalation logic employed within this subchapter have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design and to remove redundant procedure codes from escalation lists.

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **FDFEFFYF_CC**.

CC list **FDFEFFYF_CC** has been updated to include paediatric-specific CCs such as disorders of prematurity and autistic spectrum disorders to reflect the additional resource usage associated with treating patients with these underlying conditions. In addition, the list value of diagnosis code ***E34.0 Carcinoid syndrome*** on **FDFEFFYF_CC** has been increased to a value of 2 to reflect that this disorder is considered a major comorbidity.

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Subchapter FF – Digestive System Open and Laparoscopic Procedures

Subchapter **FF Digestive System Open and Laparoscopic Procedures** covers both laparoscopic and open surgical digestive system procedures for patients of all ages. It includes activity undertaken in admitted or non-admitted care settings.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**115**	**115**
Total HRG Roots	**37**	**37**
Procedure-driven HRGs	115	115
Diagnosis-driven HRGs	0	0
Age Splits	Yes	Yes
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

With some exceptions, it does not include endoscopic digestive system procedures, which map to Subchapter **FE Digestive System Endoscopic Procedures**, and it does not include percutaneous procedures performed on the digestive system, which map to Subchapter **YF Gastrointestinal Imaging Interventions**.

It also does not include procedures performed on the hepatobiliary and pancreatic system, which are found within Chapter **G Hepatobiliary and Pancreatic System** and Subchapter **YG Hepatobiliary and Pancreatic Imaging Interventions**.

The surgical HRG roots within this subchapter are generally differentiated based on the site of surgery and are separated into the following surgical areas:
FF0* Upper Gastrointestinal Tract Procedures
FF1* Surgical Procedures for Obesity
FF2* Small Intestine Procedures
FF3* Large Intestine Procedures
FF4* Anal Procedures
FF5* General Abdominal Procedures
FF6* Hernia or Herniotomy Procedures
FF7* Multiple Very Complex Gastrointestinal Tract Procedures

The HRGs within each of the surgical areas are further separated based on the expected complexity of the procedures into a maximum of 5 levels. The potential range includes 7 levels (minimal, minor, intermediate, major, very major, complex and very complex), however most surgical areas do not utilise all available complexity levels.

In addition, there are a number of procedure-specific HRGs for high-volume procedures such as hernia repair or appendicectomy, and others for specialised procedures such as sleeve gastrectomy or insertion of neurostimulator for the treatment of faecal incontinence.

- Incontinence logic is applied to the insertion or renewal of neurostimulator / neurostimulator electrodes procedure codes to ensure that where a primary diagnosis code indicating faecal incontinence is recorded, or where a primary diagnosis code relating to a complication or adjustment of neurostimulator alongside a secondary diagnosis indicating faecal incontinence is recorded, the activity derives the appropriate HRG in this subchapter rather than grouping to the neurostimulator HRGs in other subchapters.

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Some endoscopic procedures are mapped to HRGs within this subchapter as opposed to Subchapter **FE Digestive System Endoscopic Procedures** as their expected resource use is more akin to clinically similar digestive system procedures performed laparoscopically than to other endoscopic procedures. Additionally, some endoscopic procedures group to this subchapter in order to keep clinically similar activity within the same subchapter, e.g., procedures undertaken to treat obesity.

Multiple Procedure Recognition

Multiple-procedure escalation logic is employed by most HRGs in this subchapter to escalate activity to an HRG with a higher expected resource usage (up to a maximum of 2 levels) where significant additional procedures are recorded.

The multiple-procedure escalation logic escalates activity up 1 level where an additional procedure of the same complexity level as the dominant procedure is recorded or for the more complex HRGs, where 2 additional procedures of the next lowest complexity level are recorded.

- For example, where the dominant procedure is a Complex procedure, escalation to the related Very Complex HRG can occur where an additional procedure code from list **FF_Complex** is recorded, or where 2 additional procedure codes from list **FF_Major** are recorded.

For some activity, escalation up 2 levels can occur when an additional 2 procedures of the same complexity level as the dominant procedure are recorded.

- For example, where the dominant procedure is a Major procedure, escalation to the Complex HRG can occur where an additional 2 procedure codes from list **FF_Major** are recorded.

In the absence of an ICD-10 code to classify severe intestinal failure, logic on the major upper and lower gastrointestinal tract procedures to acknowledge the significant resource use associated with the treatment of severe intestinal failure uses various proxies to identify this activity. Where a primary diagnosis code of intestinal fistula is recorded alongside certain gastrointestinal procedures, activity can escalate 1 level. Where an OPCS-4 code classifying long-term parenteral nutrition is recorded alongside 1 of these procedures, activity can escalate 2 levels.

In addition, logic on certain colorectal procedure codes can escalate up 1 level where a subsidiary OPCS-4 code indicating a robotic approach is recorded.

The multiple-procedure and other (fistula and robotic approach) escalation logic can act in combination with each other to escalate a maximum of 2 levels.

- For example, activity can escalate up 2 levels where both a subsidiary OPCS-4 code indicating robotic approach and an additional procedure of equivalent complexity to the dominant procedure are recorded.

The (**FF6***) Hernia HRGs have logic to escalate to a higher with higher expected resource usage when:

- a subsidiary OPCS-4 code indicating a revisional operation is recorded, or
- a subsidiary OPCS-4 code indicating that the procedure is bilateral is recorded, or
- an additional hernia procedure is recorded, or
- an additional abdominal procedure e.g., freeing of adhesions, is recorded, or
- for incisional hernia procedures, a primary diagnosis code indicating parastomal hernia is recorded.

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Certain upper gastrointestinal tract procedures have logic whereby the presence of a primary diagnosis code of obesity maps the activity to the relevant (**FF1***) surgical procedures for obesity HRGs.

In addition, there is logic on certain abdominal hernia repair and single-anastomosis duodeno-ileal bypass procedure codes to escalate activity to **FF10Z Complex Surgical Procedures for Obesity** where an additional sleeve gastrectomy procedure is recorded.

Some activity with a dominant procedure mapped to an HRG in this subchapter maps to an HRG in another subchapter in certain scenarios. Where a procedure is undertaken on the peritoneum of a female patient with a gynaecological primary diagnosis code, or on a female patient with a diagnosis code of endometriosis in any position, activity maps to an HRG in Subchapter **MA Female Reproductive System Procedures**. Where an abdominal wall transplant is performed with certain other transplants, or where a primary diagnosis code indicating pancreatic disease is recorded, activity maps to an HRG in Subchapter **GA Hepatobiliary and Pancreatic System Open and Laparoscopic Procedures**.

There is logic to ensure that where drainage of ascites is undertaken alongside an implantation of prosthesis into bladder, a general abdominal procedure HRG from this subchapter is derived, instead of an HRG from Subchapter **LB Urological and Male Reproductive System Procedures and Disorders**.

Some open intermediate gastrointestinal procedures map to HRGs in this subchapter when undertaken on adults but not when undertaken on paediatric patients, these same procedure map to an HRG within Subchapter **FE Digestive System Endoscopic Procedures**. For this type of activity, the fact that the patient is a child is more indicative of expected resource use than the method of operation, and by combining this activity with clinically similar endoscopic activity that consumes a similar level of resource, it is possible to maintain paediatric-specific HRGs.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. Several procedure combination codes are mapped to HRGs in this subchapter, including those requiring OPCS-4 codes indicating site of stomach or specific abdominal lymph nodes. Other procedure combination codes enable the differentiation of laparoscopic procedures from the equivalent percutaneous procedures, which are mapped to HRGs within Subchapter **YF Gastrointestinal Imaging Interventions**.

Many of the procedure-driven HRG roots in this subchapter employ age splits: There are specific HRGs for adult activity (19 years and over) and others for paediatric activity (18 years and under). In addition, there are some HRGs that differentiate the treatment of infants (0 to 1 year of age) from the treatment of older children (2 to 18 years). There are also age-specific HRG roots that separate adult and paediatric activity at the root level.

The less-resource intensive HRGs within this subchapter have maximum length of stay logic to ensure that minor procedures, such as rubber band ligation of haemorrhoid, are not used to determine the HRG for a long-stay medical patient, e.g., a person who has a gastrointestinal tract bleed.

Interactive CC splits are employed within the majority of HRG roots within this subchapter – up to a maximum of 5 levels – to differentiate the expected resource usage of routine and complex patients.

There are certain diagnosis codes that have an inherent complication within the single code, e.g., ***K40.1 Bilateral inguinal hernia, with gangrene*** or ***K35.2 Acute appendicitis with generalized peritonitis***. Logic on HRG roots **FF37 Appendicectomy Procedures**, **FF51 Major General Abdominal Procedures**, **FF60 Complex Hernia Procedures**, **FF61 Abdominal Hernia Procedures** and **FF62 Inguinal, Umbilical or Femoral Hernia**

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Procedures ensures that where one of these diagnosis codes is recorded as the primary diagnosis code, any complication inherent in the code is taken into account when calculating the CC score. This contrasts with standard grouping logic, where the primary diagnosis code is not considered when calculating a CC score.

Differences from the HRG4+ 2021/22 Local Payment Grouper

New HRGs have been created / Existing HRGs deleted

FF43Z Minimal Anal Procedures has been created to accommodate destruction of haemorrhoid procedures, which have been remapped from HRG root **FF42 Minor Anal Procedures** to better reflect resource usage. With the remapping of this activity, there is no longer enough activity to sustain the adult/paediatric age split within HRG root **FF42 Minor Anal Procedures**. Therefore, **FF42A Minor Anal Procedures, 19 years and over** and **FF42B Minor Anal Procedures, 18 years and under** have been deleted and merged into new HRG **FF42Z Minor Anal Procedures**.

3 new HRGs have been created to enable escalation of highly complex activity from the oesophageal, stomach or duodenum; small intestine; and large intestine HRGs to a higher expected resource HRG.

The new HRGs are:

FF70A Multiple Very Complex Gastrointestinal Tract Procedures, 19 years and over, with CC Score 7+

FF70B Multiple Very Complex Gastrointestinal Tract Procedures, 19 years and over, with CC Score 0-6

FF70C Multiple Very Complex Gastrointestinal Tract Procedures, 18 years and under

Changes to logic

New logic has been created to escalate complex gastrointestinal surgery to higher resource HRGs, including to the new HRG root **FF70 Multiple Very Complex Gastrointestinal Tract Procedures**. This includes the following:

- the expansion of multiple-procedure logic
- the addition of new robotic surgery logic on certain colon procedures to take into account the additional resource use associated when a subsidiary OPCS-4 code indicating a robotically assisted approach is recorded
- the addition of new severe intestinal failure logic to take into account the increased complexity of operating on patients with this disorder. Due to limitations within the ICD-10 classification, severe intestinal failure is identified though either the presence of an ICD-10 diagnosis code of intestinal fistula recorded in any position, or the presence of an OPCS-4 code indicating the patient is receiving long-term parenteral nutrition.

These types of logic can act in combination with each other, e.g., a procedure will escalate twice where an additional procedure of equivalent complexity is recorded, and a diagnosis of intestinal fistula is recorded in any position

Existing bariatric surgery escalation logic has been amended to ensure that “part and parcel procedures” such as stomach partitioning do not contribute to multiple-procedure escalation.

Logic has been added to abdominal hernia repair procedure codes and OPCS-4 code ***G51.8 Other specified bypass of duodenum*** to escalate activity to HRG root **FF10 Complex Surgical Procedures for Obesity** where an additional sleeve gastrectomy is recorded. This

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is to identify the additional resource usage associated with concurrent hernia repair and single-anastomosis duodeno-ileal bypass with sleeve gastrectomy (SADIS).

Diagnosis-qualified logic has been applied to newly created procedure combination codes ***A702+Z112 Testing of sacral nerve stimulator*** and ***A704+Z122 Neuromodulation of posterior tibial nerve for incontinence*** to ensure that where 1 of these procedures is recorded with a primary diagnosis indicating faecal incontinence, or with a primary diagnosis indicating attention to device alongside a secondary diagnosis indicating faecal incontinence, activity maps to **FF43Z Minimal Anal Procedures**. This change is expected to result in a shift in activity from Subchapters **AA Nervous System Procedures and Disorders** to this subchapter.

Incontinence logic has been removed from OPCS-4 code ***A70.4 Insertion of neurostimulator electrodes into peripheral nerve*** to reflect that there is a procedure combination code for temporary insertion that already maps appropriately in the design to various HRGs depending on diagnosis. On its own, this code is used for a different, lower expected resource procedure, and now defaults to HRG **AB15Z Radiofrequency Ablation or Cryoablation, for Pain Management**.

Length of stay criteria has been added to existing incontinence logic to ensure that patients treated for faecal incontinence group to a faecal incontinence HRG only when the patient length of stay is 1 day or less.

Remapping / Creation of combination codes

New procedure combination code ***H412+Y763 Endoscopic peranal excision of lesion of rectum*** has been created to identify transanal minimally invasive surgery (TAMIS) and transanal endoscopic microsurgery (TEMS) and has been mapped to base HRG root **FF33 Distal Colon Procedures.**

OPCS-4 codes ***T29.1 Excision of umbilicus***, ***T29.3 Extirpation of lesion of umbilicus*** and ***T29.5 Excision of fistula of umbilicus*** have been remapped from base HRG root **FF52 Intermediate Therapeutic General Abdominal Procedures** to **FF53 Minor Therapeutic or Diagnostic, General Abdominal Procedures** to more appropriately reflect expected resource usage.

A review of abdominal and pelvic lymph node procedures has resulted in the following changes:

- OPCS-4 code ***T85.6 Block dissection of pelvic lymph nodes*** has been remapped from base HRG root **LB67 Complex Open Bladder Procedures** to **FF51 Major General Abdominal Procedures**.
- Procedure codes for sampling, excision or biopsy and block dissection of the mesenteric or para-aortic lymph nodes have been remapped from either base HRG roots **FF51 Major General Abdominal Procedures** or **FF52 Intermediate Therapeutic General Abdominal Procedures** to **FF50 Complex General Abdominal Procedures**.
- OPCS-4 code ***T85.4 Block dissection of para-aortic lymph nodes*** has been remapped from base HRG root **YQ05 Single Open Procedure, on Aorta or Abdominal Blood Vessel** to **FF50 Complex General Abdominal Procedures**.
- New procedure combination codes ***T858+Z617 Block dissection of retroperitoneal lymph nodes***, ***T868+Z617 Sampling of retroperitoneal lymph nodes***, ***T878+Z617 Excision or biopsy of retroperitoneal lymph node***, ***T868+O141 Sampling of pelvic lymph nodes*** and ***T878+O141 Excision or biopsy of pelvic lymph node*** have been created and mapped to base HRG root **FF51 Major General Abdominal Procedures**.

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- OPCS-4 code ***T88.3 Drainage of lesion of inguinal lymph node*** and procedure combination code ***T888+O143 Drainage of lesion of mesenteric lymph node*** have been remapped from base HRG root **FF53 Minor Therapeutic or Diagnostic, General Abdominal Procedures** and **FF52 Intermediate Therapeutic General Abdominal Procedures**, respectively, to **YF04 Single Percutaneous Drainage of Abdominal Lesion Procedure**.

New procedure combination code ***A843+Z113 Nerve conduction studies of pudendal nerve*** has been created to identify specific low-resource nerve stimulation tests and has been mapped to **FF36Z Intermediate Large Intestine Procedures, 19 years and over** for adults and to HRG root **FE37 Endoscopic or Intermediate, Lower Gastrointestinal Tract Procedures, 18 years and under** for children.

OPCS-4 code ***H32.1 Resiting of colostomy*** has been remapped from **FF36Z Intermediate Large Intestine Procedures, 19 years and over** for adults and from HRG root **FE37 Endoscopic or Intermediate, Lower Gastrointestinal Tract Procedures, 18 years and under** for children, to **FF34 Major Large Intestine Procedures, 19 years and over** and **FF35 Complex or Major, Large Intestine Procedures, 18 years and under**, respectively, to more appropriately reflect the expected resource usage of this procedure.

New procedure combination code ***G092+Y763 Endoscopic oesophagomyotomy*** has been created according to clinical coding guidance. Although this procedure combination code maps to a base HRG root within Subchapter **FE Digestive System Endoscopic Procedures**, activity with this dominant procedure will escalate to the upper gastrointestinal surgery HRGs within this subchapter where multiple-procedure logic is triggered.

Procedure combination codes ***G438+RFA Fibreoptic endoscopic radiofrequency extirpation of lesion of upper gastrointestinal tract*** and ***H208+RFA Fibreoptic endoscopic radiofrequency controlled thermal extirpation of lesion of colon*** have been deleted following clarification of clinical coding guidance. These combination codes were mapped to a base HRG root in Subchapter **FE Digestive System Endoscopic Procedures**, but activity with either of these codes as the dominant procedure would escalate to an HRG in this subchapter when multiple-procedure logic was triggered.

The combination code for implantation of a duodenal-jejunal bypass sleeve for managing obesity has been deleted from the HRG design following a change in coding guidance.

Several new procedure combination codes have been created to capture specific image guided biopsy of abdominal organ procedures, e.g., those performed on the omentum or the peritoneum. These new procedure combination codes have been mapped to a new HRG within Subchapter **YF Gastrointestinal Imaging Interventions**, **YF05Z Percutaneous Biopsy of Abdominal Cavity**, whereas this activity would have previously mapped to HRGs within Subchapter **FF Digestive System Open and Laparoscopic Procedures**.

OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could be split out and captured using a new procedure combination code formed using a ***.8 Other specified*** OPCS-4 code and mapped accordingly.

Within this subchapter, these global reviews have resulted in 6 ***.9 Unspecified*** OPCS-4 codes being remapped to lower resource HRGs, including ***G75.9 Unspecified attention to artificial opening into ileum***, which is now ignored for grouping.

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New procedure combination codes ***H568+Y41 Examination of anus*** and ***H568+Y442 Monitoring of pressure of anus***, which classify simple physiological examinations and tests, have been created and mapped to new HRG **FF43Z Minimal Anal Procedures**.

New procedure combination code ***T368+Y181 Freeing of adhesions of omentum*** has been created and mapped to base HRG root **FF52 Intermediate Therapeutic General Abdominal Procedures**. Gynaecological logic has been applied to this procedure combination code to map this procedure to the female pelvic peritoneum adhesion procedure HRGs in Subchapter **MA Female Reproductive System Procedures**, where the diagnosis and the sex of the patient indicate, the procedure was undertaken to treat a gynaecological condition.

New procedure combination code ***M498+Y021 Implantation of prosthesis into bladder*** has been created to capture the subcutaneous implantation of a battery-powered ascites catheter drainage system. Although this procedure combination code has been mapped to base HRG root **LB15 Minor Bladder Procedures**, this procedure combination code was created so that activity with this dominant procedure will escalate to **FF50 Complex General Abdominal Procedures** when recorded with OPCS-4 code ***T46.2 Drainage of ascites NEC***, to capture the resource use of this specific procedure.

Redundant procedure combination code ***T388+Y05 Excision of mesentery of colon*** has been deleted. This procedure combination code mapped to base HRG root **FF34 Major Large Intestine Procedures, 19 years and over** for adults and **FF35 Complex or Major, Large Intestine Procedures, 18 years and under** for children.

Changes to list membership

The membership and values of the various procedure lists used in multiple-procedure escalation logic employed within this subchapter have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design and to remove redundant procedure codes from escalation lists.

Additional gynaecological-related diagnosis codes have been added to the list **MA_Gynae_Diag** to ensure that peritoneal procedures undertaken to treat gynaecological conditions group to gynaecological HRGs. A sex check has been added to ensure that the logic is only triggered where the patient sex is female. This will result in a shift in activity from this subchapter to HRGs within Subchapter **MA Female Reproductive System Procedures**.

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **FDFEFFYF_CC**.

CC list **FDFEFFYF_CC** has been updated to include paediatric-specific CCs such as disorders of prematurity and autistic spectrum disorders to reflect the additional resource usage associated with treating patients with these underlying conditions. In addition, the list value of diagnosis code ***E34.0 Carcinoid syndrome*** on **FDFEFFYF_CC** has been increased to a value of 2 to reflect that this disorder is considered a major comorbidity.

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Subchapter GA – Hepatobiliary and Pancreatic System Open and Laparoscopic Procedures

Subchapter **GA Hepatobiliary and Pancreatic System Open and Laparoscopic Procedures** includes hepatobiliary and pancreatic system surgery for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

It does not include endoscopic hepatobiliary and pancreatic system procedures, which map to Subchapter **GB Hepatobiliary and Pancreatic System Endoscopic Procedures**, or percutaneous hepatobiliary and pancreatic system procedures, which map to Subchapter **YG Hepatobiliary and Pancreatic Imaging Interventions**.

The HRGs within this subchapter are separated based on the expected complexity of the procedures into 6 levels (minor, intermediate, major, very major, complex, and very complex).

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**27**	**27**
Total HRG Roots	**11**	**11**
Procedure-driven HRGs	27	27
Diagnosis-driven HRGs	0	0
Age Splits	Yes	Yes
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	No	No

There are also procedure-specific HRGs for high-volume procedures such as cholecystectomy, and for specialised procedures such as hepatobiliary transplants and pancreatic necrosectomy.

- The cholecystectomy HRG root is split based on whether the surgery was open or laparoscopic, the latter identified using a subsidiary OPCS-4 code indicating laparoscopic approach.

The transplant HRGs are separated into liver transplant HRGs; a pancreas transplant HRG (which includes pancreas with kidney transplants); and an HRG for multiple transplants, including both the simultaneous transplantation of multiple organs and where multiple concurrent transplants of the same organ have been undertaken.

Multiple Procedure Recognition

Multiple-procedure logic is employed by the majority of HRGs within this subchapter to escalate activity to an HRG with a higher expected resource usage (up to a maximum of 2 levels) where significant additional procedures are recorded.

The multiple-procedure escalation logic escalates activity up 1 level where an additional procedure of the same complexity level as the dominant procedure is recorded, or 2 additional procedures of the next lowest complexity level are recorded.

- For example, where the dominant procedure is a Major procedure, escalation to the related Very Major HRGs can occur where an additional procedure code from list **GA_Major** is recorded or where 2 where additional procedure codes from list **G_Intermediate** are recorded.

Also, escalation up 2 levels can occur where an additional 2 procedures of the same complexity as the dominant procedure are recorded.

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- For example, where the dominant procedure is a Major procedure, escalation to the related Complex HRGs can occur where an additional 2 procedures from list **GA_Major** are recorded.

There is logic on a handful of pancreatic procedure codes to escalate to an HRG with a higher expected resource use where a primary diagnosis indicating acute pancreatitis is recorded.

There is logic applied to certain procedure codes that map to HRGs in Subchapter **FF Digestive System Open and Laparoscopic Procedures** so that where a primary diagnosis code indicating pancreatic disease is recorded an HRG from this subchapter is derived instead.

Similarly, transplantation procedures that map to HRGs in Subchapter **FF Digestive System Open and Laparoscopic Procedures** can escalate to HRG root **GA14 Multi-Organ or Multiple Transplants** where an additional transplantation procedure code is recorded.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. In this subchapter they are used to identify endoscopic pancreatic necrosectomy, localised perfusion of liver using extracorporeal circulation, open renewal of tubal prosthesis into pancreatic duct, and donation of lobe or segment of liver.

The cholecystectomy HRG root has a paediatric age split differentiating adult activity (19 years and over) from paediatric activity (18 years and under).

The liver transplant HRG root has a paediatric age split: there is a specific HRG for adult activity (atypically defined as 18 years and over) and HRGs specific to the treatment of infants (0 to 1 year of age) and the treatment older children (2 to 17 years).

Interactive CC splits are employed within the majority of HRG roots within this subchapter – up to a maximum of 3 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Remapping / Creation of combination codes

OPCS-4 codes ***J21.2 Drainage of Gall Bladder*** and ***J33.3 Drainage of bile duct NEC*** have been remapped from base HRG root **GA03 Very Complex Open, Hepatobiliary or Pancreatic Procedures** to **GA05 Very Major Open, Hepatobiliary or Pancreatic Procedures** to reflect that clinical treatment has progressed in recent years to reduce the expected length of stay, and thereby the expected resource usage of these drainage procedures.

New procedure combination code ***J576+Y763 Endoscopic pancreatic necrosectomy*** has been created and mapped to base HRG root **GA05 Very Major Open, Hepatobiliary or Pancreatic Procedures**. The new procedure combination code enables this endoscopic procedure to be identified and mapped differently than the equivalent open procedure.

Procedure combination code ***J611+Y763 Endoscopic cystogastrotomy of pancreas***, which was mapped to base HRG root **GB09 Complex Therapeutic Endoscopic Retrograde Cholangiopancreatography**, has been deleted from the design on clinical advice. Activity is expected to shift to this subchapter from HRGs within Subchapter **GB Hepatobiliary and Pancreatic System Endoscopic Procedures** because of this change.

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OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could be split out and captured using a new procedure combination code formed using a ***.8 Other specified*** OPCS-4 code and mapped accordingly.

Within this subchapter, these global reviews have resulted in 4 ***.9 Unspecified*** OPCS-4 codes being remapped to a lower expected resource HRGs.

New procedure combination code ***J608+Y763 Endoscopic operation on pancreatic duct*** has been created and mapped to **FE20Z Therapeutic Endoscopic Upper Gastrointestinal Tract Procedures, 19 years and ove**r for adults and to HRG root **FE23 Endoscopic or Intermediate, Upper Gastrointestinal Tract Procedures, 18 years and under** for children. This procedure would have previously mapped to other HRGs within this subchapter.

Changes to list membership

The membership and values of the various procedure lists used in multiple-procedure escalation logic employed within this subchapter have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design and to remove redundant procedure codes from escalation lists.

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **GAGBGCYG_CC**.

CC list **GAGBGCYG_CC** has been updated to include paediatric-specific CCs such as disorders of prematurity and autistic spectrum disorders to reflect the additional resource usage associated with treating patients with these underlying conditions. In addition, the list value of diagnosis code ***E34.0 Carcinoid syndrome*** on **GAGBGCYG_CC** has been increased to a value of 2 to reflect that this disorder is considered a major comorbidity.

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Subchapter GB – Hepatobiliary and Pancreatic System Endoscopic Procedures

Subchapter **GB Hepatobiliary and Pancreatic System Endoscopic Procedures** covers hepatobiliary and pancreatic system endoscopic procedures for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings

It does not include open surgical procedures performed on the hepatobiliary and pancreatic system, which map to Subchapter **GA Hepatobiliary and Pancreatic System Open and Laparoscopic Procedures**, or percutaneous procedures, which map to Subchapter **YG Hepatobiliary and Pancreatic Imaging Interventions**.

The HRGs within this subchapter are separated into HRGs for endoscopic retrograde cholangiopancreatography (ERCP) procedures and HRGs for endoscopic ultrasound (EUS) procedures.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**14**	**14**
Total HRG Roots	**7**	**7**
Procedure-driven HRGs	14	14
Diagnosis-driven HRGs	0	0
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	Yes	Yes

The therapeutic ERCP HRGs are separated based on the expected complexity of the procedures into 3 levels (intermediate, major and complex) and the 2 diagnostic ERCP HRG roots are differentiated into with/without biopsy or cytology.

Multiple Procedure Recognition

Multiple-procedure escalation logic is employed by the majority of HRGs within this subchapter to escalate activity to an HRG with a higher expected resource use (up to a maximum of 2 levels) where significant additional procedures are recorded.

The multiple-procedure escalation logic escalates activity up 1 level where an additional procedure of the same complexity level as the dominant procedure is recorded, or 2 additional procedures of the next lowest complexity level are recorded.

- For example, where the dominant procedure is an Intermediate ERCP procedure, escalation to the related Complex ERCP HRGs can occur where an additional procedure code from list **G_Intermediate** is recorded or where 2 where additional procedure codes from list **G_Minor** are recorded.

Also, escalation up 2 levels can occur where an additional 2 procedures of the same complexity as the dominant procedure are recorded.

- For example, where the dominant procedure is a Minor ERCP procedure, escalation to the Complex ERCP HRGs can occur where an additional 2 procedures from list **G_Minor** are recorded.

There is also logic on a handful of pancreatic procedure codes to escalate to an HRG with a higher expected resource usage where a primary diagnosis code indicating acute pancreatitis is recorded.

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There is logic on the intermediate therapeutic procedures to escalate up 1 level when an additional diagnostic ERCP with biopsy or cytology procedure is recorded.

There is also logic on a few drainage procedure codes to escalate up 1 level when a primary diagnosis code indicating acute pancreatitis is recorded.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. In this subchapter the majority of these are used to identify insertion of metal stent into duct procedures, with the remaining used to classify radiofrequency ablation or biopsy procedures.

There are no paediatric specific HRGs within this subchapter due to a low volume of ERPC and EUS activity for children.

The diagnostic ERCP and EUS HRGs within this subchapter have maximum length of stay logic to ensure that minor procedures, such as diagnostic ERCP, are not used to determine the HRG for a long-stay medical patient, e.g., a person who has liver failure.

Interactive CC splits are employed within many of the more complex HRG roots within this subchapter – up to a maximum of 4 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Remapping / Creation of combination codes

New procedure combination code ***J362+Y764 Endoscopic ultrasonic biopsy of lesion of ampulla of Vater*** has been created and mapped to **GB12Z Endoscopic Ultrasound Examination, of Hepatobiliary or Pancreatic Duct, with Biopsy or Cytology**.

Procedure combination code ***J611+Y763 Endoscopic cystogastrotomy of pancreas***, which was mapped to base HRG root **GB09 Complex Therapeutic Endoscopic Retrograde Cholangiopancreatography**, has been deleted from the design on clinical advice. Activity is expected to shift from this subchapter to HRGs within Subchapter **GA Hepatobiliary and Pancreatic System Open and Laparoscopic Procedures** because of this change.

Changes to list membership

The membership and list values of the various procedure lists used in multiple-procedure escalation logic employed within this subchapter have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design and to remove redundant procedure codes from escalation lists.

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **GAGBGCYG_CC**.

CC list **GAGBGCYG_CC** has been updated to include paediatric-specific CCs such as disorders of prematurity and autistic spectrum disorders to reflect the additional resource usage associated with treating patients with these underlying conditions. In addition, the list value of diagnosis code ***E34.0 Carcinoid syndrome*** on **GAGBGCYG_CC** has been increased to a value of 2 to reflect that this disorder is considered a major comorbidity.

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Subchapter GC – Hepatobiliary and Pancreatic System Disorders

Subchapter **GC Hepatobiliary and Pancreatic System Disorders** covers all adult liver, biliary and pancreatic system disorders. It includes activity undertaken in inpatient and day case settings.

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in **Chapter P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework.

The HRGs within this subchapter are spread across 4 HRG roots, 2 of which are disease-specific – for liver failure and non-obstructive jaundice – and 2 of which contain all other hepatobiliary and pancreatic system disorders – 1 for malignant disorders and 1 for non-malignant disorders.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**24**	**24**
Total HRG Roots	**4**	**4**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	24	24
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	Yes	Yes
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Intervention splits, including those that differentiate between whether a single “minor intervention” or multiple “minor interventions” have been undertaken, are employed within 3 of the 4 HRG roots in this subchapter. Intervention splits are used to acknowledge where “minor interventions” undertaken during a patient admission are expected to result in additional resource usage.

Interactive CC splits are employed within all of the HRG roots within this subchapter – up to a maximum of 4 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **GAGBGCYG_CC**.

CC list **GAGBGCYG_CC** has been updated to include paediatric-specific CCs such as disorders of prematurity and autistic spectrum disorders to reflect the additional resource usage associated with treating patients with these underlying conditions. In addition, the list value of diagnosis code ***E34.0 Carcinoid syndrome*** on **GAGBGCYG_CC** has been increased to a value of 2 to reflect that this disorder is considered a major comorbidity.

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Subchapter HC – Spinal Procedures and Disorders

Subchapter **HC Spinal Procedures and Disorders** includes spinal surgery for patients of all ages and treatment for adult spinal disorders. It includes activity undertaken as inpatient, day case or outpatient activity.

The majority of percutaneous spinal procedures map to Subchapter **YH Musculoskeletal Imaging Interventions**.

The procedure-driven HRGs within this subchapter are generally differentiated based on the type of surgery – intradural, extradural and spinal reconstruction with and without instrumented correction.

The HRGs within this subchapter are separated into the following surgical areas:
HC5* Spinal Reconstructive Procedures
HC6* Extradural spinal procedures
HC7* Intradural spinal procedures

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**74**	**74**
Total HRG Roots	**23**	**23**
Procedure-driven HRGs	39	39
Diagnosis-driven HRGs	35	35
Age Splits	Yes	Yes
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	Yes	Yes
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

The HRGs within each of the surgical areas are further separated based on the expected complexity of the procedures into 6 levels for the extradural spinal procedures (minor, intermediate, major, very major, complex and very complex), 5 levels for the spinal reconstruction procedure (major, very major, complex, complex instrumented and very complex instrumented) and 2 levels for intradural spinal procedures (minor and major). There are also HRGs specific to diagnostic spinal puncture.

Multiple Procedure Recognition

Multiple-procedure escalation logic is employed by the majority of procedure-driven HRGs in this subchapter to escalate activity to an HRG with a higher expected resource usage (up to a maximum of 2 levels) where significant additional procedures are recorded.

The multiple-procedure escalation logic uses a scoring system that is applied to most spinal procedures, which acts as a proxy so that escalation up 1 level can occur where an additional procedure of the same (with score of 2) or 1 lower complexity level (with score of 1) as the dominant procedure is recorded, or escalate up 2 levels where 2 or more additional procedures of the same or next lowest complexity as the dominant procedure are recorded (equivalent score of 6).

- For example, when the dominant procedure is a major extradural spinal procedure, escalation to the Very Major HRG can occur where an additional procedure from list **HC_IntMaj** (contains intermediate procedures with a score of 1 and major procedures with a score of 2) is recorded, or 2 or more additional procedures from the same list with a score of 6 (equivalent to 3 major procedures), including the dominant procedure are recorded.

There is escalation logic on relevant spinal procedures to escalate up 1 level, when a subsidiary OPCS-4 procedure coded indicating the procedure is bilateral is recorded.

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There is logic on certain procedures to escalate up 1 level, when an additional OPCS-4 procedure code indicating that advanced monitoring such as EPR during surgery, is recorded.

There is also logic on relevant procedures to escalate up 2 levels, when a diagnosis code indicating spinal tumour or infection is recorded in any position.

The multiple-procedure and other (bilateral, EPR) escalation logic can act in combination with each other to escalate a maximum of 2 levels.

- For example, activity with a Major extradural spinal dominant procedure can escalate up 2 levels to a Complex extradural spinal procedure HRG, where additional procedures indicating EPR and a procedure of equivalent complexity are recorded, or where a subsidiary OPCS-4 code indicating bilateral operation and additional procedure code of equivalent complexity are recorded.

Escalation can occur from the higher complexity category extradural and intradural spinal procedure HRGs into the spinal reconstruction HRGs.

- For example, where the dominant procedure is a Major intradural procedure and an additional Major procedure is recorded activity escalates to a Major Spinal Reconstruction HRG (the lowest complexity category of spinal reconstruction HRG).

Some activity with a dominant procedure mapped to HRGs in this subchapter maps to HRGs in another subchapter in certain scenarios. Where either TFC **191 Pain Management Service** or TFC **241 Paediatric Pain Management Service** is recorded alongside certain procedures, activity maps to an HRG in Subchapter **AB Pain Management**.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. In this subchapter they are mainly used to indicate a site of spine. There are also procedure combination codes requiring subsidiary OPCS-4 codes indicating the levels of spine operated on, to allow for direct mapping to the appropriate resource HRG.

Several of the procedure-driven HRGs in this subchapter employ age splits: There are specific HRGs for adult activity (19 years and over) and others for paediatric activity (18 years and under). For the diagnostic spinal puncture HRGs, paediatric activity is further disaggregated into splits for young children (0 to 5 years of age) and the treatment of older children (6 to 18 years of age).

HC65Z Minor Extradural Spinal Procedures and HRG root **HC72 Diagnostic Spinal Puncture** employ maximum length of stay logic to ensure that minor procedures, such as diagnostic lumbar puncture, are not used to determine the HRG for a long-stay medical patient, e.g., a child who has meningitis.

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in **Chapter P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework. The adult diagnosis-driven HRGs within this subchapter are split based on disorder type, such as spinal cord injury, spinal tumours, spinal infection.

Several of the diagnosis-driven HRG roots within this subchapter also employ intervention splits to acknowledge where “minor interventions” undertaken during a patient admission are expected to result in additional resource usage.

Interactive CC splits are employed within the majority of both diagnosis-driven and procedure-driven HRG roots within this subchapter – up to a maximum of 4 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

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Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to logic

New logic introduced into Subchapter **AB Pain Management** that uses Treatment Function Code (TFC) 191 Pain Management and TFC 241 Paediatric Pain Management to identify pain management procedures will result in activity shifting from some HRGs in Subchapter **HC Spinal Procedures and Disorders** to Subchapter **AB Pain Management**.

Remapping / Creation of combination codes

OPCS-4 ode ***V29.4 Primary anterior excision of cervical intervertebral disc and interbody fusion of joint of cervical spine*** has been remapped from base HRG root **HC64 Intermediate Extradural Spinal Procedures** to **HC63 Major Extradural Spinal Procedures** to reflect that this code represents 2 procedures being undertaken concurrently, which is more resource intensive than if 1 of these is performed individually.

New procedure combination codes ***W621+Z841 Primary arthrodesis and internal fixation of sacroiliac joint*** and ***W631+Z841 Revision of arthrodesis and internal fixation of sacroiliac joint*** have been created and mapped to base HRG root **HC62 Very Major Extradural Spinal Procedures**. The former code replaces combination code ***W621+Y769+Z841 Primary arthrodesis and internal fixation of sacroiliac joint using minimal access approach***, which has been deleted from the HRG design.

In order to support the new under image control HRGs within Subchapter **AB Pain Management**, 2 new combination codes have been created and mapped to **HC65Z Minor Extradural Spinal**. ***W903+IMAGE+SPINE Injection of therapeutic substance into joint of spine under image control*** and ***W926+IMAGE+SPINE Chemical synovectomy of spine under image control*** are mapped to the same base HRG as existing codes ***W903+SPINE Injection of therapeutic substance into joint of spine*** and ***W926+SPINE Chemical synovectomy of spine***; however, the pain management logic applied to the new combination codes directs these codes to a different pain management HRG than the 2 existing codes.

OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could be split out and captured using a new procedure combination code formed using a ***.8 Other specified*** OPCS-4 code and mapped accordingly.

Within this subchapter, these global reviews have resulted in 5 ***.9 Unspecified*** OPCS-4 codes and 5 combination codes containing a ***9 Unspecified*** OPCS-4 code being remapped to lower expected resource HRGs. This includes the deletion of ***V289+V552 Unspecified insertion of lumbar interspinous process spacer, with two levels of spine*** and ***V289+V553 Unspecified insertion of lumbar interspinous process spacer, with greater than two levels of spine***, as it is inappropriate for these unspecified codes to escalate in this manner.

New procedure combination codes ***V288+Y037 Removal of lumbar interspinous process spacer*** and ***V259+Y083 Primary laser decompression of lumbar spine*** have been created and mapped to **HC65Z Minor Extradural Spinal Procedures** to appropriately reflect the resource usage of these procedures. The latter procedure combination code has been mapped in line with an update to clinical coding guidance for percutaneous intradiscal laser ablation in the lumbar spine.

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Changes to list membership

The membership and values of the various procedure lists used in multiple-procedure escalation logic employed within this subchapter have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design and to remove redundant procedure codes from escalation lists.

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **HC_CC**.

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Subchapter HD – Musculoskeletal and Rheumatological Disorders

Subchapter **HD Musculoskeletal and Rheumatological Disorders** covers musculoskeletal and rheumatological disorders for adult patients. It includes activity undertaken in an inpatient and day case setting.

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in **Chapter P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework.

The HRGs within this subchapter are generally differentiated based on disorder type such as soft tissue disorders, infections of bones or joints, and pathological fractures.

Interactive CC splits are employed within all of the HRG roots within this subchapter – up to a maximum of 6 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**35**	**35**
Total HRG Roots	**7**	**7**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	35	35
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **HD_CC**.

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Subchapter HE – Orthopaedic Disorders

Subchapter **HE Orthopaedic Disorders** covers orthopaedic injuries and complications of orthopaedic operations and trauma for adult patients only. It includes activity undertaken in inpatient and day case settings.

Adult spinal disorder HRGs can be found in Subchapter **HC Spinal Procedures and Disorders**.

Adult rheumatological and other musculoskeletal disorders can be found in Subchapter **HD Musculoskeletal and Rheumatological Disorders**.

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in **Chapter P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**84**	**84**
Total HRG Roots	**15**	**15**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	84	84
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	Yes	Yes
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Most of the HRG roots within this subchapter are separated based on the site of injury, as follows:

HE1* Hip injuries
HE2* Knee injuries
HE3* Foot injuries
HE4* Hand injuries
HE5* Arm injuries
HE7* Rib or Chest injuries

Within these broader areas, the HRGs are further differentiated into HRGs for fractures and HRGs for other injuries.

There are also HRG roots (**HE8***) specific to complications due to orthopaedic prosthetic devices, implants or grafts; and complications resulting from trauma or injury.

Intervention splits, including those that differentiate between whether a single “minor intervention” or multiple “minor interventions” have been undertaken, are employed within the majority of the HRG roots in this subchapter to acknowledge where “minor interventions” undertaken during a patient admission are expected to result in additional resource usage.

Interactive CC splits are employed within all of the HRG roots within this subchapter – up to a maximum of 5 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

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Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **HEHNHT_CC**.

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Subchapter HN – Orthopaedic Non-Trauma Procedures

Subchapter **HN Orthopaedic Non-Trauma Procedures** covers non-trauma orthopaedic procedures for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

Orthopaedic procedures performed for trauma can be found in Subchapter **HT Orthopaedic Trauma Procedures**.

Spinal procedures can be found in Subchapter **HC Spinal Procedures and Disorders**.

Percutaneous musculoskeletal procedures can be found in Subchapter **YH Musculoskeletal Imaging Interventions**.

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**111**	**111**
Total HRG Roots	**36**	**36**
Procedure-driven HRGs	111	111
Diagnosis-driven HRGs	0	0
Age Splits	Yes	Yes
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

Activity maps to HRGs within Subchapter **HT Orthopaedic Trauma Procedures** where a primary ICD-10 diagnosis code indicating trauma from list **HT_Trauma** is recorded, with the exception of procedures that are inherently almost exclusive to the treatment of non-trauma conditions, e.g., carpal tunnel release, plantar fasciectomy, which map to HRGs within this subchapter irrespective of the primary ICD-10 diagnosis code.

The orthopaedic procedures for non-trauma HRGs are generally differentiated based on the site of surgery, as follows:
HN1* Hip Procedures for Non-Trauma
HN2* Knee Procedures for Non-Trauma
HN3* Foot Procedures for Non-Trauma
HN4* Hand Procedures for Non-Trauma
HN5* Shoulder Procedures for Non-Trauma
HN6* Elbow Procedures for Non-Trauma

The HRGs within each of the surgical areas are further separated based on the expected complexity of the procedures into 5 levels (minimal, minor, intermediate, major, very major, with additional complex or very complex HRGs (**HN8***) that combine activity across multiple body sites. There is also a procedure-specific HRG for insertion of massive endoprosthesis.

Multiple Procedure Recognition

Multiple-procedure escalation logic is employed by the majority of HRGs in this subchapter to escalate activity to an HRG with a higher expected resource usage (up to a maximum of 2 levels) where significant additional procedures are recorded.

The multiple-procedure escalation logic escalates activity up 1 level where an additional procedure of the same complexity as the dominant procedure is recorded, or 2 additional procedures of the next lowest complexity are recorded.

- For example, where the dominant procedure is a Major procedure, escalation to the related Very Major HRGs can occur where an additional procedure code from list **H_Major** is recorded or where 2 where additional procedure codes from list **H_Int** are recorded.

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Also, escalation up 2 levels can occur where an additional 2 procedures of the same complexity as the dominant procedure are recorded.

- For example, where the dominant procedure is an Intermediate procedure, escalation to the related Very Major HRGs can occur where an additional 2 procedures from **H_Int** are recorded.

All of the multiple procedure lists used within this subchapter also contain OPCS-4 site codes for bilateral operations, operations on multiple metacarpals or metatarsals, and multiple digits of hand or foot. This is to reflect the additional resource usage associated with multiple procedures coded using these OPCS-4 site codes.

- For example, where an Intermediate procedure was undertaken on the ring and index fingers of both hands, and therefore had subsidiary OPCS-4 codes ***Z89.7 Multiple digits of hand NEC*** and ***Z94.1 Bilateral operation*** recorded, as both of these are on list **H_Int**, the activity would escalate up 2 levels to the Very Major HRG, to reflect that 4 fingers had been operated on.

There is logic on most procedure codes to escalate up 2 levels where a diagnosis code indicating bone malignancy is recorded in any position.

In addition, there is logic on the procedures that map to the Complex HRGs to escalate to the Very Complex HRGs where a diagnosis code indicating infected internal orthopaedic prosthesis is recorded in any position.

Some activity with a dominant procedure mapped to an HRG in this subchapter maps to an HRG in another subchapter in certain scenarios. Where either TFC **191 Pain Management Service** or TFC **241 Paediatric Pain Management Service** is recorded alongside certain procedures, activity maps to an HRG in Subchapter **AB Pain Management**. Where certain amputation or disarticulation of bone procedures are performed on a patient with a primary diagnosis code of a vascular disorder, activity maps to an HRG in Subchapter **YQ Vascular Open Procedures and Disorders**.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. Although some orthopaedic OPCS-4 procedure codes are site-specific the majority are not, therefore procedure combination codes are used extensively in this subchapter to map activity to the appropriate site-specific HRGs. These procedure combination codes are formed using subsidiary OPCS-4 site codes as follows:

- Procedure combination codes containing '***+HIP***' – uses combination list **CL_Hip**, which contains subsidiary hip and upper leg OPCS-4 site codes, e.g., ***Z76.4 Shaft of femur***, ***Z57.4 Adductor muscle of thigh***.
- Procedure combination codes containing '***+KNEE***' – uses combination list **CL_Knee**, which contains subsidiary knee and lower leg OPCS-4 site codes, e.g., ***Z78.7 Patella***, ***Z57.7 Hamstring***.
- Procedure combination codes containing '***+SHOULDER***' – uses combination list **CL_Shoulder**, which contains subsidiary shoulder and upper arm OPCS-4 site codes, e.g., ***Z81.1 Sternoclavicular joint***, ***Z54.2 Rotator cuff of shoulder***.
- Procedure combination codes containing '***+ELBOW***' – uses combination list **CL_Elbow**, which contains subsidiary elbow and lower arm OPCS-4 site codes, e.g., ***Z71.1 Olecranon process of ulna***, ***Z70.2 Neck of radius***.
- Procedure combination codes containing '***+HAND***' – uses combination list **CL_Hand**, which contains subsidiary hand and wrist OPCS-4 site codes, e.g., ***Z72.5 Trapezium***, ***Z82.4 Carpometacarpal joint of finger***.

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- Procedure combination codes containing '***+FOOT***' – uses combination list **CL_Foot**, which contains subsidiary foot and ankle OPCS-4 site codes, e.g., ***Z85.6 Ankle joint***, ***Z86.4 Metatarsophalangeal joint of great toe***.

Where a procedure has been undertaken on multiple different orthopaedic sites, including the rib and spine (which map to HRGs within subchapters **DZ Respiratory System Procedures and Disorders** and **HC Spinal Procedures and Disorders**, respectively) the following hierarchy is used to determine which site-specific procedure combination codes are formed, as follows:
Rib > *Spine* > Hip > Knee > Shoulder > Elbow > Hand > Foot

- For example, where ***A59.2 Total sacrifice of peripheral nerve NEC*** is recorded with subsidiary site codes of ***Z09.5 Posterior interosseous nerve*** (on list **CL_Elbow**) and ***Z09.2 Median nerve*** (on list **CL_Hand**), the procedure combination code ***A592+ELBOW Partial sacrifice of peripheral nerve of elbow*** would be formed and would drive grouping.

In general, for OPCS-4 procedure codes that specify operations expected to be performed on limbs, and where a subsidiary OPCS-4 site code (that would form one of the procedure combination codes mentioned above) is not recorded, the OPCS-4 procedure code(s) are ignored for grouping purposes.

Where an OPCS-4 procedure code specifies an operation that could be performed elsewhere on the body e.g., a soft tissue procedure, where a subsidiary OPCS-4 site code (that would form one of the procedure combination codes mentioned above) is not recorded the OPCS-4 procedure code maps to HRG **HN93Z Other Muscle, Tendon, Fascia or Ligament Procedures**.

This subchapter also contains '***+IMAGE***' procedure combination codes that require a subsidiary OPCS-4 code indicating the procedure is performed under image control. There are also procedure combination codes classifying debridement or irrigation of tendon or ligament procedures.

Many of the HRG roots in this subchapter employ age splits: there are specific HRGs for adult activity (19 years and over) and others for paediatric activity (18 years and under). In addition, there are some HRGs specific to the treatment of younger children (0 to 5 year of age) and for the treatment of older children (6 to 18 years).

All the minor and minimal procedure HRGs within this subchapter have maximum length of stay logic to ensure that minor procedures, such as joint injections, are not used to determine the HRG for a long-stay medical patient, e.g., a person who has bone cancer.

Interactive CC splits are employed within the majority of HRG roots within this subchapter – up to a maximum of 6 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Creation of combination codes

4 new procedure combination codes have been created following an update to clinical coding guidance for knee repair procedures using a scaffold or graft: ***W703+SCAF Open repair of semilunar cartilage using scaffold***, ***W823+SCAF Endoscopic repair of semilunar cartilage using scaffold***, ***W823+Y272 Endoscopic repair of semilunar cartilage using allograft*** and ***W703+Y272 Open repair of semilunar cartilage using allograft***. All 4 new combination codes are mapped to base HRG root **HN23 Major Knee Procedures for Non-Trauma**. The new **"+SCAF**" procedure combination codes require a

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subsidiary OPCS-4 code classifying introduction of scaffold into organ from new list **CL_SCAF**.

In order to support the new under image control HRGs within Subchapter **AB Pain Management**, 63 new procedure combination codes that map to a base HRG root within this subchapter have been created. These new procedure combination codes map to the same base HRG roots in this subchapter as their driving procedure codes and have logic to map activity to the pain management HRGs when there is a primary diagnosis of a pain disorder or where a Pain Management TFC is recorded.

OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could be split out and captured using a new procedure combination code formed using a ***.8 Other specified*** OPCS-4 code and mapped accordingly.

Within this subchapter, these global reviews have resulted in 10 ***.9 Unspecified*** OPCS-4 codes and 36 orthopaedic site-specific procedure combination codes containing a ***.9 Unspecified*** OPCS-4 code being remapped to lower resource HRGs.

36 new procedure combination codes have been created to identify irrigation and debridement of tendon and ligament procedures. This includes orthopaedic site-specific procedure combination codes, e.g., ***T728+Y055+ELBOW Debridement of sheath of tendon of elbow***. These new combination codes have been mapped to the site-specific **HN*4 Intermediate SITE Procedures for Non-Trauma** HRGs. 6 new irrigation and debridement of tendon or ligament procedure combination codes that do not specify the orthopaedic site, e.g., ***T748+Y223 Irrigation of tendon***, have been created and mapped to be ignored for grouping purposes.

Changes to list membership

OPCS-4 site code ***Z58.4 Tibialis anterior*** has been removed from the knee orthopaedic site list and moved to the foot site list to reflect that this is a site associated with the foot and ankle rather than the knee and lower limb.

The membership of the various procedure lists used in multiple-procedure escalation logic employed within this subchapter have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design, and to remove redundant procedure codes from escalation lists.

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **HEHNHT_CC**.

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Subchapter HT – Orthopaedic Trauma Procedures

Subchapter **HT Orthopaedic Trauma Procedures** covers trauma orthopaedic procedures for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

Non-trauma procedure activity can be found in Subchapter **HN Orthopaedic Non-Trauma Procedures**.

Spinal activity can be found in Subchapter **HC Spinal Procedures and Disorders**.

Percutaneous musculoskeletal procedures can be found in Subchapter **YH Musculoskeletal Imaging Interventions**.

The orthopaedic procedures for non-trauma HRGs are generally differentiated based on the site of surgery, as follows:
HT1* Hip Procedures for Trauma
HT2* Knee Procedures for Trauma
HT3* Foot Procedures for Trauma
HT4* Hand Procedures for Trauma
HT5* Shoulder Procedures for Trauma
HT6* Elbow Procedures for Trauma

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**87**	**87**
Total HRG Roots	**26**	**26**
Procedure-driven HRGs	87	87
Diagnosis-driven HRGs	0	0
Age Splits	Yes	Yes
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

The HRGs within each of the surgical areas are further separated based on the expected complexity of the procedures into 5 levels (minimal, minor, intermediate, major, very major, with additional complex HRGs (**HT8***) that combine activity across multiple sites.

Activity maps to HRGs within this subchapter rather than to HRGs in Subchapter **HN Orthopaedic Non-Trauma Procedure** where a primary diagnosis code of trauma from list **HT_Trauma** is recorded, with the exception of procedures that are inherently almost exclusively for the treatment of non-trauma conditions, e.g., carpal tunnel release, plantar fasciectomy. These map to HRGs within Subchapter **HN Orthopaedic Non-Trauma Procedure** irrespective of primary diagnosis.

Multiple Procedure Recognition

Multiple-procedure escalation logic is employed by the majority of HRGs in this subchapter to escalate activity to an HRG with a higher expected resource usage (up to a maximum of 2 levels) where significant additional procedures are recorded.

The multiple-procedure escalation logic escalates activity up 1 level where an additional procedure of the same complexity level as the dominant procedure is recorded, or 2 additional procedures of the next lowest complexity level are recorded.

- For example, where the dominant procedure is a Major procedure, escalation to the related Very Major HRGs can occur where an additional procedure code from list **H_Major** is recorded or where 2 where additional procedure codes from list **H_Int** are recorded.

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Also, escalation up 2 levels can occur where an additional 2 procedures of the same complexity as the dominant procedure are recorded.

- For example, where the dominant procedure is an Intermediate procedure, escalation to the related Very Major HRGs can occur where an additional 2 procedures from **H_Int** are recorded.

All of the multiple procedure lists used within this subchapter also contain OPCS-4 site codes for bilateral operations, operations on multiple metacarpals or metatarsals, and multiple digits of hand or foot. This is to reflect the additional resource use associated with multiple procedures coded using these OPCS-4 site codes.

- For example, where an Intermediate procedure was undertaken on the ring and index fingers of both hands, and therefore had subsidiary OPCS-4 codes ***Z89.7 Multiple digits of hand NEC*** and ***Z94.1 Bilateral operation*** recorded, as both of these are on list **H_Int**, the activity would escalate up 2 levels to the Very Major HRG, to reflect that 4 fingers had been operated on.

There is logic on most procedure codes to escalate up 2 levels where a diagnosis code indicating bone malignancy is recorded alongside the primary diagnosis code of trauma.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. Although some orthopaedic OPCS-4 procedure codes are site-specific the majority are not, therefore procedure combination codes are used extensively in this subchapter to map activity to the appropriate site-specific HRGs. These procedure combination codes are formed using subsidiary OPCS-4 site codes as follows:

- Procedure combination codes containing '***+HIP***' – uses combination list **CL_Hip**, which contains subsidiary hip and upper leg OPCS-4 site codes, e.g., ***Z76.4 Shaft of femur***, ***Z57.4 Adductor muscle of thigh***.
- Procedure combination codes containing '***+KNEE***' – uses combination list **CL_Knee**, which contains subsidiary knee and lower leg OPCS-4 site codes, e.g., ***Z78.7 Patella***, ***Z57.7 Hamstring***.
- Procedure combination codes containing '***+SHOULDER***' – uses combination list **CL_Shoulder**, which contains subsidiary shoulder and upper arm OPCS-4 site codes, e.g., ***Z81.1 Sternoclavicular joint***, ***Z54.2 Rotator cuff of shoulder***.
- Procedure combination codes containing '***+ELBOW***' – uses combination list **CL_Elbow**, which contains subsidiary elbow and lower arm OPCS-4 site codes, e.g., ***Z71.1 Olecranon process of ulna***, ***Z70.2 Neck of radius***.
- Procedure combination codes containing '***+HAND***' – uses combination list **CL_Hand**, which contains subsidiary hand and wrist OPCS-4 site codes, e.g., ***Z72.5 Trapezium***, ***Z82.4 Carpometacarpal joint of finger***.
- Procedure combination codes containing '***+FOOT***' – uses combination list **CL_Foot**, which contains subsidiary foot and ankle OPCS-4 site codes, e.g., ***Z85.6 Ankle joint***, ***Z86.4 Metatarsophalangeal joint of great toe***.

Where a procedure has been undertaken on multiple different orthopaedic sites, including the rib and spine (which map to HRGs within subchapters **DZ Respiratory System Procedures and Disorders** and **HC Spinal Procedures and Disorders**, respectively) the following hierarchy is used to determine which site-specific procedure combination codes are formed, as follows:

Rib > *Spine* > Hip > Knee > Shoulder > Elbow > Hand > Foot

- For example, where ***A59.2 Total sacrifice of peripheral nerve NEC*** is recorded with subsidiary site codes of ***Z09.5 Posterior interosseous nerve*** (on list **CL_Elbow**) and ***Z09.2 Median nerve*** (on list **CL_Hand**), the procedure combination code ***A592+ELBOW***

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Partial sacrifice of peripheral nerve of elbow would be formed and would drive grouping.

In general, for OPCS-4 procedure codes that specify operations expected to be performed on limbs, and where a subsidiary OPCS-4 site code (that would form one of the procedure combination codes mentioned above) is not recorded, the OPCS-4 procedure code(s) are ignored for grouping purposes.

Where an OPCS-4 procedure code specifies an operation that could be performed elsewhere on the body e.g., a soft tissue procedure, where a subsidiary OPCS-4 site code (that would form one of the procedure combination codes mentioned above) is not recorded the OPCS-4 procedure code maps to HRG **HN93Z Other Muscle, Tendon, Fascia or Ligament Procedures**.

This subchapter also contains '***+IMAGE*'** procedure combination codes that require a subsidiary OPCS-4 code indicating the procedure is performed under image control. There are also procedure combination codes classifying debridement or irrigation of tendon or ligament procedures.

Many of the HRG roots in this subchapter employ age splits: there are specific HRGs for adult activity (19 years and over) and others for paediatric activity (18 years and under). In addition, there are some HRGs specific to the treatment of younger children (0 to 5 year of age) and for the treatment of older children (6 to 18 years).

All the minor procedure HRGs within this subchapter have maximum length of stay logic to ensure that minor procedures, such as joint injections, are not used to determine the HRG for a long-stay medical patient, e.g., a person who has broken a hip.

Interactive CC splits are employed within the majority of HRG roots within this subchapter – up to a maximum of 5 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Creation of combination codes

4 new procedure combination codes have been created following an update to clinical coding guidance for knee repair procedures using a scaffold or graft: ***W703+SCAF Open repair of semilunar cartilage using scaffold***, ***W823+SCAF Endoscopic repair of semilunar cartilage using scaffold***, ***W823+Y272 Endoscopic repair of semilunar cartilage using allograft*** and ***W703+Y272 Open repair of semilunar cartilage using allograft***. All 4 new combination codes are mapped to a base HRG root of **HT23 Major Knee Procedures for Trauma**, where a primary diagnosis code of trauma from list **HT_Trauma** is recorded. These new "**+SCAF**" procedure combination codes require an OPCS-4 subsidiary code classifying introduction of scaffold into organ from new list **CL_SCAF**.

OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could be split out and captured using a new procedure combination code formed using a ***.8 Other specified*** OPCS-4 code and mapped accordingly.

Within this subchapter, these global reviews have resulted in 9 ***.9 Unspecified*** OPCS-4 codes and 36 orthopaedic site-specific combination codes containing a ***.9 Unspecified***

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OPCS-4 code being remapped to lower resource HRGs where there is a primary diagnosis code of trauma.

36 new combination codes have been created to identify irrigation and debridement of tendon and ligament procedures. This includes orthopaedic site-specific combination codes. These new combination codes have been mapped to the site-specific **HT*4 Intermediate SITE Procedures for Trauma** HRG roots when a primary diagnosis code of trauma is recorded.

Changes to list membership

OPCS-4 site code ***Z58.4 Tibialis anterior*** has been removed from the knee orthopaedic site list and moved to the foot site list, to reflect that this is a site associated with the foot and ankle rather than the knee and lower limb.

The membership of the various procedure lists used in multiple-procedure escalation logic employed within this subchapter have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design, and to remove redundant procedure codes from escalation lists.

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **HEHNHT_CC**.

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Subchapter JA – Breast Procedures and Disorders

Subchapter **JA Breast Procedures and Disorders** covers breast procedures for patients of all ages and adult breast disorders. It includes activity undertaken in inpatient, day case and non-admitted care settings.

It does not include percutaneous breast imaging interventions which map to HRGs within Subchapter **YJ Breast Imaging Interventions**.

The breast procedure HRGs within this subchapter are separated based on type of breast surgery, with HRGs specific to breast reconstruction procedures and other breast surgery.

The non-reconstructive breast surgery HRGs are differentiated based on the expected complexity of the procedures, into 3 levels (minor, intermediate and major).

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**35**	**35**
Total HRG Roots	**20**	**20**
Procedure-driven HRGs	24	24
Diagnosis-driven HRGs	11	11
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	Yes	Yes
Multiple Procedures	Yes	Yes
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

Multiple Procedure Recognition

Multiple-procedure escalation logic is employed across the non-reconstructive breast surgery HRGs in this subchapter to escalate activity to an HRG with the next highest expected resource usage where an additional procedure of the same complexity level as the dominant procedure is recorded, or 2 additional procedures of the next lowest complexity level are recorded.

- For example, where the dominant procedure is an Intermediate procedure, escalation to the related Major HRGs can occur when an additional procedure from list **JA_Int** is recorded, or 2 additional procedures from list **JA_Minor** are recorded.

The HRGs specific to breast surgery with lymph node clearance are derived when a major breast procedure is recorded alongside ***T85.2 Block dissection of axillary lymph nodes***.

The therapeutic mammoplasty HRGs are derived when a mammoplasty or mastopexy procedure is recorded alongside a partial excision of breast procedure.

The multiple-procedure and bilateral escalation logic can act in combination with each other to derive the appropriate HRG.

- For example, **JA39Z Bilateral Major Breast Procedures with Lymph Node Clearance** is reached when a major breast procedure, such as mastectomy and block dissection of axillary lymph nodes procedures are both recorded alongside an additional OPCS-4 code indicating bilateral operation.

The breast reconstruction surgery HRGs are differentiated based on the type of reconstruction employed – pedicled myocutaneous or free perforator flap, whether the surgery is performed immediately (after mastectomy) or at a later date (delayed), and whether uni- or bilateral operation.

The immediate breast reconstruction HRGs are derived when an additional mastectomy procedure is recorded alongside the breast reconstruction procedure.

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All the procedure-driven HRGs are also separated into unilateral and bilateral HRGs – the latter can include either the identical procedure performed on both breasts, i.e. reduction mammoplasty with OPCS-4 procedure code indicating bilateral operation, or procedures of the equivalent resource usage being performed on both breasts, i.e. lumpectomy with OPCS-4 coding indicating left sided operation and mammoplasty (oncoplasty) with the OPCS-4 code indicating right-sided operation.

There are no paediatric specific HRGs within this subchapter due to a low volume of paediatric breast surgery activity.

The minor procedure HRGs within this subchapter have maximum length of stay logic to ensure that minor procedures, such as injection into breast, are not used to determine the HRG for a long-stay medical patient, e.g., a person who has breast cancer.

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in **Chapter P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework. The 2 diagnosis-driven HRGs for adult breast disorders are differentiated based on whether the disorder is malignant or non-malignant.

Both adult diagnosis-driven HRG roots employ intervention splits to acknowledge where “minor interventions” undertaken during a patient admission are expected to result in additional resource usage.

Interactive CC splits are employed within the diagnosis-driven and many of the procedure-driven HRG roots within this subchapter – up to a maximum of 5 levels - to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Remapping / Creation of combination codes

After a clinical review, OPCS-4 codes ***B29.6 Reconstruction of breast using glandular remodelling*** and ***B29.7 Reconstruction of breast using dermoglandular flap*** have been remapped from **JA30Z Unilateral Delayed Pedicled Myocutaneous Breast Reconstruction** to base HRG root **JA20 Unilateral Major Breast Procedures**. Although these are reconstruction procedures, unlike the other reconstruction procedures that map to the specific breast reconstruction HRGs, these procedures are not pedicled myocutaneous or free flap reconstruction procedures, so are more appropriately mapped to the major surgery HRGs.

With the deletion of **YJ10Z Wire Guided Biopsy of Lesion of Breast**, OPCS-4 code ***B32.3 Wire guided biopsy of lesion of breast*** has been remapped from this HRG to base HRG root **JA43 Unilateral Intermediate Breast Procedures** to reflect that this is a surgical rather than radiological procedure.

A new coding standard has been issued that allows for the differentiation of surgical versus radiological sentinel lymph node biopsies, with the coding guidance stating that the latter can be captured using a subsidiary code classifying approach to organ under image control. As a result, OPCS-4 code ***T91.1 Biopsy of sentinel lymph node*** has been remapped from **YJ04Z Core Needle Biopsy of Axillary Lymph Nodes** to base HRG root **JA43 Unilateral Intermediate Breast Procedures** because this classifies a surgical biopsy. A new procedure combination code, ***T911+IMAGE Biopsy of sentinel lymph node under image control***, has been created (where “**+IMAGE**” is a subsidiary code classifying approach to organ under image control) and mapped to **YJ04Z Core Needle Biopsy of Axillary Lymph Nodes** because this code classifies a radiological sentinel node biopsy.

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OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could be split out and captured using a new procedure combination code formed using a ***.8 Other specified*** OPCS-4 code and mapped accordingly.

Within this subchapter, these global reviews have resulted in ***B36.9 Unspecified reconstruction of nipple and areola*** being remapped from base HRG root **JA43 Unilateral Intermediate Breast Procedures** to **JA45Z Unilateral Minor Breast Procedures**.

Changes to list membership

The membership of the various procedure lists used in multiple-procedure escalation logic employed within this subchapter have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design and to remove redundant procedure codes from escalation lists.

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchies may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to CC lists, including the CC list for this subchapter, **JAJD_CC**.

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Subchapter JB – Burns Procedures and Disorders

Subchapter **JB Burns Procedures and Disorders** covers all aspects of burns care for both adults and children. It includes activity undertaken in inpatient, day case and non-admitted care settings.

The majority of HRGs within this subchapter are differentiated by the severity score of the burn, derived after evaluating a combination of factors such as the total body surface area (TBSA) affected, the degree of burn, the location of burn, inhalation injury, the patient age and complications and comorbidities. These HRGs are further differentiated by the number and type of intervention recorded in the form of an intervention score.

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) for burns care groups to an HRG within this subchapter, rather than to an HRG in Chapter **P Diseases of Childhood and Neonates**.

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**38**	**38**
Total HRG Roots	**23**	**23**
Procedure-driven HRGs	4	4
Diagnosis-driven HRGs	34	34
Age Splits	Yes	Yes
Complications and Comorbidities Splits*	No	No
Intervention Splits#	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	No	No
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	Yes	Yes

* Although this subchapter does not have CC splits, CCs are built into the severity score logic

Many HRGs in this subchapter have intervention score splits (see flow diagram); however, unlike other subchapters, these are not generated via the Interventions List

The burns HRG design incorporates Core 7 (Burns) logic, to ensure that records with a diagnosis code indicating a 2nd or 3rd degree burn recorded in any position, map to a burns HRG, irrespective of the primary diagnosis code or any procedures recorded.

However, records with a primary diagnosis code of a 1st degree burn, unspecified degree burn, or burn of respiratory or genitourinary tract (which are classed as equivalent to a 2nd/3rd degree burn for the purpose of the HRG design, but as internal burns do not require TBSA to be recorded) only map to a burns HRG where no significant procedures are recorded.

Records with a dominant procedure specific to the treatment of burns (OPCS-4 code categories **S54.-** and **S55.-**)also map to a burns HRG as there are procedure-specific HRGs for the treatment of burns – debridement of burn and cleansing and dressing of burn – which are generated when the activity does not map to the severity category HRGs, i.e. in an outpatient setting, where diagnosis codes are not yet mandated for use and therefore are not utilised in grouping.

With the exception of internal burns, the absence of a diagnosis code indicating TBSA of burn derives **UZ01Z Data Invalid for Grouping**, as the TBSA percentage is required to appropriately determine resource usage.

There are specific HRGs for unspecified degree of burn, split into 1 HRG for adults (16 years and over) activity and 1 HRG for paediatric activity (15 years and under). It is hoped that the activity reported against these HRGs reduces over time as more appropriate coding of the severity of burn is captured.

There are also specific HRGs for patients receiving treatment for 2nd or 3rd degree burns that are either transferred out from a provider (using discharge destination) or die (using

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discharge method) within 2 days or less, to reflect that the resource usage associated with these patients is very different to that of patients undergoing long term treatment, often for very severe burns.

All other treatment of burns maps to 1 of the different levels of severity category HRGs, which are also split by age (16 years and over/15 years and under) and/or intervention score – generated by the presence of procedures such as skin grafts.

In order to simplify the design, dummy HRG roots are used to map records via Core 7 (Burns) logic for 2nd and 3rd degree burns, or via Core 1 (standard) logic for 1st degree and internal burns, to a base severity category HRG root as below:

- **JB89 Treatment of Burn, with Severity Score 1** – Enables direct mapping to JB49 and JB58
- **JB90 Treatment of Burn, with Severity Score 2** – Enables direct mapping to JB48 and JB57 (For First Degree Burns)
- **JB91 Treatment of Burn, with Severity Score 2** – Enables direct mapping to JB48, JB55 and JB57 (For Second and Third Degree Burns)
- **JB92 Treatment of Burn, with Severity Score 3** – Enables direct mapping to JB47, JB55 and JB56
- **JB93 Treatment of Burn, with Severity Score 4** – Enables direct mapping to JB46, JB52 and JB54
- **JB94 Treatment of Burn, with Severity Score 5** – Enables direct mapping to JB43, JB45, JB52 and JB53
- **JB95 Treatment of Burn, with Severity Score 6** – Enables direct mapping to JB43, JB44 and JB51
- **JB96 Treatment of Burn, with Severity Score 7** – Enables direct mapping to JB42 and JB51
- **JB97 Treatment of Burn, with Severity Score 8-9** – Enables direct mapping to JB41 and JB50
- **JB98 Treatment of Burn, with Severity Score 10+** – Enables direct mapping to JB40 and JB50

For 2nd or 3rd degree burns (external burns only), grouped via Core 7 (Burns) logic, Core 3 escalation logic is then used to determine the final severity category dummy HRG root, and then the final HRG is determined using age and intervention criteria as described below.

The base severity category HRG is determined by a combination of the depth of the burn, i.e., degree, and the TBSA.

The ICD-10 diagnosis codes for TBSA are differentiated into bands representing 10% TBSA, e.g., ***T31.0 Burns involving less than 10% of body surface*** and ***T31.1 Burns involving 10-19% of body surface***. However, there is a significant resource difference between a patient with a burn of 1% TBSA compared to a patient with a burn of 9% TBSA, both of which would be captured using the same ICD-10 diagnosis code.

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Therefore, for patients with a diagnosis code recorded indicating a TBSA of <20%, a proxy measure of calculating TBSA has been devised using the average % body surface burned of each region of the body, as shown in the table below:

Body Site (as per ICD-10 diagnosis codes)	Proxy % TBSA (where <10% TBSA ICD-10 diagnosis code)	Proxy % TBSA (where 10-19% TBSA ICD-10 diagnosis code)
Head and Neck	1.5	3
Trunk	3	9
Upper Limb	1	2
Hand and Wrist	1	2
Lower Limb	2	4
Foot and Ankle	2	4
Multiple Areas	3	9
Unspecified Area	1	2

Where, for example, an ICD-10 code indicating TBSA <10% is recorded alongside an ICD-10 code of a burn of hand, this has a proxy TBSA of 1%, whereas an ICD-10 code of burn of trunk has a proxy TBSA of 3%. Therefore, where both are recorded, the total proxy TBSA is 4%. Likewise, where an ICD-10 code indicating TBSA of 10–19% alongside ICD-10 codes of burn of head (3%), trunk (9%) and foot (4%), the proxy TBSA is 16%.

Note that only unique burns ICD-10 diagnosis codes (including the primary diagnosis code) contribute to proxy TBSA scoring, e.g., where ***T20.2 Burn of second degree of head and neck*** is recorded as both the primary and secondary diagnosis this only counts once when determining the proxy TBSA.

For information, in order for this to be implemented in the design, each of these values has been multiplied by a 10, e.g., a Head and Neck value of 1.5 becomes 15. Therefore, the check at flag level for 1-4% TBSA proxy checks for a minimum value of 15, and the check at flag level for 15-19% TBSA checks for a minimum value of 150.

This enables differentiation of expected resource usage between patients with <1% (the 1% proxy TBSA are assumed to be <1% for HRG derivation), 1-4% (which would actually start at 1.5%), 5-9%, 10-14% and 15-19% TBSA. Therefore, activity which map to a burns HRG can map to the following base severity categories:

% TBSA / Degree of burn	Start Severity Score
1st degree <20%	1
1st degree >20%, or 2nd/3rd degree <1%	2
2nd/3rd degree 1-4%	3
2nd/3rd degree 5-9%	4
2nd/3rd degree 10-14%	5
2nd/3rd degree 15-19%	6

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% TBSA / Degree of burn	Start Severity Score
2nd/3rd degree 20-29%	7
2nd/3rd degree 30-39%	8
2nd/3rd degree 40%+	9

Escalation to a higher severity category HRG – up to a maximum of 1 severity category for 1st degree burns (enabled via Core 1 standard grouping logic) and 3 severity categories for 2nd / 3rd degree burns (enabled via Core 3 escalation logic) – can occur depending on other relevant information such as age, complications and comorbidities (CC), burns to face, hands or feet – i.e. burns that are more resource intensive due to location such as leaving the patient unable to walk, feed themselves etc., and whether the patient has an inhalation injury or electric burn or combination thereof.

Escalation to the various severity categories can occur based on the criteria laid out in the table below:

Complicating factor	No escalation	Up 1 Severity Category	Up 2 Severity Categories	Up 3 Severity Categories
Age	<60	60-79	80 or above	-
CC Score	<3	3-5	6-8	9+
Burn involving face, hands, or feet	0 or 1 of these areas	2 of these areas e.g., face and hand	3 of these areas e.g., face, hands, and feet	-
Inhalation Injury requiring invasive ventilation	-	-	-	Yes
Electric burn	-	-	-	Yes

Note that only unique burns ICD-10 diagnosis codes (including the primary diagnosis code) contribute to severity escalation, e.g., where ***T20.2 Burn of second degree of head and neck*** is recorded as both the primary and secondary diagnosis this only counts once in the calculation of burns of face, hands or feet.

A combination of these factors trigger escalation, but for 1st degree burns the maximum escalation is up one severity category – from JB89 Severity Score 1 to JB90 Severity Score 2, via Core 1 standard logic, with the exception of electric burns which escalates to dummy HRG root JB94 Severity Score 5. The latter escalation is also applied to unspecified burns.

For 2nd and 3rd degree burns, the maximum escalation is up 3 severity categories, e.g., from JB92 Severity Category 3 to JB95 Severity Category 6, via Core 3 escalation logic.

- For example, where a record derives a base dummy HRG root of JB91 Severity Score 2 (from Core 7 or Core 1 logic) and has an age of 65 years old, burns of face and feet and unique secondary ICD-10 diagnosis codes that sum to a CC score of 3, then as each of these complicating factors would escalate the patient up one severity category level, the combination of these factors escalates the patient up 3 severity categories to a JB94 Severity Score 5 dummy HRG root.
- And, where a record derives a base dummy HRG root of JB93 Severity Score 4 and has an age of 85 years old, unique secondary diagnoses that sum to a CC score of 7 and an

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inhalation injury requiring invasive ventilation, then although these complicating factors combined would result in an escalation value of 7, noting that the maximum escalation is 3 severity categories, the activity would only escalate to dummy HRG root JB96 Severity Score 7.

As the maximum severity category HRG is 8+ for children and 10+ for adults, patients cannot escalate beyond these HRGs.

The actual HRG is then derived using patient age (16 years and over/ 15 years and under) and intervention score.

Interventions scores are either 0 – no significant burns related intervention, 1 – a major burn intervention (e.g., skin graft) or 2 – a complex burn intervention (e.g., amputation of limb). An intervention score of 2 can be derived from one complex procedure or 2 major procedures.

Below is a flow diagram that shows how the burns HRGs are generated, as explained above, either using Core 7 (Burns) logic or Core 1 (standard) logic to determine whether the activity should generate a burns HRG, and the specific HRG or base severity category dummy HRG based on degree of burn and TBSA. Where appropriate, Core 3 logic and standard Core 1 escalation logic are then used to determine the appropriate severity category of the dummy HRG root.

From the dummy HRG root, group to split logic (as identified in the Group to Split tab in the Code to Group Excel workbook) is used to determine the mapping of these dummy HRG roots to final HRGs based on the patient’s age and intervention score.

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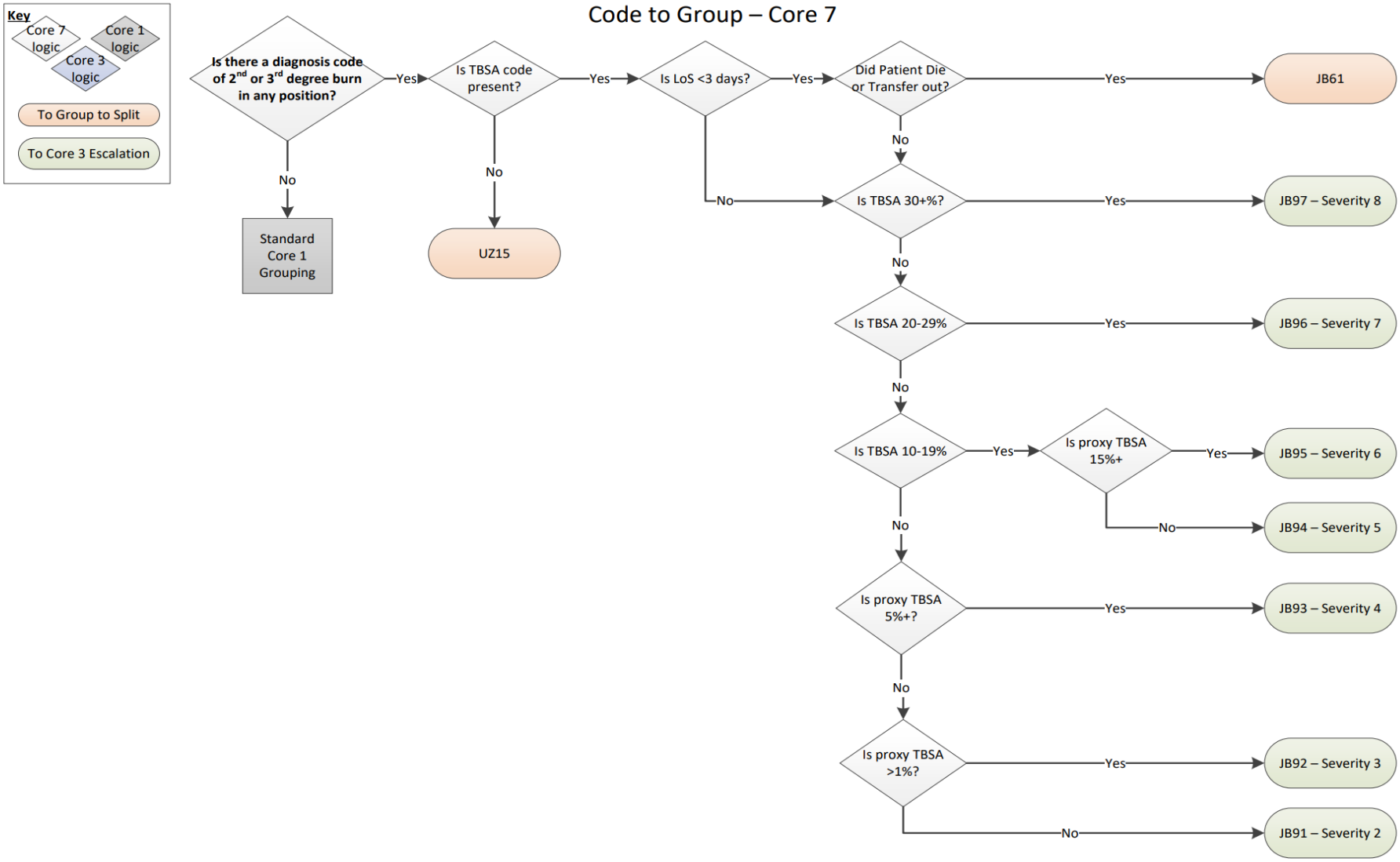

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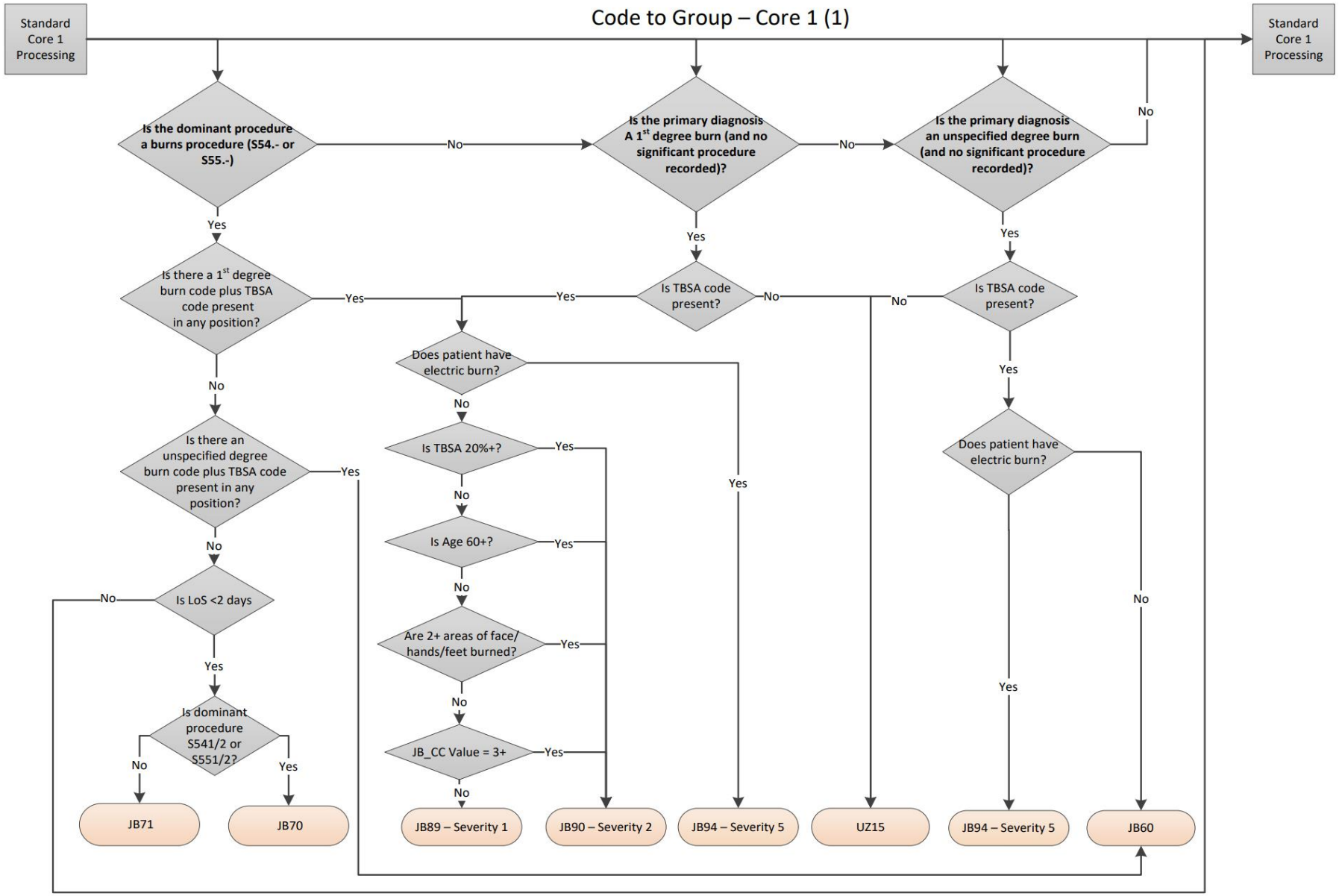

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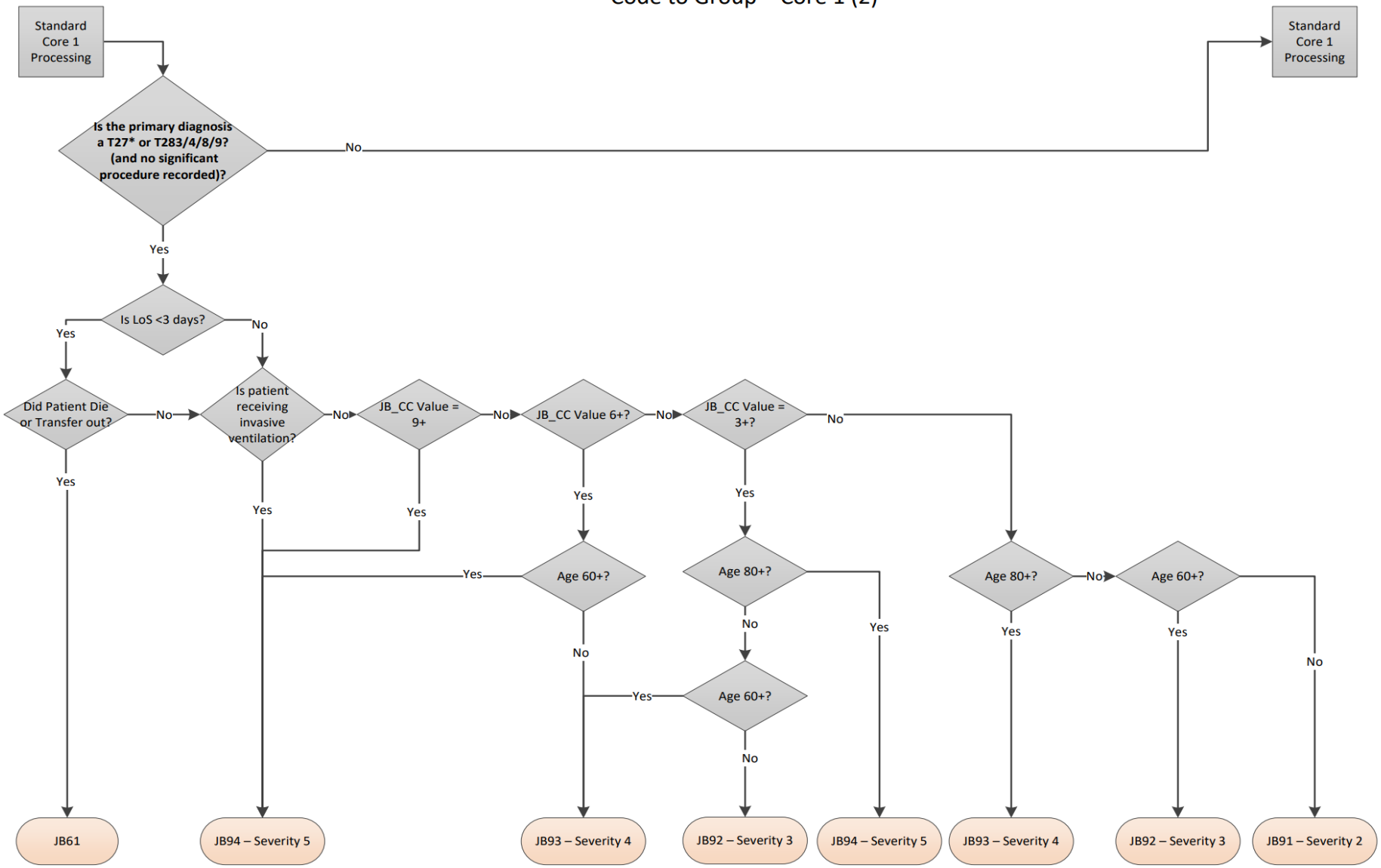
Code to Group – Core 1 (2)



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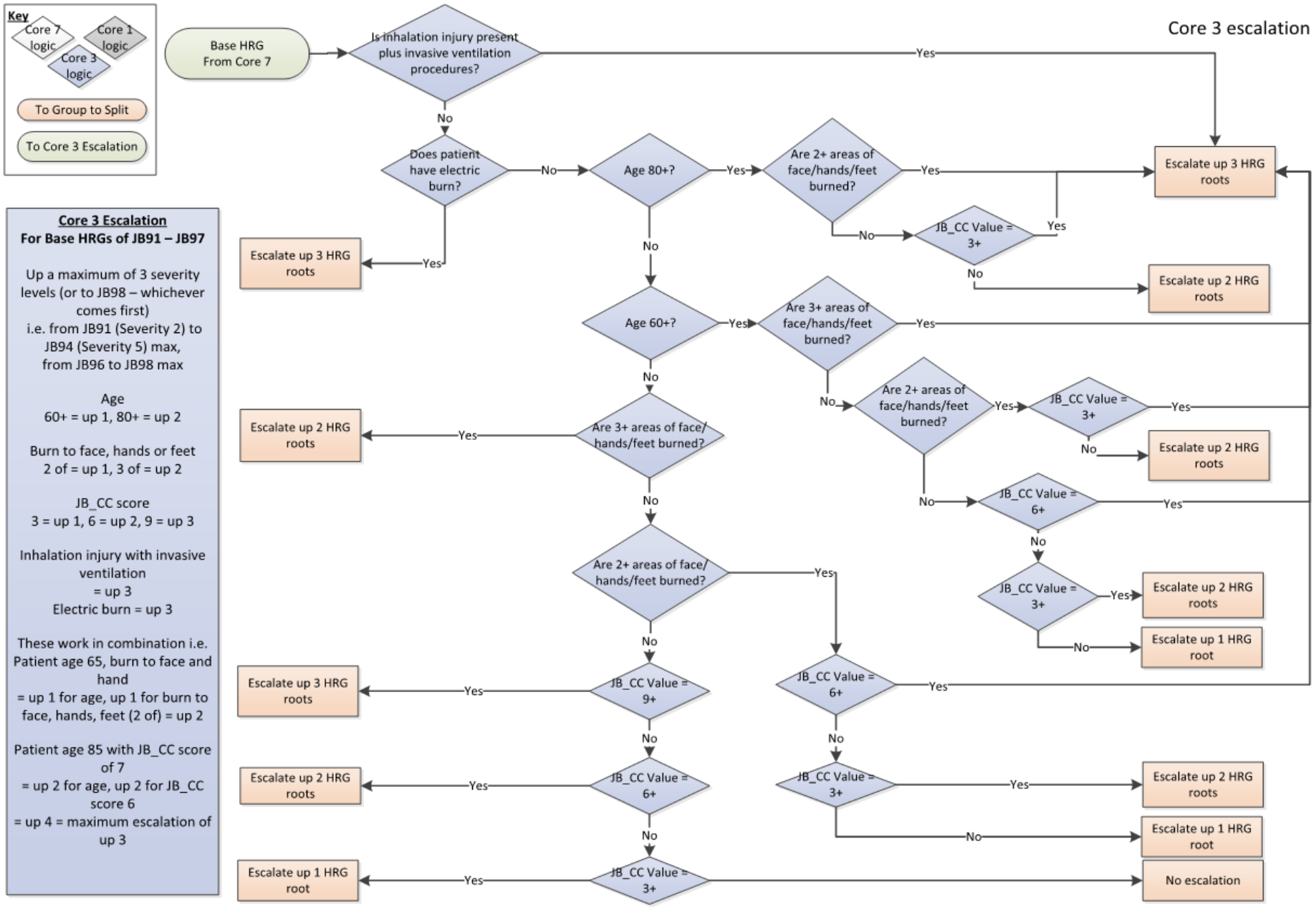

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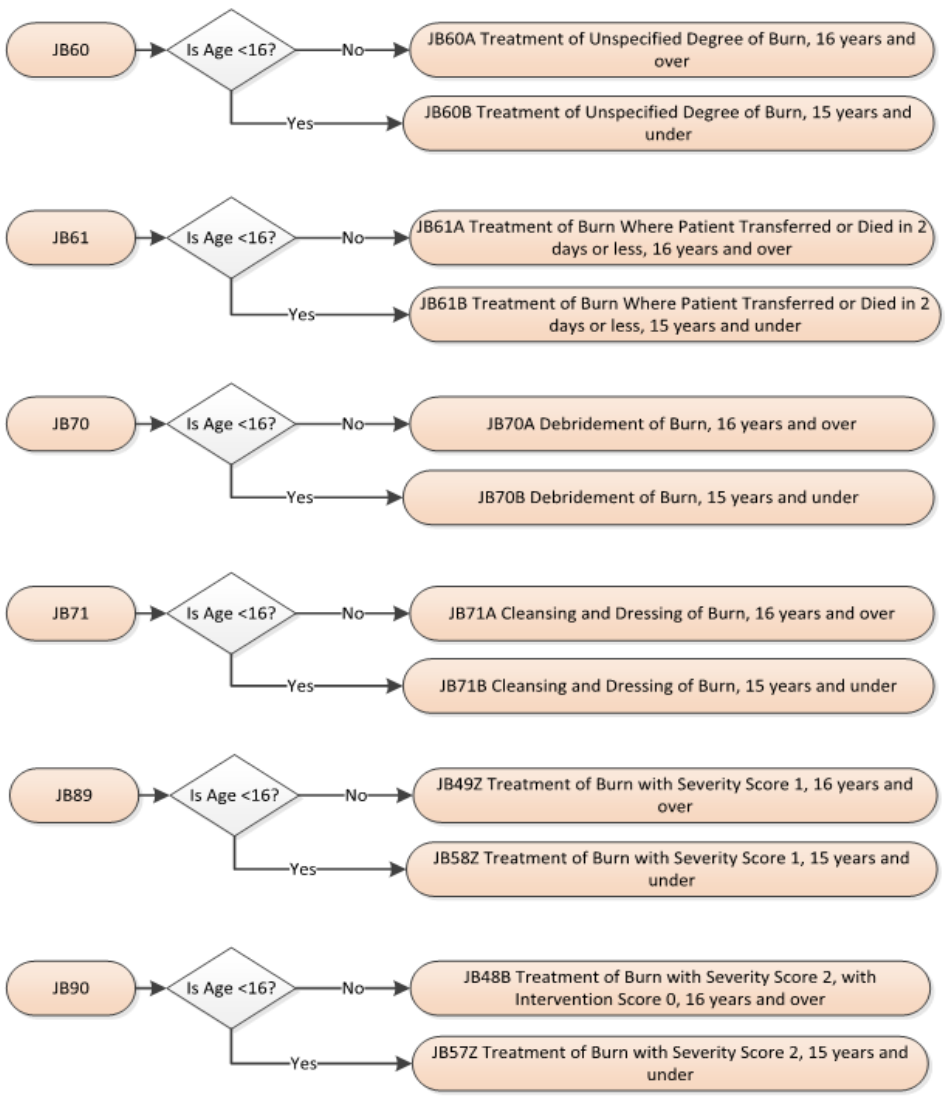

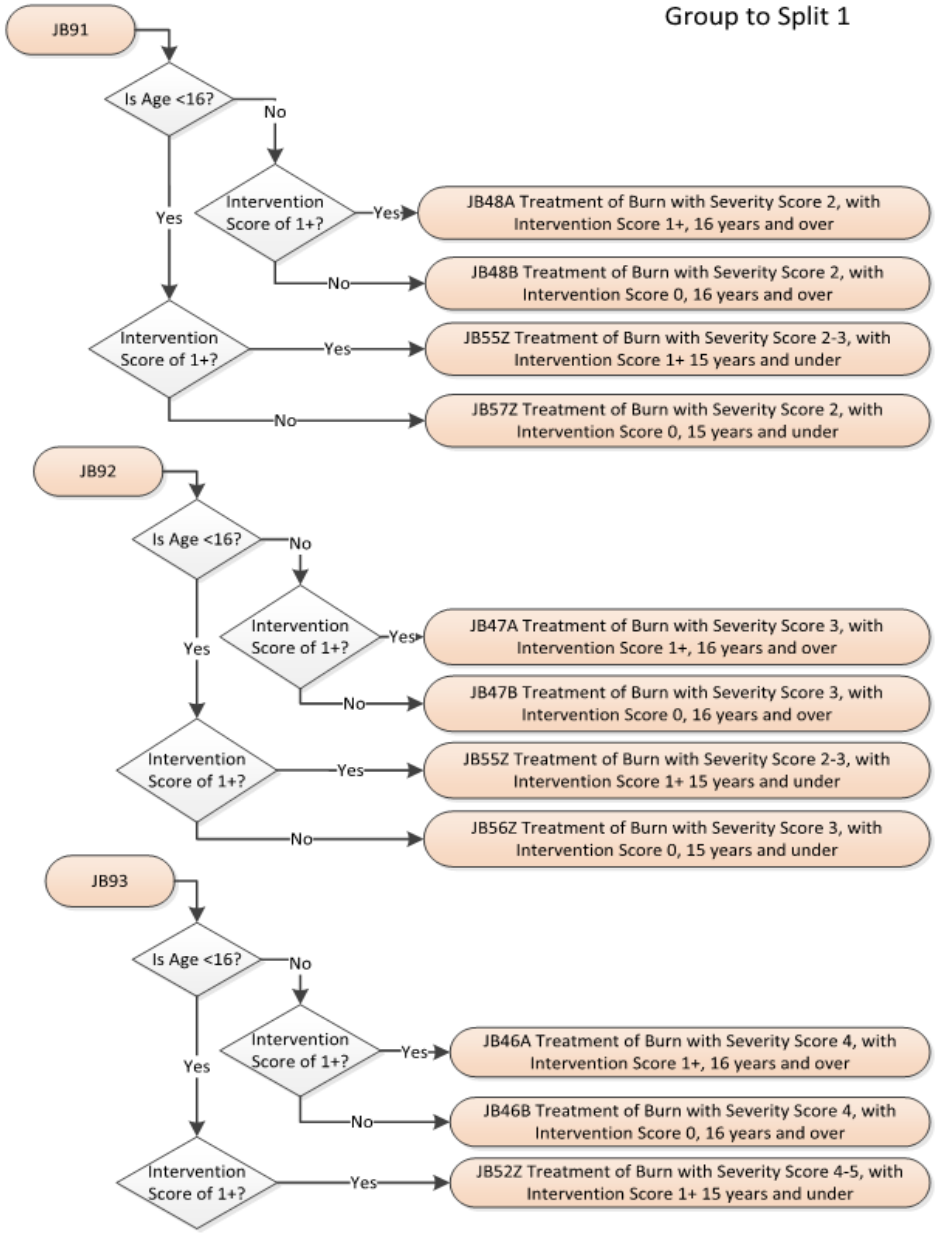

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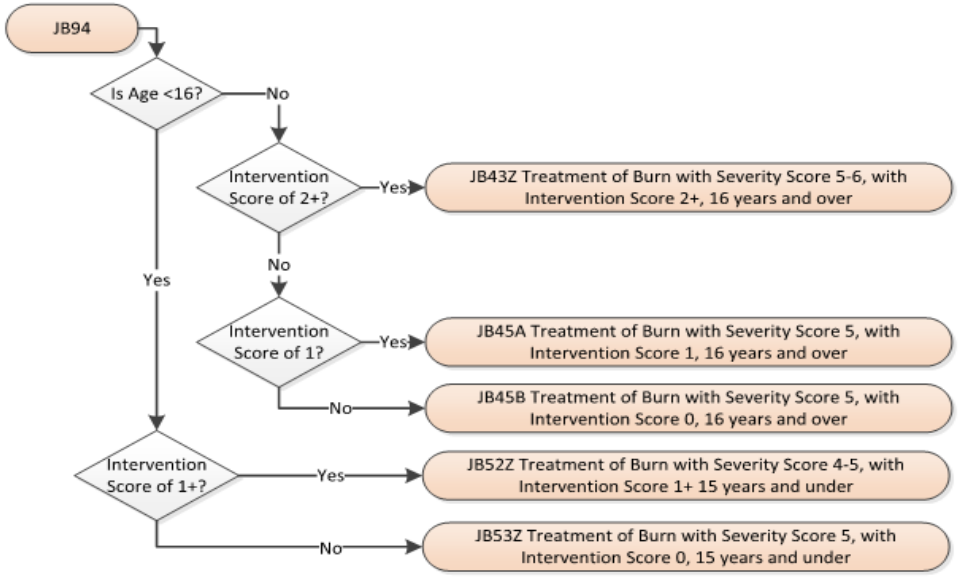
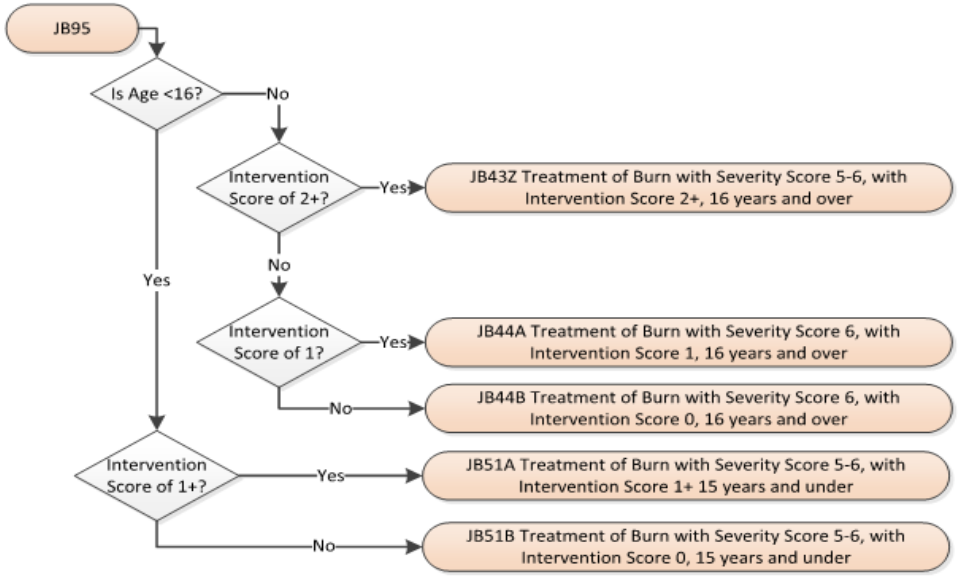
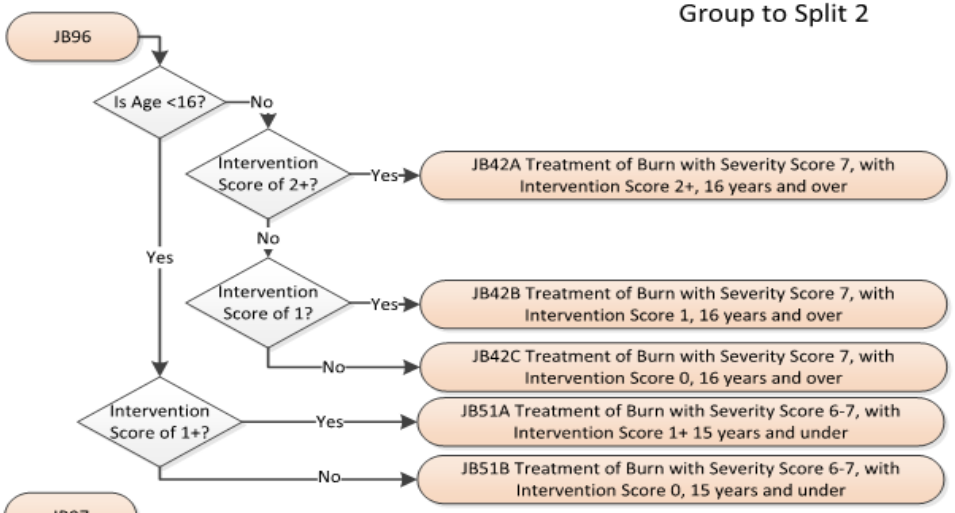
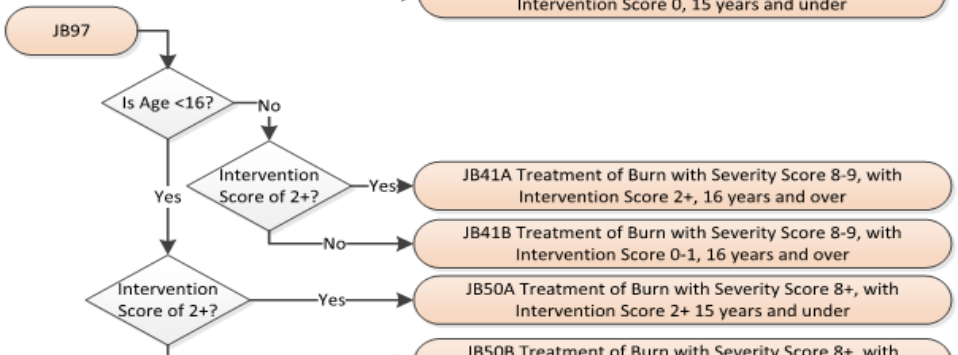
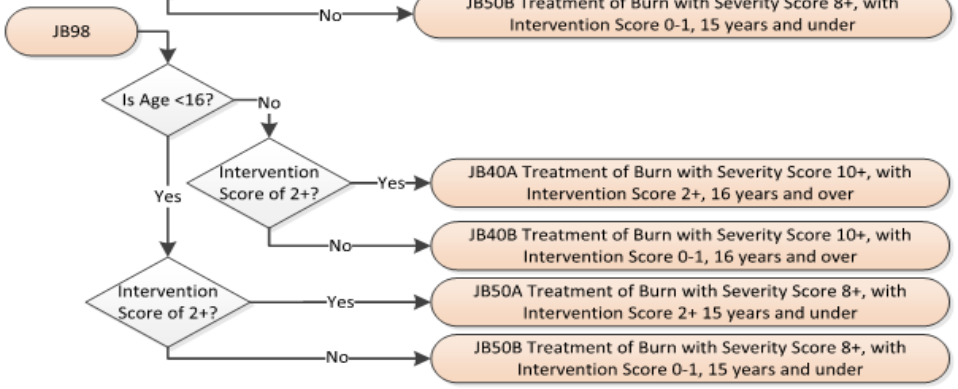




Group to Split 2







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Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to logic

The escalation logic used to determine the burns severity score has been updated to take into account the complex nature of electric burns, which might have a small total body surface area of contact skin site but typically result in severe internal organ damage. The presence of a diagnosis code of an injury caused by electric current or lightning from list **JB_Electric** in the patient record will trigger escalation to a minimum severity category of 5 for 1st or unspecified degree of burns, and up 3 severity categories for 2nd or 3rd degree burns, e.g., from base severity category of 3 to 6.

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis code R57.2 Septic shock have been added to the CC list for this subchapter, **JB_CC**.

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Subchapter JC – Skin Procedures

Subchapter **JC Skin Procedures** covers skin and subcutaneous tissue procedures for patients of all ages. It includes activity undertaken in admitted or non-admitted care settings.

Skin procedures on certain parts of the body map to HRGs outwith the subchapter. Nipple and areola procedures map to HRGs within Subchapter **JA Breast Procedures and Disorders**; most skin procedures of the head and neck map to HRGs within Subchapter **CA Ear, Nose, Mouth, Throat, Head and Neck Procedures**; procedures on the skin around the eye map to HRGs within Subchapter **BZ Eyes and Periorbita Procedures and Disorders** and skin procedures on genitalia map to HRGs in either Subchapters **LB Urological and Male Reproductive System Procedures and Disorders** or **MA Female Reproductive System Procedures**.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**11**	**11**
Total HRG Roots	**8**	**8**
Procedure-driven HRGs	11	11
Diagnosis-driven HRGs	0	0
Age Splits	Yes	Yes
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	Yes	Yes

The skin procedure HRGs within this subchapter are differentiated by the expected complexity of the procedures, into 4 levels (minor, intermediate, major and very major).

There are also HRGs specific to high volume procedures, e.g., patch testing - split into complex and standard; photodynamic therapy; and phototherapy or photochemotherapy.

Multiple-procedure logic is employed by the major skin procedure HRGs to escalate activity, where appropriate, to the very major skin procedure HRGs when an additional major skin procedure is recorded.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. In this subchapter they are used to identify laser dermabrasion and renewal of diagnostic device into subcutaneous tissue.

Several of the HRG roots in this subchapter employ age splits There are specific HRGs for adult activity (19 years and over) and others for paediatric activity (18 years and under). The HRG root for standard patch tests includes an age split that separates post-adolescent patients (13 years and over) from pre-adolescent patients (12 years and under).

With the exception of the Major and Very Major procedure HRGs within this subchapter, all the HRGs have maximum length of stay logic to ensure that minor procedures, such as dressing of bed sore, are not used to determine the HRG for a long-stay medical patient, e.g., a person who has suffered a stroke.

As the majority of skin procedure activity is short stay, there are no complication and comorbidity splits within this subchapter.

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Differences from the HRG4+ 2021/22 Local Payment Grouper

New HRGs have been created

JC42A Intermediate Skin Procedures, 13 years and over, **JC42B Intermediate Skin Procedures, 12 years and under**, **JC43A Minor Skin Procedures, 13 years and over** and **JC43B Minor Skin Procedures, 12 years and under** have been deleted and replaced with HRGs that use the more common 18 years and under / 19 years and over age split.

The new HRGs are:

JC42C Intermediate Skin Procedures, 19 years and over

JC42D Intermediate Skin Procedures, 18 years and under

JC43C Minor Skin Procedures, 19 years and over

JC43D Minor Skin Procedures, 18 years and under

HRGs **JC47A Phototherapy or Photochemotherapy, 13 years and over** and **JC47B Phototherapy or Photochemotherapy, 12 years and under** have been deleted and replaced by a single HRG, **JC47Z Phototherapy or Photochemotherapy**, after it was determined that it was not necessary to separate adult and paediatric activity for this treatment.

Change to HRG label

The label of **JC40Z Very Major Skin Procedures** has been updated to reflect that this HRG contains single very major procedures, not just multiple major procedures.

OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could be split out and captured using a new procedure combination code formed using a ***.8 Other specified*** OPCS-4 code and mapped accordingly.

Within this subchapter, these global reviews have resulted in ***S56.9 Unspecified exploration of other skin of head or neck*** being remapped from base HRG root **JC42 Intermediate Skin Procedures** to **JC43 Minor Skin Procedures**.

Changes to list membership

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

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Subchapter JD – Skin Disorders

Subchapter **JD Skin Disorders** covers all skin disorders in adult patients. It includes activity undertaken in an inpatient and day case setting.

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in **Chapter P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework.

The HRGs within this subchapter are all contained within a single HRG root, **JD07 Skin Disorders.**

This HRG root employs intervention splits to acknowledge where “minor interventions” undertaken during a patient admission are expected to result in additional resource usage.

Interactive CC splits are employed within this HRG root, within this subchapter – up to a maximum of 6 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**10**	**10**
Total HRG Roots	**1**	**1**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	10	10
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	Yes	Yes
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **JAJD_CC**.

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Subchapter KA – Endocrine System Procedures and Disorders

Subchapter **KA Endocrine System Procedures and Disorders** covers endocrine system disorders for adult patients and endocrine procedures for patients of all ages, with the exception of diabetes, which is covered in Subchapter **KB Diabetic Medicine**. It includes activity undertaken in an inpatient, day case and non-admitted care setting.

It does not include percutaneous procedures on the head or neck, such as thyroid biopsies, which map to **YC Head and Neck Imaging Interventions**.

The procedure-driven HRG roots within this subchapter are differentiated based on the site of surgery into HRGs for thyroid, parathyroid and adrenal procedures.

As the procedure-driven HRGs within this subchapter are procedure-specific, there is no multiple procedure logic within this subchapter.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**18**	**18**
Total HRG Roots	**7**	**7**
Procedure-driven HRGs	7	7
Diagnosis-driven HRGs	11	11
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in **Chapter P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework. The adult diagnosis-driven HRG roots within this subchapter are differentiated based on disorder type, such as anterior pituitary disorders, non-pituitary neoplasia or hypoplasia.

In certain scenarios, activity with a primary diagnosis mapped to an HRG in this subchapter maps to an HRG in another subchapter. Where a secondary diagnosis indicating diabetes is recorded alongside a primary diagnosis of hypoglycaemia, activity maps to an HRG in Subchapter **KB Diabetic Medicine**.

Interactive CC splits are employed within all of the procedure-driven and diagnosis-driven HRG roots within this subchapter – up to a maximum of 3 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Change to subchapter label

The label of this subchapter has been amended to clarify that the subchapter includes procedure-driven as well as diagnosis-driven HRGs. The new label is **KA Endocrine System Procedures and Disorders**.

Remapping / Creation of combination codes

The creation of a new subchapter specific to head and neck imaging interventions, Subchapter **YC Head and Neck Imaging Interventions**, has resulted in the remapping of several thyroid and parathyroid procedures, and the creation of new procedure combination codes for procedures that previously mapped to HRGs within this subchapter. This will result

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in a shift in activity from this subchapter to the new Subchapter **YC Head and Neck Imaging Interventions**. For example:

- OPCS-4 code ***B16.2 Biopsy of lesion of parathyroid gland*** has been remapped from base HRG root **KA03 Parathyroid Procedures** to **YC01Z Percutaneous Core Needle Biopsy of Lesion of, Head or Neck**.
- OPCS-4 codes ***B10.3 Biopsy of lesion of thyroglossal tract***, ***B12.2 Biopsy of lesion of thyroid gland*** and ***B12.5 Percutaneous drainage of lesion of thyroid gland*** have been remapped from base HRG root **KA09 Thyroid Procedures** to **YC01Z Percutaneous Core Needle Biopsy of Lesion of, Head or Neck**.

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to CC lists, including the CC list for this subchapter, **KA_CC**.

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Subchapter KB – Diabetic Medicine

Subchapter **KB Diabetic Medicine** covers all diabetic disorders in adult patients and 1 diabetes-related procedure for patients of all ages. It includes activity undertaken in an inpatient, day case and non-admitted care setting.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	12	12
Total HRG Roots	4	4
Procedure-driven HRGs	1	1
Diagnosis-driven HRGs	11	11
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

There is a single procedure-driven HRG within this subchapter, **KB04Z Continuous Subcutaneous Insulin Infusion**. This HRG has been designed specifically to accommodate the insertion of insulin pumps.

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in **Chapter P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework. The adult diagnosis-driven HRG roots within this subchapter are differentiated based on the type of diabetic complication and cover hypoglycaemia, hyperglycaemia and lower limb complications.

In certain scenarios, activity with a primary diagnosis mapped to an HRG in another subchapter maps to an HRG in this subchapter, e.g. where a secondary diagnosis indicating diabetes is recorded alongside a primary diagnosis of hypoglycaemia (from Subchapter **KA Endocrine System Procedures and Disorders**) and where a secondary diagnosis of ulcer of lower limb is recorded alongside a primary diagnosis of diabetes with neurological complications (from Subchapter **AA Nervous System Procedures and Disorders**).

Interactive CC splits are employed within all the diagnosis-driven HRG roots within this subchapter – up to a maximum of 4 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **KBKC_CC**.

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Subchapter KC – Metabolic Disorders

Subchapter **KC Metabolic Disorders** covers all metabolic disorders in adults aged 19 years and over. It includes activity undertaken in an inpatient and day case setting.

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in **Chapter P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework.

There are 2 HRG roots within this subchapter, 1 for inborn errors of metabolism and 1 for fluid or electrolyte disorders.

An intervention split is employed within HRG root **KC05 Fluid or Electrolyte Disorders** to acknowledge where "minor interventions" undertaken during a patient admission are expected to result in additional resource usage.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**9**	**9**
Total HRG Roots	**2**	**2**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	9	9
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	Yes	Yes
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Interactive CC splits are employed within both the HRG roots within this subchapter – up to a maximum of 5 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **KBKC_CC**.

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Subchapter LA – Renal Procedures and Disorders

Subchapter **LA Renal Procedures and Disorders** includes specific renal procedures for patients of all ages and all non-malignant renal disorders in adults. It includes activity undertaken in an inpatient, day case and non-admitted care setting.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**48**	**48**
Total HRG Roots	**14**	**14**
Procedure-driven HRGs	14	14
Diagnosis-driven HRGs	34	34
Age Splits	Yes	Yes
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	Yes	Yes
Multiple Procedures	No	No
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	Yes	Yes

The HRGs for dialysis for chronic kidney disease are only generated from the National Renal Data Set (NRD) and sit in Subchapter **LD Renal Dialysis for Chronic Kidney Disease**.

HRGs for renal dialysis for acute kidney injury are unbundled and sit in Subchapter **LE Renal Dialysis for Acute Kidney Injury**.

With the exception of procedures associated with renal transplant and dialysis which map to HRGs within this subchapter, all other kidney procedures and renal neoplasm disorders sit within Subchapter **LB Urological and Male Reproductive System Procedures and Disorders** and Subchapter **YL Urological Imaging Interventions**.

Within this subchapter there are procedure-specific HRGs for renal transplants, and pre- and post-transplantation care of transplant donors and recipients.

There is also an HRG specific to peritoneal dialysis-associated procedures.

With the exception of the kidney transplant HRGs, all procedure-driven HRGs within this subchapter have maximum length of stay logic to ensure that minor procedures, such as the insertion of a peritoneal dialysis catheter, are not used to determine the HRG for a long-stay medical patient, e.g., a person with an acute kidney injury.

The transplant related HRG roots in this subchapter employ age splits: There are specific HRGs for adult activity (19 years and over) and others for paediatric activity (18 years and under).

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in **Chapter P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework. The adult renal disorder HRGs are split by disorder type e.g., chronic kidney disease, urinary tract infections.

- There is logic on the diagnosis codes indicating glomerular disease to map activity to HRG roots **LA07 Acute Kidney Injury** and **LA08 Chronic Kidney Disease** where a secondary diagnosis code of acute kidney injury or chronic kidney disease are recorded, respectively.

Intervention splits are also employed within all of the adult diagnosis-driven HRG roots to acknowledge where “minor interventions” undertaken during a patient admission are expected to result in additional resource usage.

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Interactive CC splits are employed within all of the adult diagnosis-driven HRG roots in this subchapter – up to a maximum of 5 levels - to more appropriately differentiate expected resource usage between routine and complex patients.

There are specific “empty core” HRGs **LA97A Same Day Dialysis Admission or Attendance, 19 years and over** and **LA97B Same Day Dialysis Admission or Attendance, 18 years and under**.
These HRGs are derived with a length of stay of zero days and either.

- a dialysis procedure code from OPCS-4 category **X40 Compensation for renal failure**, or
- a diagnosis code indicating that the patient solely attended for dialysis

However, it should be noted that patients receiving treatment solely for chronic kidney disease should only be reported via the NRD; it would not be expected for this HRG to be generated often for chronic kidney disease patients. This design ensures that the total resource usage of a patient undergoing same day renal dialysis is associated with the NRD generated **LD Renal Dialysis for Chronic Kidney Disease** HRGs or the unbundled HRGs within Subchapter **LE Renal Dialysis for Acute Kidney Injury** rather than with the core HRG.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Remapping of codes

Congenital diagnosis codes ***Q60.1 Renal agenesis, bilateral*** and ***Q60.6 Potter syndrome***, previously U grouped where the patient was 19 years or over. These codes have been remapped to base HRG root **LA09 General Renal Disorders** to reflect the fact that although it would be extremely rare for a patient to survive to adulthood with one of these conditions, there are no coding rules preventing the use of congenital diagnosis codes for adults.

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **LA_CC**.

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Subchapter LB – Urological and Male Reproductive System Procedures and Disorders

Subchapter **LB Urological and Male Reproductive System Procedures and Disorders** covers urological and male reproductive system procedures for patients of all ages and adult disorders, with the exception of renal conditions and procedures relating to renal failure, which are covered in Subchapters **LA Renal Procedures and Disorders**, **LD Renal Dialysis for Chronic Kidney Disease** and **LE Renal Dialysis for Acute Kidney Injury**. It includes activity undertaken in an inpatient, day case and non-admitted care setting.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	149	149
Total HRG Roots	62	62
Procedure-driven HRGs	93	93
Diagnosis-driven HRGs	56	56
Age Splits	Yes	Yes
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	Yes	Yes
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

It does not include urological imaging interventions, which are included in Subchapter **YL Urological Imaging Interventions**.

The urological procedure HRGs within this subchapter are differentiated based on procedure approach – open, laparoscopic (inc. robotic), or endoscopic; and on the organ operated on – bladder, kidney / ureter, prostate / bladder neck, urethra, penis, scrotum / testes / vas deferens.

- The laparoscopic-specific HRGs are reached when an additional subsidiary OPCS-4 procedure code indicating laparoscopic approach is recorded alongside the relevant dominant procedure.

The HRGs within each of the surgical areas are further separated based on the expected complexity of the procedures into 4 levels. The potential range includes 4 levels (minor, intermediate, major and complex), but most surgical area do not use all of the complexity levels.

There are also HRGs specific to high-volume procedures, e.g., diagnostic flexible cystoscopy, urodynamics, vasectomy and prostate biopsies, as well as specific HRGs for procedures that use high-cost devices, such as the insertion of neurostimulators and neurostimulator electrodes for the treatment of urinary incontinence.

Multiple Procedure Recognition

Multiple-procedure escalation logic is employed by the majority of procedure-driven HRGs within this subchapter to escalate activity to an HRG with a higher expected resource usage (up to a maximum of 2 levels) where significant additional procedures are recorded.

The multiple-procedure escalation logic escalates activity up 1 level where an additional procedure of the same complexity level as the dominant procedure is recorded, or 2 additional procedures of the next lowest complexity level are recorded.

- For example, where the dominant procedure is an Intermediate Open procedure, escalation to the related Major HRGs can occur where an additional procedure code from list **LB_Int_Open** or list **LB_Major_End** (equivalent to intermediate open) is recorded or

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where 2 where additional procedure codes from list **LB_Int_End** (equivalent to minor open) are recorded.

For some activity, escalation up 2 levels can occur where an additional 2 procedures of the same complexity as the dominant procedure are recorded.

- For example, where the dominant procedure is an Intermediate endoscopic procedure, escalation to the related Complex HRGs can occur where an additional 2 procedures from **LB_Int_End** are recorded.

There is also logic on certain procedures, e.g., on paired organs such as the kidney to escalate up 1 level where a subsidiary OPCS-4 code indicating a bilateral operation is recorded.

LB69Z Major Robotic, Prostate or Bladder Neck Procedures (Male) is reached where a subsidiary OPCS-4 code indicating robotically-assisted approach is recorded. There is also logic on certain kidney and bladder procedures to escalate to the Complex HRGs when a subsidiary OPCS-4 code indicating a robotically-assisted approach is recorded.

LB81Z Complex Open Urethra Procedures can be reached via escalation logic where a subsidiary OPCS-4 code is recorded that indicates the urethroplasties have used complex grafts, e.g., distant grafts using buccal mucosa, vulval grafts and full thickness grafts, or where the primary diagnosis indicates a urethral injury. In addition, this HRG can be reached where a primary diagnosis indicating a urethral diverticulum is recorded.

LB79Z Insertion of Neurostimulator for Treatment of Urinary Incontinence and **LB80Z Insertion of Neurostimulator Electrodes for Treatment of Urinary Incontinence** are reached with the relevant neurostimulator procedure code with a primary diagnosis indicating urinary incontinence is recorded, or where the primary diagnosis relates to a complication or adjustment of neurostimulator, with a secondary diagnosis indicating that the device has been inserted for the treatment of urinary incontinence.

LB73Z Diagnostic Flexible Cystoscopy using Photodynamic Fluorescence is reached where a subsidiary OPCS-4 code indicating the use of photodynamic fluorescence is recorded alongside the diagnostic flexible cystoscopic procedure. In addition, therapeutic endoscopic cystoscopy activity can escalate up 1 level where a subsidiary OPCS-4 code indicating the use of photodynamic fluorescence is recorded.

LB71Z Complex Pelvic Clearance Procedures can be reached directly when a total pelvic exenteration or pelvic side wall clearance procedure is recorded, or via escalation logic, where a bladder excision or resection procedure is recorded alongside a procedure indicating that parts of the digestive system have also been resected.

Some activity with a dominant procedure mapped to an HRG in this subchapter maps to an HRG in another subchapter in certain scenarios. Where a drainage of ascites procedures is undertaken in addition to implantation of prosthesis into bladder, activity maps to an HRG in Subchapter **FF Digestive System Open and Laparoscopic Procedures**. Where a vaginal vault repair is undertaken in addition to a female bladder neck or urethra procedure, activity maps to an HRG in Subchapter **MA Female Reproductive System Procedures**.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. In this subchapter they are used to identify the renewal of various devices, insertion of metal stents and procedures to treat pelvic organ prolapse and stress urinary incontinence.

Many of the HRG roots in this subchapter employ age splits: There are specific HRGs for adult activity (19 years and over) and others for paediatric activity (18 years and under). There are also HRGs specific to the treatment of infants (0 to 1 year of age) and those for the treatment of older children (2 to 18 years).

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The diagnostic and minor procedure HRGs within this subchapter have maximum length of stay logic to ensure that minor procedures, such as urinary catheterisation, are not used to determine the HRG for a long-stay medical patient, e.g., a person who has suffered a stroke.

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in **Chapter P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework. The adult diagnosis-driven urological disorder HRGs within this subchapter are disorder- or urinary tract site-specific e.g., haematuria, penile disorders.

- For some injury of genital organ disorders, activity undertaken on female patients maps to an HRG in Subchapter **MB Female Reproductive System Disorders**, with logic that checks for sex of female.

Intervention splits are also employed within the majority of adult diagnosis-driven HRG roots to acknowledge where “minor interventions” undertaken during a patient admission are expected to result in additional resource usage.

Interactive CC splits are employed within the majority of both diagnosis-driven and procedure-driven HRG roots – up to a maximum of 5 levels - to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

HRGs have been created / Existing HRGs deleted

New HRG **LB81Z Complex Open Urethra Procedures** has been created to accommodate specific complex procedures on the urethra, including excision of urethral diverticulum and urethroplasties that involve complex grafts.

LB49Z High Intensity Focused Ultrasound (Male and Female) has been deleted on clinical advice, and the 3 procedure codes that mapped to this HRG have been remapped. OPCS-4 code ***M49.7 High intensity focused ultrasound of bladder*** has been remapped to **LB12Z Intermediate Open Bladder Procedures**; OPCS-4 code ***M71.1 High intensity focused ultrasound of prostate*** has been remapped to a new HRG within Subchapter **YL Urological Imaging Interventions**, **YL30Z Percutaneous Ablation of Lesion of Prostate**; and OPCS-4 code ***Q20.6 Focused ultrasound to lesion of uterus*** has been remapped to **MA24Z Minor Upper Genital Tract Procedures** within Subchapter **MA Female Reproductive System Procedures**.

Change to HRG label

The label of **LB71Z Complex Pelvic Clearance Procedures** has been updated to reflect that this HRG not only contains pelvic exenteration procedures but also other complex pelvic clearance procedures.

Changes to logic

New logic has been created to support the creation of new HRG **LB81Z Complex Open Urethra Procedures**.

Logic has been applied to the procedure codes that map to base HRG root **LB29 Major Open Urethra Procedures** to escalate activity to **LB81Z Complex Open Urethra Procedures** where either of the following are recorded:

- a subsidiary OPCS-4 code indicating complex graft repair e.g., distant grafts using buccal mucosa, vulval grafts and full thickness grafts, or
- a primary diagnosis code indicating injury to urethra.

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Logic has been applied to OPCS-4 code ***M72.3 Excision of lesion of urethra NEC*** to escalate activity to **LB81Z Complex Open Urethra Procedures** where a primary diagnosis of urethral diverticulum is recorded.

To ensure that the design aligns with national coding rules, logic on OPCS-4 code ***X45.1 Donation of kidney*** has been amended so that **LB46Z Live Donation of Kidney** will only be generated where there is an associated primary diagnosis of ***Z52.4 Kidney donor***; otherwise, the procedure will be ignored for grouping.

Diagnosis-qualified logic has been applied to newly created procedure combination codes ***A702+Z112 Testing of sacral nerve stimulato***r and A704+Z122 ***Neuromodulation of posterior tibial nerve for incontinence*** to ensure that this activity maps to base HRG root **LB15 Minor Bladder Procedures** (faecal incontinence logic has also been applied to these codes to map relevant activity to **FF43Z Minimal Anal Procedures**). This change is expected to result in a shift in activity from Subchapter **AA Nervous System Procedures and Disorders to this subchapter**.

Incontinence logic has been removed from OPCS-4 code ***A70.4 Insertion of neurostimulator electrodes into peripheral nerve*** to reflect that there is a procedure combination code for temporary insertion that already maps appropriately in the design to various HRGs depending on diagnosis. On its own, this code is used for a different, lower expected resource procedure, and it now defaults to **AB15Z Radiofrequency Ablation or Cryoablation, for Pain Management**.

Additional logic has been added to the percutaneous nephrolithotomy OPCS-4 procedure code ***M09.4 Endoscopic extraction of calculus of kidney NEC*** to ensure that escalation occurs if an additional major endoscopic procedure is recorded. The logic ensures that activity is escalated 2 complexity levels if 2 additional major endoscopic procedures are recorded.

Redundant robotic escalation logic has been removed from the nephroscopic or ureteroscopic operation on kidney or ureter procedure codes.

Remapping of codes

With the creation of new HRG **YL30Z Percutaneous Ablation of Lesion of Prostate**, the procedure codes specific to percutaneous ablation procedures on the prostate have been remapped to this HRG from base HRG root **LB26 Intermediate Endoscopic, Prostate or Bladder Neck Procedures (Male and Female)**.

As a result of a review of abdominal and pelvic lymph node procedures, OPCS-4 code ***T85.6 Block dissection of pelvic lymph nodes*** has been remapped from base HRG root **LB67 Complex Open Bladder Procedures** to **FF51 Major General Abdominal Procedures**.

OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could be split out and captured using a new procedure combination code formed using a ***.8 Other specified*** OPCS-4 code and mapped accordingly.

Within this subchapter, these global reviews have resulted in ***N28.9 Unspecified plastic operations on penis*** being remapped from **LB48Z Intermediate Penis Procedures** to base HRG root **LB56 Minor Penis Procedures** and ***X16.9 Unspecified operations for disorders of sex development*** being remapped from base HRG root **LB52 Major Open, Scrotum, Testis or Vas Deferens Procedures** to **LB53 Intermediate Open, Scrotum, Testis or Vas Deferens Procedures**.

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New procedure combination code ***M708+Y118 Other specified destruction of outlet of male bladder*** has been created and mapped to base HRG root **LB70 Complex Endoscopic, Prostate or Bladder Neck Procedures (Male and Female)**.

New procedure combination code ***M498+Y021 Implantation of prosthesis into bladder*** has been created to capture the subcutaneous implantation of a battery-powered ascites catheter drainage system. This combination code has been mapped to a base HRG root of **LB15 Minor Bladder Procedures**, but activity with this dominant procedure will escalate to **FF50 Complex General Abdominal Procedures** when recorded with OPCS-4 code ***T46.2 Drainage of ascites NEC***, to capture the resource use of this specific procedure.

New procedure combination code ***T967+O161 Injection into soft tissue of pelvis NEC*** has been created and mapped to base HRG root **LB26 Intermediate Endoscopic, Prostate or Bladder Neck Procedures (Male and Female)** to accommodate NICE guidance for the insertion of a biodegradable spacer into the perirectal space.

New procedure combination code ***M278+Y152 Ureteroscopic renewal of ureteric stent*** has been created and mapped to base HRG root **LB64 Complex Endoscopic, Kidney or Ureter Procedures**.

New procedure combination code ***M418+Y18 Open freeing of adhesions of bladder*** has been created and mapped to **LB12Z Intermediate Open Bladder Procedures**.

New procedure combination code ***M498+Y031 Maintenance of prosthesis in bladde***r has been created to capture procedures such as the flushing of bladder catheter and has been mapped to **LB18Z Attention to Suprapubic Bladder Catheter**.

New procedure combination code ***N308+Y261 Reconstruction of prepuce*** has been created and mapped to **LB48Z Intermediate Open Penis Procedures**.

Several new procedure combination codes have been created to ensure that procedures performed for female pelvic organ prolapse and stress urinary incontinence map to the appropriate HRGs. ***M538+Y252 Vaginal resuture to support outlet of female bladder*** and ***M538+Y60 Vaginal operation using insertion of other harvest of fascia to support outlet of female bladde***r have been created to capture the oversew of exposed tape implanted during previous stress urinary incontinence surgery and insertion of transorbturator fascial sling, respectively, and have been mapped to **LB59Z Major, Open or Laparoscopic, Bladder Neck Procedures (Female)**. ***M568+Y264 Endoscopic removal of other repair material from outlet of female bladder*** has been created to capture the procedure endoscopic removal of bladder neck debulking agent and have been mapped to base HRG root **LB70 Complex Endoscopic, Prostate or Bladder Neck Procedures (Male and Female)**.

Procedure combination codes ***M268+Y032 Nephroscopic renewal of tubal prosthesis into ureter*** and ***M608+Y032 Renewal of male retropubic continence device*** have been deleted following clarification of clinical coding guidance.

Changes to list membership

The membership of the various procedure lists used in multiple-procedure escalation logic employed within this subchapter have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design and to remove redundant procedure codes from escalation lists.

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

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As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **LB_CC**.

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Subchapter LD – Renal Dialysis for Chronic Kidney Disease

Subchapter **LD Renal Dialysis for Chronic Kidney Disease** captures all renal dialysis activity for patients of all ages recorded within the National Renal Data Set (NRD), which is specific to renal dialysis for chronic kidney disease.

HRGs specific to dialysis for acute kidney injury can be found in the unbundled subchapter **LE Renal Dialysis for Acute Kidney Injury**.

The HRGs in this subchapter are only generated using data from the NRD, rather than the Commissioning Data Sets (CDS).

The haemodialysis HRGs are differentiated based on location: hospital, satellite or home, vascular access type: via catheter or fistula and whether the patient has a blood-borne virus (that would require isolation).

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	26	26
Total HRG Roots	13	13
Procedure-driven HRGs	N/A	N/A
Diagnosis-driven HRGs	N/A	N/A
Age Splits	Yes	Yes
Complications and Comorbidities Splits	N/A	N/A
Intervention Splits	N/A	N/A
Multiple Procedures	N/A	N/A
Procedure Combination Codes	N/A	N/A
Diagnosis-qualified	N/A	N/A
Subsidiary Procedure-qualified	N/A	N/A
Length of Stay-qualified	N/A	N/A

The peritoneal dialysis HRGs are separated into continuous ambulatory peritoneal dialysis (CAPD) and automated peritoneal dialysis (APD) HRGs, with the latter further split based on whether the intervention is automated or assisted.

All of the HRG roots in this subchapter employ age splits There are specific HRGs for adult activity (19 years and over) and others for paediatric activity (18 years and under).

The HRGs in this subchapter are derived per session from the following data items [item reference in brackets] in the NRD:

Renal Care

[1] Renal Treatment Modality – e.g., Haemodialysis, CAPD

[6] Renal Treatment Supervision Code – e.g., home, hospital

[75] Person Observation (Blood Test HBV Surface Antigen) – e.g., negative, positive

[77] Person Observation (Blood Test HCV) – e.g., negative, positive

[79] Person Observation (Blood Test HIV) – e.g., negative, positive

Dialysis

[182] Dialysis Access Type – e.g., AV fistula, haemodialysis catheter

Patient age (in years derived from date of session – date of birth)

The Grouper validates against allowable values only for renal treatment modality and renal treatment supervision code. However, for dialysis access type, blank values are accepted and, where used, map activity to the “via haemodialysis catheter” HRG split. The 3 blood-borne virus fields also allow for blank values, and where these are left blank the activity maps to the “without blood-borne viruses” HRG split.

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The tables below illustrate the acceptable values for each field required for grouping and where validation is applicable.

Renal Treatment Modality	Description
01	CAPD (disconnect)
02	CAPD (standard)
03	CCPD (<6 nights/wk)
04	CCPD (6/7 nights/wk)
05	Haemodialysis
06	Haemofiltration
07	Haemodiafiltration
08	Ultrafiltration
09	Transplant (cad - HB)
10	Transplant (cad - NHB)
11	Transplant (LRD)
12	Transplant (LUD)
13	Conservative care
14	Recovery of renal function
15	None
Validation	Only on list. Leading zero must be included for values lower than 10.

* Note 09–15 map to U group HRG (not dialysis activity)

Treatment Supervision Code	Description
01	Home
02	Hospital
03	Satellite
04	Shared supervision
Validation	Only on list. Leading zero must be included.

Type of dialysis access (Current)	Description
01	Non-tunnelled line
02	Tunnelled line
03	Arteriovenous fistula (AVF)
04	Arteriovenous graft (AVG)
05	Vein loop
06	PD catheter
07	PD catheter temp
Validation	On list plus blank. Leading zero must be included.

Person observation (blood test HBV surface antigen)	Description
POS	Positive
NEG	Negative
UNK	Unknown
Validation	On list plus blank. Must be upper case.

Person observation (blood test HCV)	Description
POS	Positive
NEG	Negative
UNK	Unknown
Validation	On list plus blank. Must be upper case.

Person observation (blood test HIV)	Description
POS	Positive
NEG	Negative
UNK	Unknown
Validation	On list plus blank. Must be upper case.

Age	Description
(number)	(Calculated from session date - date of birth)
Validation	Within range 0 to 130 years

Fields not required for grouping but expected for identification of each session

Unique Patient ID	Description
Free text	An anonymised unique ID for each patient. Not NHS number
Validation	None

Date	Description
Free text	Date in standard format, e.g., 11/11/11 or 11-11-11
Validation	None

Below is a flow diagram that demonstrates how each of the dialysis HRGs within this subchapter are derived.

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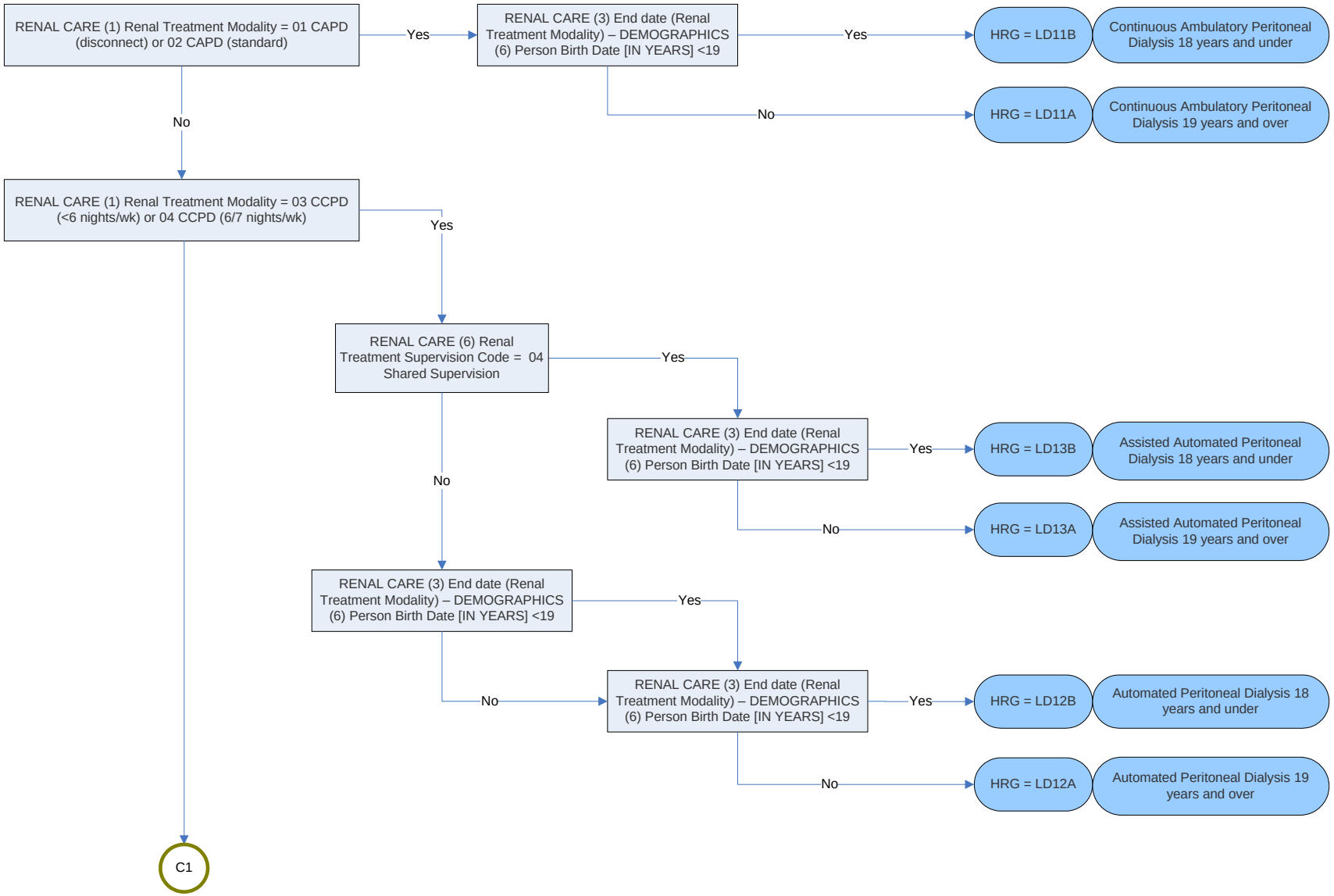

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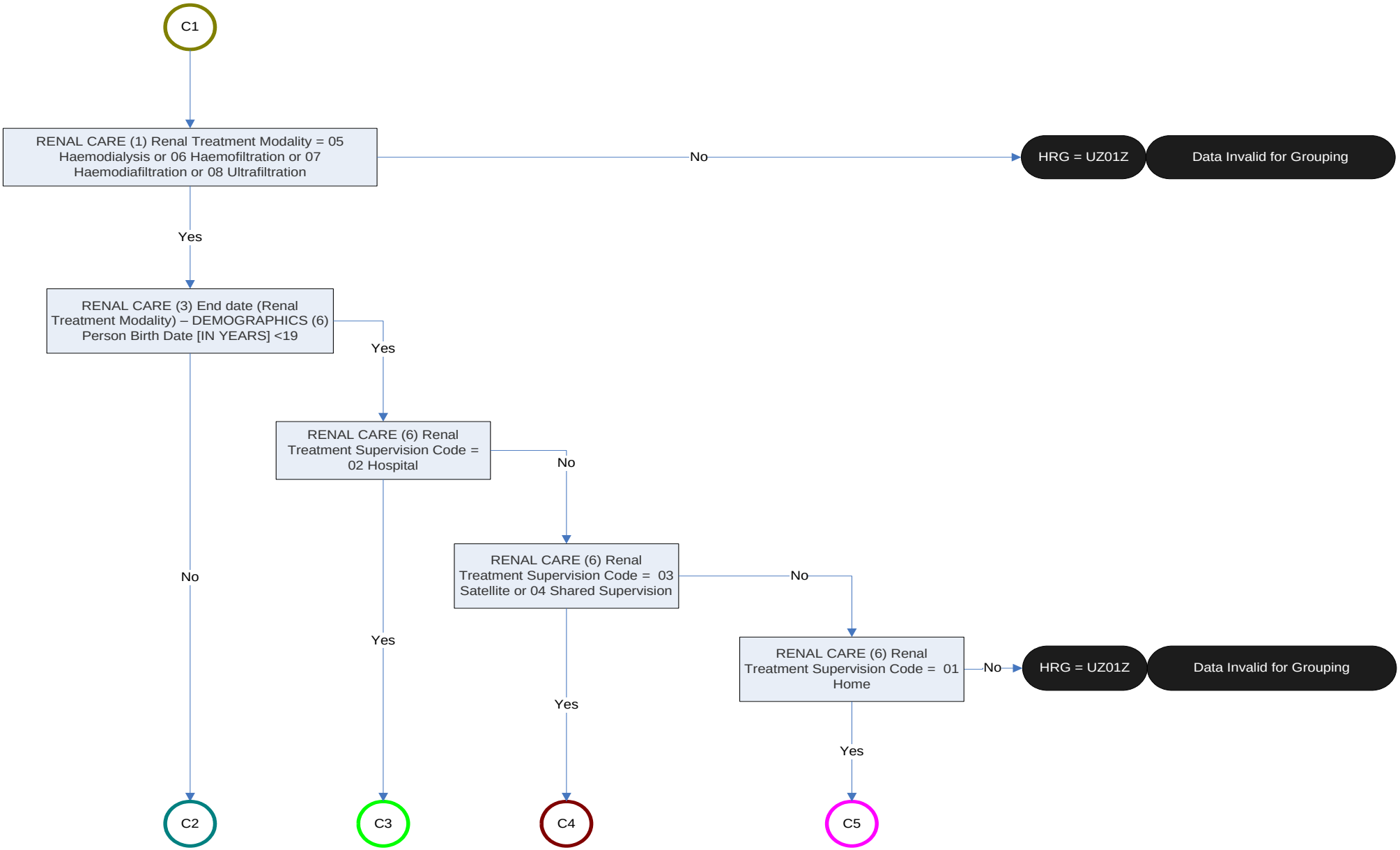

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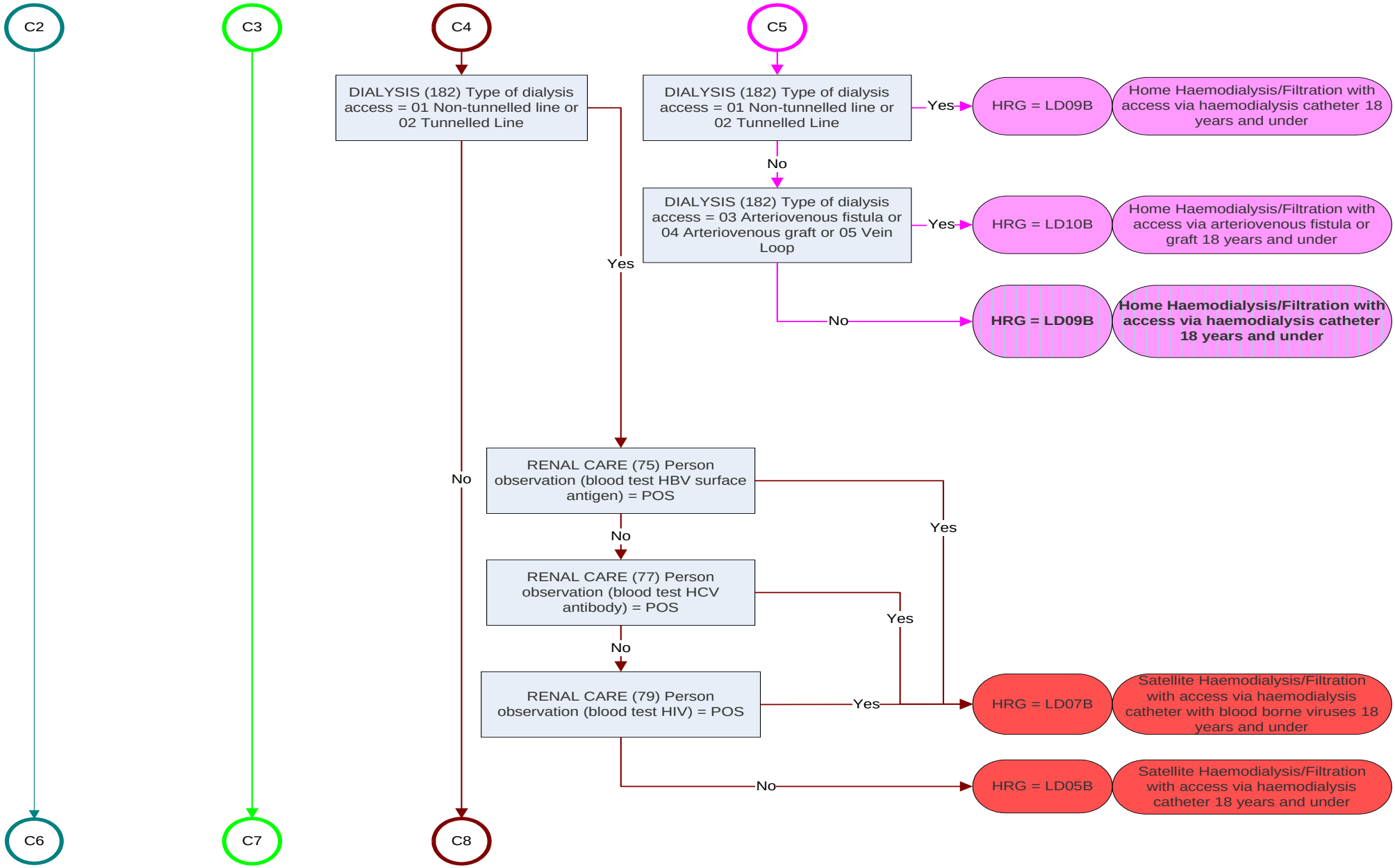

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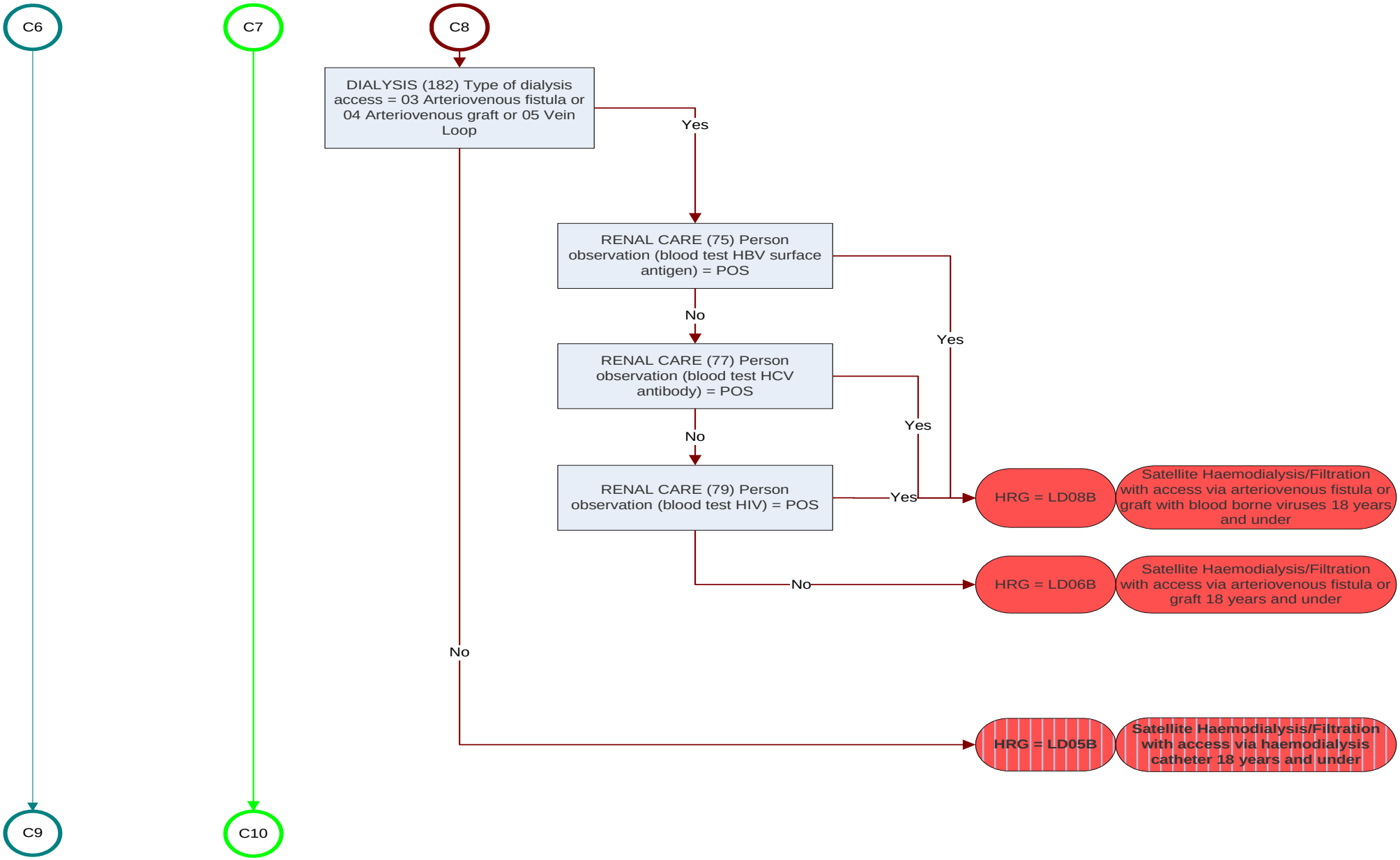

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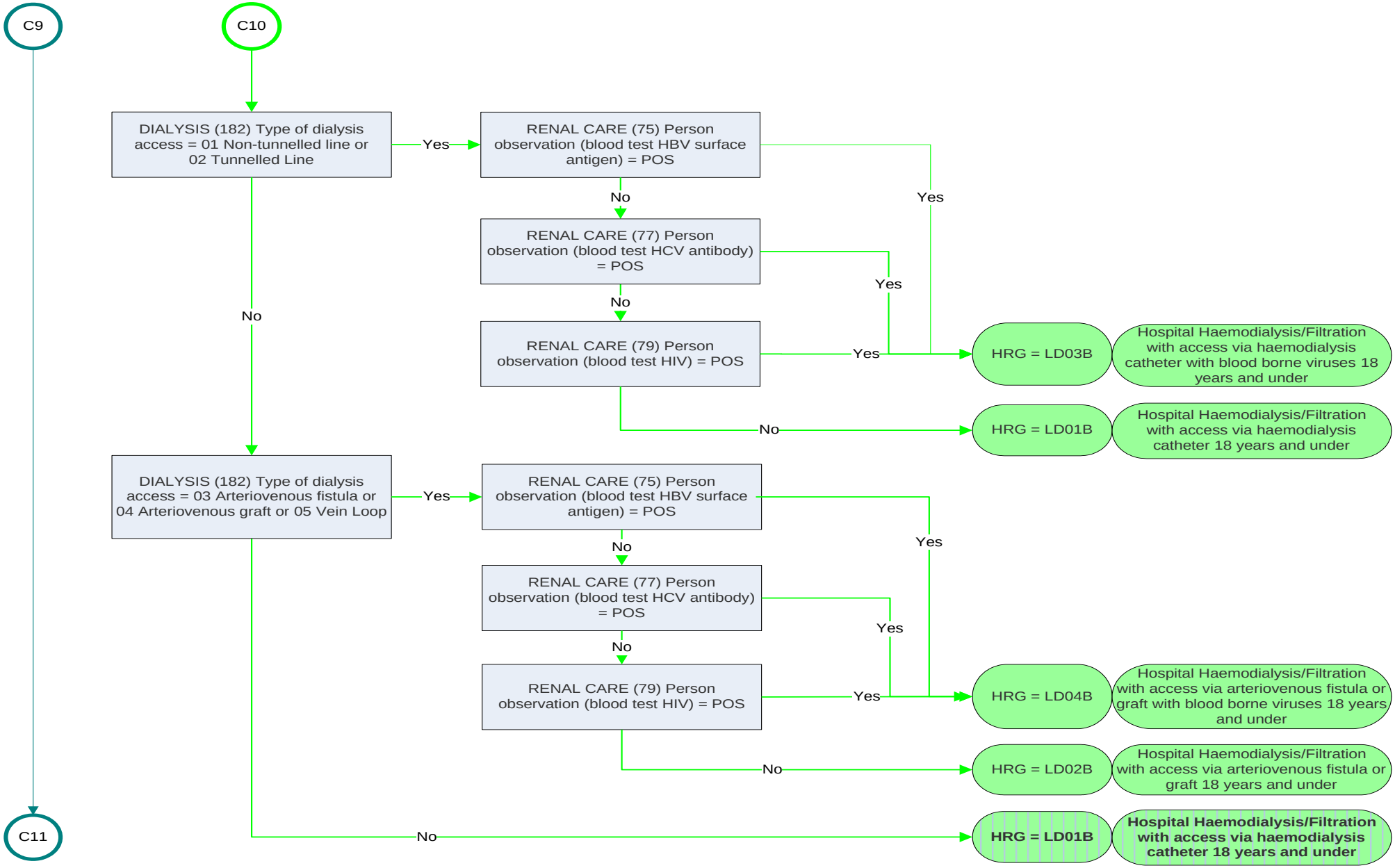

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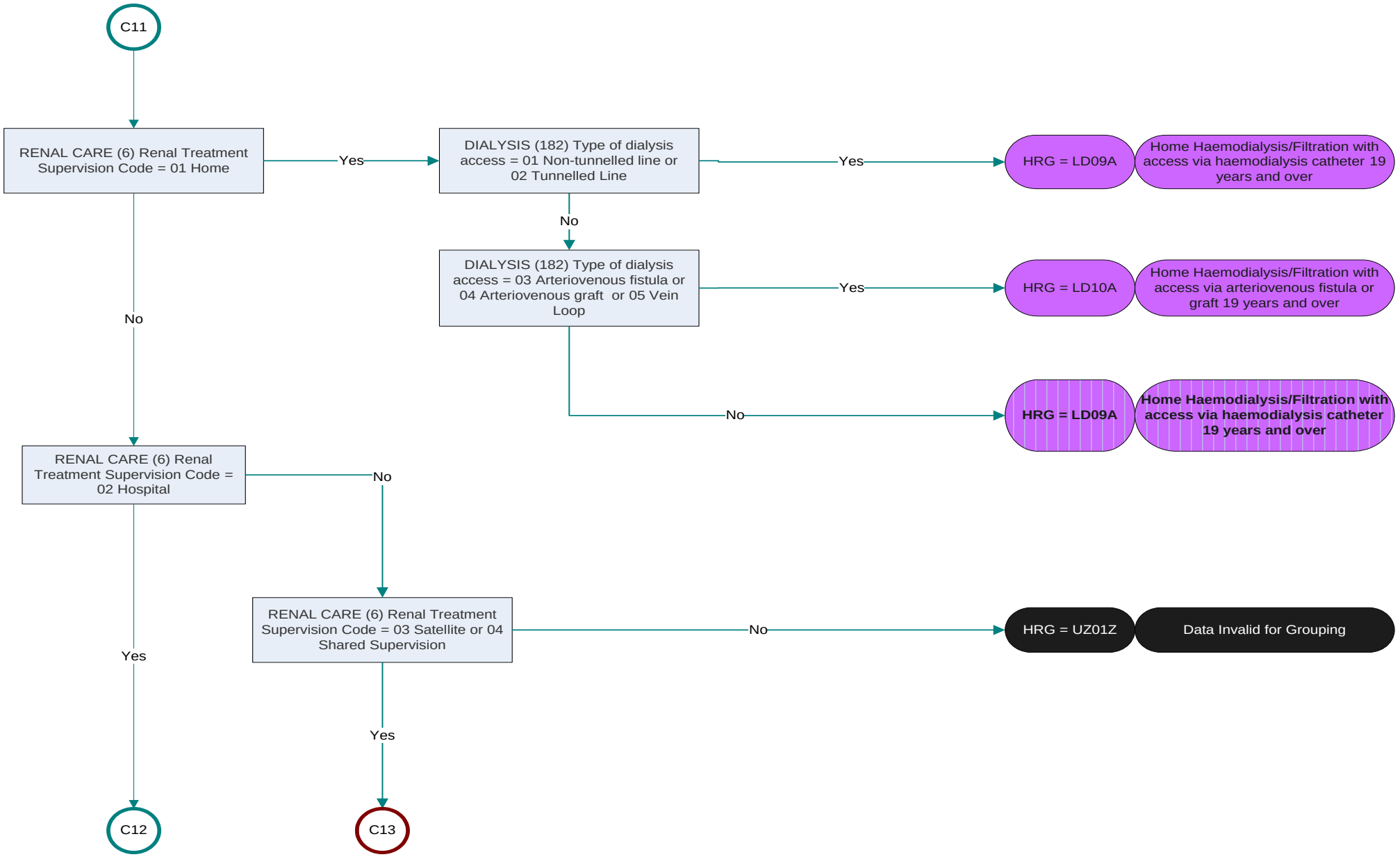

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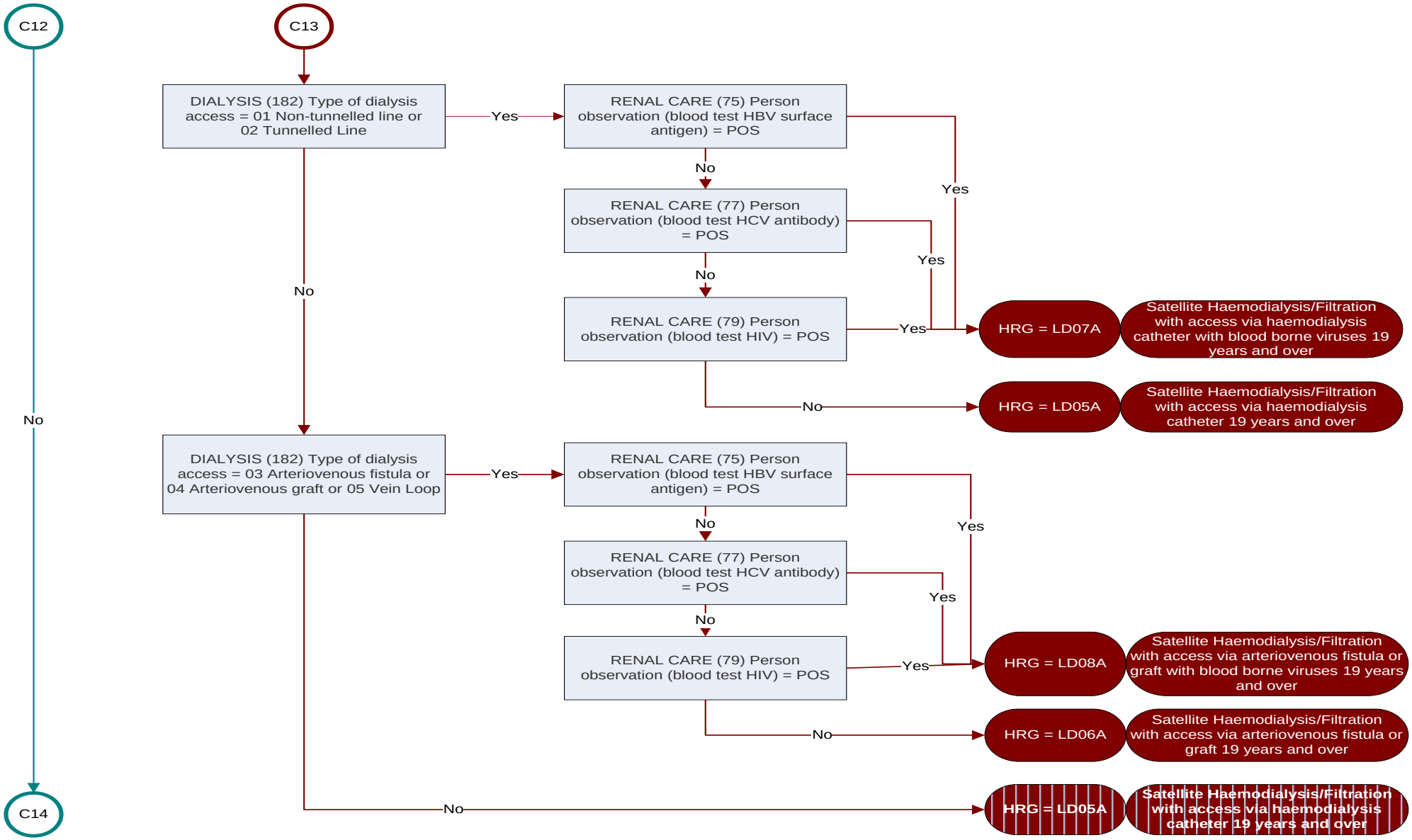

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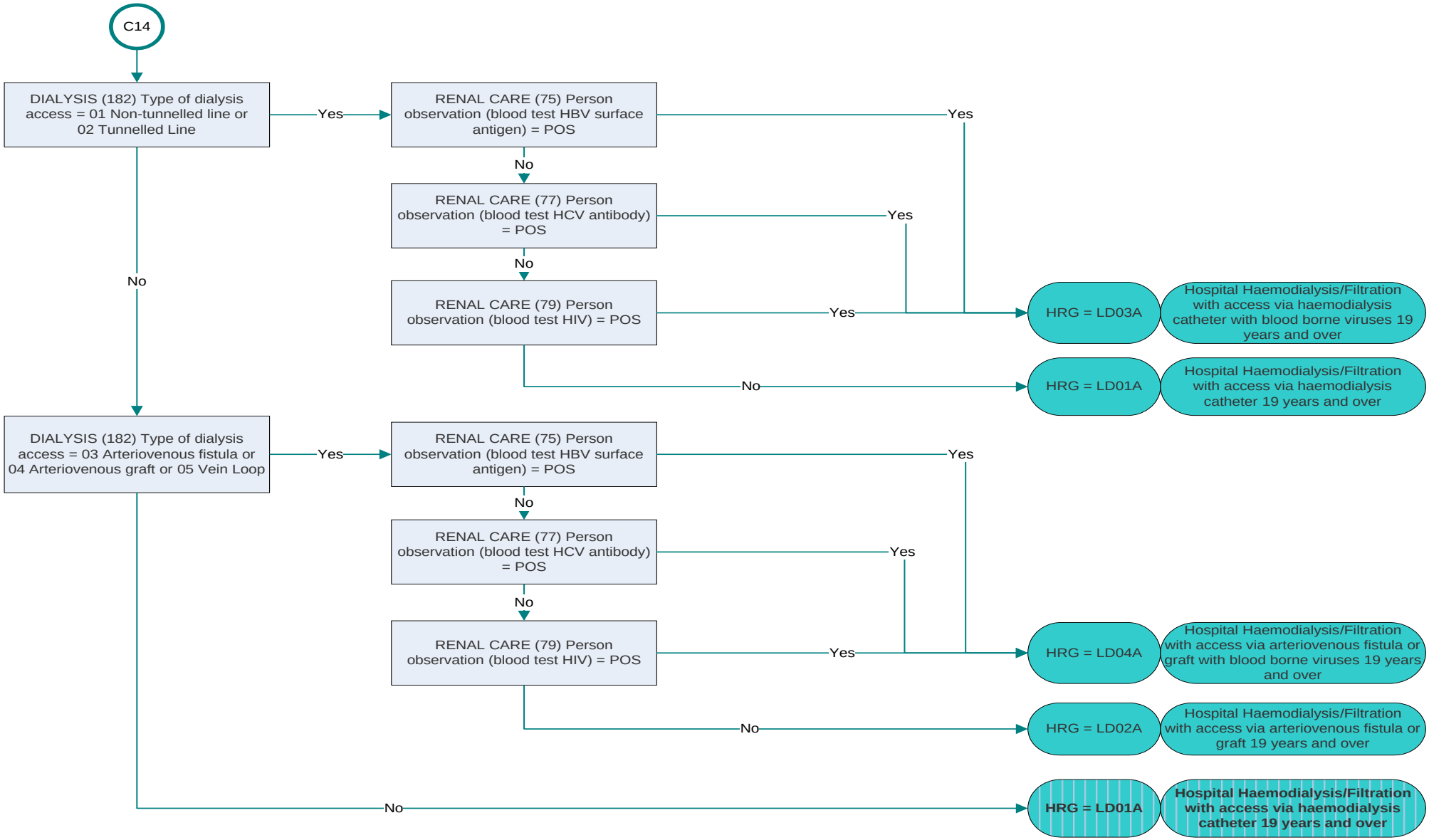

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Differences from the HRG4+ 2021/22 Local Payment Grouper

No changes

No changes directly impacting this subchapter have been made in the HRG4+ 2022/23 Local Payment Grouper when compared to the HRG4+ 2021/22 Local Payment Grouper.

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Subchapter LE – Renal Dialysis for Acute Kidney Injury

Subchapter **LE Renal Dialysis for Acute Kidney Injury** covers renal dialysis activity specifically for the treatment of acute kidney injury as part of an admitted care episode, for patients of all ages.

The HRGs are unbundled and generated in addition to the core HRG, and include activity undertaken in an inpatient and day case setting.

Unlike dialysis for patients with chronic kidney disease, this activity is generated from the Commissioning Data Sets (CDS) using OPCS-4 procedure codes, plus ICD-10 diagnosis codes.

As these HRGs are diagnosis-qualified they cannot be generated in the Outpatient dataset.

Dialysis for the treatment of chronic kidney disease is covered within Subchapter **LD Renal Dialysis for Chronic Kidney Disease**.

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**4**	**4**
Total HRG Roots	**2**	**2**
Procedure-driven HRGs	4	4
Diagnosis-driven HRGs	0	0
Age Splits	Yes	Yes
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

The HRGs are only generated when a dialysis OPCS-4 code is recorded in addition to a primary or secondary diagnosis indicating acute kidney injury:

- **LE01* Haemodialysis for Acute Kidney Injury** HRGs are generated for each occurrence of renal or haemodialysis procedure code recorded.
- **LE02* Peritoneal Dialysis for Acute Kidney Injury** HRGs are generated for each occurrence of the peritoneal procedure codes recorded.

Further differentiation is also applied, based on age, in order to take into account the difference in expected resource usage between treating a child (18 years and under) versus treating an adult (19 years and over).

Differences from the HRG4+ 2021/22 Local Payment Grouper

No changes

No changes directly impacting this subchapter have been made in the HRG4+ 2022/23 Local Payment Grouper when compared to the HRG4+ 2021/22 Local Payment Grouper.

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Subchapter MA – Female Reproductive System Procedures

Subchapter **MA Female Reproductive System Procedures** includes female upper and lower genital tract procedures for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

Obstetric related procedures are included in Subchapter **NZ Obstetric Medicine**.

The HRGs within this subchapter are differentiated on procedure approach - open or laparoscopic (inc. robotic), on the part of the female genital tract operated on – upper or lower, and on the whether the treatment of gynaecological malignancy, pelvic peritoneum adhesions or other gynaecological disorders.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**60**	**60**
Total HRG Roots	**45**	**45**
Procedure-driven HRGs	60	60
Diagnosis-driven HRGs	0	0
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

The HRGs within each of the surgical areas are further separated based on the expected complexity of the procedures into a maximum of 6 levels. The potential range includes 7 levels (minimal, minor, intermediate, major, very major, complex and very complex), however most surgical areas do not utilise all available complexity levels. The higher complexity levels tend to be combined for both upper and lower genital tract procedures.

There are procedure-specific HRGs for high-volume procedures such as resection and ablation procedures, hysteroscopies and colposcopies. In addition, there are “one-stop” diagnostic HRGs that cover a patient undergoing multiple tests or minor procedures in the same attendance or admission. There are also procedure-specific HRGs for abortion and miscarriage care.

- The abortion and miscarriage care HRGs are differentiated based on surgical versus medical care.
- The surgical care HRGs are separated based on gestational age as recorded using subsidiary OPCS-4 procedure codes; <14 weeks, 14 to 20 weeks and >20 weeks, with the HRG roots specific to <14 weeks being further split by the presence of an additional procedure code indicating insertion of long-acting reversible contraception.
- The medical care HRGs are also separated based on gestational age; <9 weeks, 9 to <14 weeks, 14 to 20 weeks, >20 weeks, with the latter 2 HRG roots being further split by the presence of an additional procedure code indicating insertion of long-acting reversible contraception.

Multiple Procedure Recognition

Multiple-procedure escalation logic is employed by the majority of surgical HRGs in this subchapter to escalate activity to an HRG with a higher expected resource use where significant additional procedures are recorded.

The multiple-procedure escalation logic escalates activity up 1 level where an additional procedure of the same complexity level as the dominant procedure is recorded.

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- For example, where the dominant procedure is a Major procedure, escalation to the Very Major HRG can occur where an additional Major procedure from list **MA_Major** is recorded.

There is logic to derive the HRGs specific to treatment of cancer, when a primary diagnosis code indicating gynaecological malignancy is recorded.

The laparoscopic-specific HRGs are reached when an additional subsidiary OPCS-4 code indicating laparoscopic (including robotic) approach is recorded alongside the relevant dominant procedure.

The multiple-procedure escalation and other (laparoscopic, cancer) logic can act in combination with each other to escalate the appropriate HRGs.

- For example, where a Major procedure is recorded with a primary diagnosis code of ovarian cancer with an additional procedure code from **MA_Major_Cancer,** activity can escalate to the Complex Procedure for Malignancy HRGs.

The multiple-procedure escalation logic for the cancer HRGs uses the specific **MA_Major_Cancer** list to ensure that procedure(s) undertaken as part-and-parcel of surgery to treat gynaecological malignancy, as opposed to other gynaecological disorders, do not inappropriately contribute towards to escalation.

There is additional logic on certain codes to escalate up 1 level, where:
- an additional vaginal vault repair procedure is recorded alongside a dominant hystercolpectomy procedure
- an additional bladder neck or vaginal prolapse repair procedure is performed alongside a dominant pelvic organ prolapse repair procedure
- sacrospinous fixation of vagina and colporrhaphy procedures are recorded alongside a dominant hysterectomy procedure
- a diagnosis code indicating severe endometriosis is recorded in any position, with a dominant major upper genital tract procedure
- a primary diagnosis code indicating an ectopic pregnancy is recorded alongside a dominant salpingectomy procedure.

The “one-stop” diagnostic and minor therapeutic procedure HRGs are generated when specific procedures are recorded together.

- For example: **MA34Z Diagnostic Hysteroscopy with Implantation of Intrauterine Device** is generated when both diagnostic hysteroscopy and insertion of intrauterine contraceptive device procedures are recorded, **MA43Z Transvaginal Ultrasound with Salpingography** is generated when both transvaginal ultrasound and salpingography procedures are recorded.

MA48Z Medical Treatment of Ectopic Pregnancy is reached with dominant procedure ***X37.3 Intramuscular chemotherapy***, which is used to indicate methotrexate treatment, when a subsidiary OPCS-4 code indicating gestational age is recorded, or with a primary diagnosis indicating ectopic pregnancy. As ICD-10 diagnosis codes are not mandated for use in the non-admitted care setting and therefore are not utilised in grouping, this HRG can only be generated in the Non-Admitted Care setting where the subsidiary OPCS-4 code indicating gestational age is recorded.

Some adhesion procedures map directly to the Female Pelvic Peritoneum Adhesion Procedures HRGs, whereas these HRGs are only reached for other procedures with a diagnosis code indicating severe endometriosis recorded in any position, or an additional adhesiolysis or major procedure. This includes activity which would default to the general abdominal procedure HRGs in Subchapter **FF Digestive System Open and Laparoscopic**

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Procedures without a primary diagnosis code indicating a gynaecological disorder, or a diagnosis code indicating endometriosis being recorded in any position.

Also, activity with a dominant major female bladder neck procedure which maps to an HRG in Subchapter **LB Urological and Male Reproductive System Procedures and Disorders**, can escalate to **MA01Z Complex Open, Upper or Lower Genital Tract Procedures** where an additional vaginal vault repair procedure is recorded.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. In this subchapter they are used to identify procedures to treat female genital mutilation, pelvic organ prolapse and stress urinary incontinence.

There are no paediatric specific HRGs within this subchapter due to a low volume of paediatric gynaecological surgery activity.

The diagnostic and minor procedure HRGs, within this subchapter have maximum length of stay logic to ensure that minor procedures, such as hysteroscopy, are not used to determine the HRG for a long-stay medical patient, e.g., a person who has suffered a stroke.

Interactive CC splits are employed within many of the surgical HRG roots within this subchapter – up to a maximum of 3 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

New HRGs have been created / Existing HRGs deleted

Several new HRGs have been created specifically to enable the identification and differentiation of resource use associated with gynaecological “one-stop” clinics, where a patient undergoes several minor procedures during the same admission or attendance. This is an expansion of the existing HRGs that cover these procedures.

The new HRGs are:

MA41Z Transvaginal Ultrasound with Biopsy and Implantation of Intrauterine Device

MA42Z Transvaginal Ultrasound with Implantation of Intrauterine Device

MA43Z Transvaginal Ultrasound with Salpingography

MA44Z Salpingography

MA45Z Diagnostic Hysteroscopy with Transvaginal Ultrasound

MA46Z Diagnostic Hysteroscopy with Transvaginal Ultrasound, with Biopsy

MA47Z Diagnostic Hysteroscopy with Transvaginal Ultrasound and Implantation of Intrauterine Device

Due to the expansion of multiple-procedure logic, there is sufficient activity within HRG **MA09Z Intermediate, Laparoscopic or Endoscopic, Upper Genital Tract Procedures** to warrant the addition of CC splits to this HRG to more appropriately differentiate expected resource usage. This has led to the deletion of this single HRG and its replacement with 2 new HRGs.

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The new HRGs are:

MA09A Intermediate, Laparoscopic or Endoscopic, Upper Genital Tract Procedures, with CC Score 2+

MA09B Intermediate, Laparoscopic or Endoscopic, Upper Genital Tract Procedures, with CC Score 0-1

New HRG **MA48Z Medical Treatment of Ectopic Pregnancy** has been created so that the medical treatment of ectopic pregnancies, and the significant drug cost associated with it, can be specifically identified.

The termination of pregnancy HRGs have been redesigned, resulting in the deletion of 7 HRGs: **MA17C Dilation and Evacuation, less than 14 weeks gestation**; **MA17D Dilation and Evacuation, 14 to 20 weeks gestation**; **MA18C Medical Termination of Pregnancy, less than 14 weeks gestation**; **MA18D Medical Termination of Pregnancy, 14 to 20 weeks gestation**; **MA19A Vacuum Aspiration with Cannula, less than 14 weeks gestation**; **MA19B Vacuum Aspiration with Cannula, 14 to 20 weeks gestation**; and **MA20Z Medical or Surgical Termination of Pregnancy, over 20 weeks gestation**.

10 new HRGs have been created in their place. The new HRGs better align with current clinical practice. This includes clarifying that the HRGs cover both abortion and miscarriage care, differentiate between medical and surgical procedures, and differentiate activity by gestational age. In addition, where suitable, the HRGs have been split to indicate whether a long-acting reversible contraceptive has been inserted.

The new HRGs are:

MA50Z Surgical, Abortion or Miscarriage Care, over 20 weeks Gestation

MA51Z Surgical, Abortion or Miscarriage Care, from 14 to 20 weeks Gestation

MA52A Surgical, Abortion of Miscarriage Care, under 14 weeks Gestation, with Insertion of Long-Acting Contraceptive

MA52B Surgical, Abortion or Miscarriage Care, under 14 weeks Gestation, without Insertion of Long-Acting Contraceptive

MA53Z Medical, Abortion or Miscarriage Care, over 20 weeks Gestation

MA54Z Medical, Abortion or Miscarriage Care, from 14 to 20 weeks Gestation

MA55A Medical, Abortion or Miscarriage Care, from 9 to under 14 weeks Gestation, with Insertion or Long-Acting Contraceptive

MA55B Medical, Abortion or Miscarriage Care, from 9 to under 14 weeks Gestation, without Insertion of Long-Acting Contraceptive

MA56A Medical, Abortion or Miscarriage Care, under 9 weeks Gestation, with Insertion of Long-Acting Contraceptive

MA56B Medical, Abortion or Miscarriage Care, under 9 weeks Gestation, without Insertion of Long-Acting Contraceptive

Changes to logic

New logic has been added to allow for the generation of the new “one-stop” diagnostic and minor therapeutic procedure HRGs when the relevant procedures are recorded together. For example, logic has been added to the diagnostic hysteroscopy OPCS-4 codes to escalate to **MA47Z Diagnostic Hysteroscopy with Transvaginal Ultrasound and Implantation of Intrauterine Device** when an additional transvaginal ultrasound OPCS-4 code, from new list

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MA_TVU and an additional insertion of intrauterine device procedure code from existing list **MA_IUD** are recorded.

With the creation of the new HRGs for abortion and miscarriage care, new logic has been added to check for the appropriate gestational age using a subsidiary OPCS-4 code. Other new logic checks for the presence of an additional procedure code, indicating insertion or implantation of long-acting reversible contraception, from list **MA_LARC**.

To enable the generation of **MA48Z Medical Treatment of Ectopic Pregnancy**, new logic has been created that checks for the presence of OPCS-4 code ***X37.3 Intramuscular chemotherapy*** recorded alongside either a subsidiary OPCS-4 code indicating gestational age, or a primary diagnosis of ectopic pregnancy, else the procedure is ignored for grouping

Multiple-procedure escalation logic has been extended to the minor endoscopic/laparoscopic procedures that map to **MA10Z Minor, Laparoscopic or Endoscopic, Upper Genital Tract Procedures** and **MA12Z Resection or Ablation Procedures for Intrauterine Lesions**. This activity will escalate to HRG root **MA09 Intermediate, Laparoscopic or Endoscopic, Upper Genital Tract Procedures** where additional minor procedures are also recorded.

Multiple-procedure escalation logic has been extended to the gynaecological fistula repair procedures that map to base HRG **MA02 Very Major Open, Upper or Lower Genital Tract Procedures**. This activity will escalate to **MA01Z Complex Open, Upper or Lower Genital Tract Procedures** if an additional major procedure is recorded.

Multiple-procedure escalation logic has also been extended to complex hysterectomy codes that map to base HRG root **MA02 Very Major Open, Upper or Lower Genital Tract Procedures**. This activity will escalate to **MA01Z Complex Open, Upper or Lower Genital Tract Procedures** if an additional vaginal vault repair procedure is recorded.

The gynaecological malignancy diagnosis logic has been expanded to ensure that, where appropriate, both upper and lower female genital tract procedures undertaken for the treatment of cancer map to the cancer-specific HRGs.

Logic has been amended so that the generation of **MA30Z Intermediate Female Pelvic Peritoneum Adhesion Procedures** no longer requires a length of stay of 1 day or less. This HRG can now be generated irrespective of the patient's length of stay.

MA_Adhesiolysis logic has been extended to all gynaecology-related adhesion procedures, and all of these procedures have been added to list **MA_Adhesiolysis**.

Remapping / Creation of combination codes

With the creation of the new HRGs for abortion and miscarriage care, the diagnosis codes that previously mapped to base HRG root **MA18 Medical Termination of Pregnancy** have been remapped to **MB08 Threatened or Spontaneous Miscarriage**. In addition, OPCS-4 codes ***Q10.1 Dilation of cervix uteri and curettage of products of conception from uterus*** and ***Q10.2 Curettage of products of conception from uterus NEC*** have been mapped to the new abortion and miscarriage care HRGs from **MA24Z Minor Upper Genital Tract Procedures**. ***Q11.4 Extraction of menses*** has been remapped to **MA24Z Minor Upper Genital Tract Procedures** from the termination of pregnancy HRGs.

New procedure combination codes **Q551+Y80 Examination of female genital tract under general anaesthetic and Papanicolau smear** and ***Q552+Y80 Examination of female genital tract under general anaesthetic*** have been created to appropriately accommodate gynaecological examinations undertaken under general anaesthetic. These new combination codes have been mapped to **MA22Z Minor Lower Genital Tract Procedures**.

As **LB49Z High Intensity Focused Ultrasound (Male and Female)** has been deleted on clinical advice, OPCS-4 code ***Q20.6 Focused ultrasound to lesion of uterus***, which

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previously mapped to this HRG, has been remapped to **MA24Z Minor Upper Genital Tract Procedures**.

OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could be split out and captured using a new procedure combination code formed using a ***.8 Other specified*** OPCS-4 code and mapped accordingly.

Within this subchapter, these global reviews have resulted in 7***.9 Unspecified*** OPCS-4 codes being remapped to lower expected resource HRGs.

New procedure combination code ***X398+Z291 Administration of therapeutic substance per rectum*** has been created according to clinical coding guidance to classify misoprostol per rectum and mapped to base HRG root **MA56 Medical, Abortion or Miscarriage Care, under 9 weeks Gestation**.

New procedure combination codes ***P138+REP Reconstruction of female perineum***, ***P138+Y20 Biopsy of female perineum*** and ***P218+Y271 Autograft to vagina*** have been created and mapped to base HRG root **MA04 Intermediate Open Lower Genital Tract Procedures**, **MA23Z Minimal Lower Genital Tract Procedures** and **MA02 Very Major Open, Upper or Lower Genital Tract Procedures**, respectively. For the former, to support the different types of surgical repairs, the **CL_Rep** combination list associated with this and other combination codes classifying repair procedures has been expanded to include codes for all types of plastic other repair of organ codes, such as those for insertion of mesh and graft to organ.

Several new procedure combination codes have been created to ensure that oversew of vaginal mesh and associated procedures performed for female pelvic organ prolapse and stress urinary incontinence map to appropriate HRGs within this subchapter and Subchapter **LB Urological and Male Reproductive System Procedures and Disorders**. This includes logic to map activity from **LB59Z Major, Open or Laparoscopic, Bladder Neck Procedures (Female)** to **MA01Z Complex Open, Upper or Lower Genital Tract Procedures** when an additional vaginal vault repair procedure is recorded. In addition:

- Procedure combination codes ***P238+Y252 Resuture of prolapse of vagina*** and ***P298+Y252 Resuture of vagina*** have been mapped to base HRG root **MA04 Intermediate Open Lower Genital Tract Procedures**.
- Procedure combination codes ***P228+Y252 Resuture of prolapse of vagina and amputation of cervix uteri*** and ***P238+Y032 Renewal of transvaginal pelvic organ prolapse mesh*** have been mapped to base HRG root **MA03 Major Open Lower Genital Tract Procedures**.
- Procedure combination code ***Q548+Y252 Resuture of other ligament of uterus*** has been mapped to base HRG root **MA07 Major Open Upper Genital Tract Procedures**.
- Procedure combination code ***P248+Y252 Resuture of vault of vagina*** has been mapped to base HRG root **MA02 Very Major Open, Upper or Lower Genital Tract Procedures**.

Changes to list membership

Additional gynaecological-related diagnoses have been added to the list **MA_Gynae_Diag** to ensure that peritoneal procedures undertaken to treat gynaecological conditions group to gynaecological HRGs. However, additional logic has been added to check for a sex of

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female in addition to these diagnoses. This will result in a shift in activity from Subchapter **FF Digestive System Open and Laparoscopic Procedures** to HRGs within Subchapter **MA Female Reproductive System Procedures**.

The membership of the various procedure lists used in multiple-procedure escalation logic employed within this subchapter have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design and to remove redundant procedure codes from escalation lists.

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **MAMB_CC**.

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Subchapter MB – Female Reproductive System Disorders

Subchapter **MB Female Reproductive System Disorders** covers female reproductive system disorders for adults and some children. It includes activity undertaken in an inpatient and day case setting.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	17	17
Total HRG Roots	3	3
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	17	17
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	Yes	Yes
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

The majority of diagnosis-driven activity relating to the treatment of children (aged 18 years and under) for female reproductive system disorders groups to an HRG in **Chapter P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework. However, some gynaecological disorders, such as those relating to menstruation, pregnancy and miscarriage care, map to HRGs within this subchapter irrespective of age, due to the nature of treating these conditions for all patients.

There are 3 HRG roots within this subchapter: 1 for threatened and spontaneous miscarriages 1 for malignant gynaecological disorders and the other for non-malignant gynaecological disorders.

Some activity with a primary diagnosis code mapped to an HRG in another subchapter maps to an HRG in this subchapter in certain scenarios, i.e., for some diagnosis codes indicating injury of genital organs, activity maps to an HRG in this subchapter where the recorded sex is female (rather than Subchapter **LB Urological and Male Reproductive System Procedures and Disorders**).

Intervention splits are employed within all of the HRG roots in this subchapter to acknowledge where “minor interventions” undertaken during a patient admission are expected to result in additional resource usage.

Interactive CC splits are employed within the majority of the HRG roots within this subchapter – up to a maximum of 5 levels – to more appropriately differentiate expected resource use between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Remapping of codes

With the creation of the new HRGs within Subchapter **MA Female Reproductive System Procedures** for abortion and miscarriage care, the diagnosis codes that previously mapped to base HRG root **MA18 Medical Termination of Pregnancy** have been remapped to **MB08 Threatened or Spontaneous Miscarriage**.

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Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **MAMB_CC**.

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Subchapter MC – Assisted Reproductive Medicine

Subchapter **MC Assisted Reproductive Medicine** includes assisted reproductive medicine procedures for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

The procedure-driven HRGs within this subchapter cover the collection of sperm, and intrauterine insemination (IUI) and in-vitro fertilisation (IVF).

The IUI HRGs are differentiated split by with or without superovulation, and with or without donor sperm.

There is 1 HRG for implantation of embryo, with the other IVF HRGs being differentiated by type of oocyte recovery; whether with donor, with intracytoplasmic sperm injection (ICSI) or with pre-implantation genetic diagnosis, using subsidiary OPCS-4 codes indicative of these methods.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**11**	**11**
Total HRG Roots	**11**	**11**
Procedure-driven HRGs	11	11
Diagnosis-driven HRGs	0	0
Age Splits	No	No
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

As the majority of assisted reproductive medicine activity is short stay, there are no complication and comorbidity splits within this subchapter.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

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Subchapter NZ – Obstetric Medicine

Subchapter **NZ Obstetric Medicine** covers obstetric procedures and disorders for patients of all ages. It also accommodates obstetric aspects of embryology and placental disorders. It includes activity undertaken in inpatient, day case and non-admitted care settings.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**55**	**55**
Total HRG Roots	**25**	**25**
Procedure-driven HRGs	43	43
Diagnosis-driven HRGs	12	12
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

The delivery HRGs within this subchapter are separated based on the type of delivery: normal, assisted or caesarean section.

The normal and assisted delivery HRGs are further differentiated to take into account certain delivery interventions. The HRGs are based on whether a single, or combination of, the following additional procedures are recorded: induction, epidural or post-partum surgical intervention.

- For example, where a normal delivery procedure was recorded with additional procedure codes indicating an epidural and repair of 3rd degree tear procedures recorded this derives HRG root **NZ33 Normal Delivery, with Epidural or Induction, and with Post-Partum Surgical Intervention**.

The caesarean section HRGs are differentiated based on whether the surgery was planned or otherwise, as specified by the OPCS-4 procedure codes.

There are HRGs specific to standard routine and specialised non-routine ante-natal scans as well as other ante-natal therapeutic procedures e.g., induction.

There are HRGs specific to diagnostic and therapeutic fetal medicine procedures as well as post-natal therapeutic procedures.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. In this subchapter they are used to identify B-Lynch sutures and Bakri balloon activity.

This subchapter includes diagnosis-driven activity relating to the treatment of children (aged 18 years and under). This activity is grouped to an HRG in this subchapter instead of to an HRG in Chapter **P Diseases of Childhood and Neonates** to more appropriately reflect the nature of the service provision of obstetric medicine. The all-age diagnosis-driven HRGs are separated into ante- or post-natal disorders, with the ante-natal disorder HRGs differentiated based on obstetric complexity level; other, major and complex.

Where primary diagnosis code ***O26.8 Other specified pregnancy-related conditions*** is recorded, logic is used to look for the related secondary diagnosis code, which is then used to map the activity to the appropriate ante-natal disorder HRG.

- For example, when followed by **K80.0 Calculus of gallbladder with acute cholecystitis**, which is on the **NZ_Oth_Complex** list, activity would map to HRG root **NZ18 Ante-Natal Complex Disorders**.

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Interactive CC splits are employed within the majority of ante- and post-natal disorder HRG roots as well as the delivery HRGs - up to a maximum of 3 levels - to more appropriately differentiate expected resource usage between routine and complex patients.

In accordance with national coding standards, unlike other CC lists where only secondary diagnosis codes contribute towards the CC score, for the obstetric delivery HRGs all diagnosis codes, including the primary diagnosis code, can contribute towards to the CC score.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Creation of combination codes

New procedure combination codes ***R308+Y258 Other specified suture of delivered uterus*** (for b-lynch sutures) and ***R308+Y443 Temporary occlusion of delivered uterus*** (for Bakri balloon) have been created to classify procedures undertaken to treat postpartum haemorrhage. These new procedure combination codes have been mapped to **NZ27Z Post-Natal Therapeutic Procedures**.

Changes to list membership

The new procedure combination codes for b-lynch sutures and Bakri balloon have been added to the postpartum surgical intervention list, **NZ_PP_Surgery**, alongside procedure combination codes ***L703+Z382 Ligation of internal iliac artery*** and ***L713+UTERINE Percutaneous transluminal embolisation of uterine artery***, to ensure that the additional expected resource use associated with treating post-partum haemorrhage is appropriately reflected in the delivery HRGs.

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.
As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **NZ_CC**.

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Subchapter PB – Neonatal Disorders

Subchapter **PB Neonatal Disorders** covers neonatal medicine for patients aged 1 year and under. It includes activity undertaken in inpatient and day case settings.

It does not include the treatment of non-neonatal disorders in babies aged 1 year and under as these map to the relevant HRGs within the other subchapters in Chapter **P Diseases of Childhood and Neonates**

It does not include critical care services, which are covered in the unbundled Subchapter **XA Neonatal Critical Care**. There is no grouping interaction between the generation of the **PB** HRGs and those for critical care, other than a length of stay adjustment (reduction) relating to critical care days on the length of stay of the core **PB** episode/spell.

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**20**	**20**
Total HRG Roots	**4**	**4**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	20	20
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	Yes	Yes
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

This subchapter does not include procedures undertaken on neonates. These group to the procedure-driven HRGs in other relevant subchapters.

The subchapter comprises neonatal disorders, differentiated by source of patient admission, and healthy babies.

Only diagnosis codes relating to neonatal disorders originating in the perinatal period, can map to HRGs within this subchapter. There is logic to check for an age of 1 year and under, to ensure that these HRGs can be appropriately generated for the small number of patients that may continue to receive treatment for these conditions past their first birthday, but not inappropriately for older children or adults, where the activity will map to **UZ01Z Data Invalid for Grouping**.

PB03Z Healthy Baby is generated where no significant procedure is recorded, irrespective of TFC, and specifically when 1 of the following 9 primary diagnosis codes are recorded, which indicates that the baby was otherwise well, and has not received any additional care post-birth.

- ***P83.1 Neonatal erythema toxicum***
- ***P83.4 Breast engorgement of newborn***
- ***P92.5 Neonatal difficulty in feeding at breast***
- ***Z38.0 Singleton, born in hospital (further qualified)***
- ***Z38.1 Singleton, born outside hospital (further qualified)***
- ***Z38.2 Singleton, unspecified as to place of birth (further qualified)***
- ***Z38.3 Twin, born in hospital (further qualified)***
- ***Z38.4 Twin, born outside hospital (further qualified)***
- ***Z38.5 Twin, unspecified as to place of birth (further qualified)***

Generation of **PB03Z Healthy Baby** is also reliant on providers following ICD-10 coding standard *DChS.XVI.1: Liveborn infants according to place of birth* (***Z38.***), namely:

- All babies must have a code from category ***Z38.*** recorded in their birth episode.

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- Where the newborn is diagnosed with a condition classifiable to ICD Chapter XVI: Certain conditions originating in the perinatal period (***P00.-P96.***), it must be coded.
- Sequencing of these codes depends on whether the baby has a condition classifiable to diagnosis code ***P00.-P96.*** and whether that condition is treated/investigated.

Where babies are recorded as having a primary diagnosis code of something other than the above (noting qualifications), the **PB03Z Healthy Baby** HRG will not be generated, and an HRG from the following list of HRG roots will be generated, dependent on the source of admission recorded:

PB04 Neonatal Diagnoses, Admitted from Other Location or Born in Hospital
PB05 Neonatal Diagnoses, Admitted from Other Hospital Provider
PB06 Neonatal Diagnoses, Admitted from Home

Logic is employed to ensure babies receiving prophylactic antibiotics due to previous infection in the mother map to the neonatal disorder HRGs to reflect the additional resource usage. In accordance with national coding rules, where the primary diagnosis would otherwise generate **PB03Z Healthy Baby**, where a secondary diagnosis code indicating carrier of disease or recipient of prophylactic chemotherapy is recorded this activity will generate one of the neonatal disorder HRGs.

In accordance with national coding rules, conditions within ICD-10 diagnosis code categories ***P00–P04 Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery***, require a discharge method of stillbirth in order to generate one of the neonatal disorder HRGs within this subchapter else HRG **UZ01Z Data Invalid for Grouping** will be generated.

Intervention splits are also employed within 1 HRG root in this subchapter to acknowledge where “minor interventions” undertaken during a patient admission are expected to result in additional resource usage.

Interactive CC splits are employed within HRG roots within this subchapter - to 6 levels - to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC list for this subchapter, **PB_CC**. The list value of diagnosis codes ***R57.2 Septic shock*** and ***R65.1 Systemic Inflammatory Response Syndrome of infectious origin with organ failure*** on **PB_CC** have been increased to 2, on clinical advice.

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Subchapter PC – Paediatric Ear Nose and Throat Disorders

Subchapter **PC Paediatric Ear Nose and Throat Disorders** contains activity relating to the medical treatment of ear, nose, mouth and throat disorders in children (aged 18 years and under). It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care. These are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

There is 1 diagnosis-driven HRG root within this subchapter for all paediatric ear, nose, mouth and throat disorders.

Interactive CC splits are employed within the 1 HRG root within this subchapter – to 4 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**4**	**4**
Total HRG Roots	**1**	**1**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	4	4
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC list for this subchapter, **PC_CC**.

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Subchapter PD – Paediatric Respiratory Disorders

Subchapter **PD Paediatric Respiratory Disorders** contains activity relating to the medical treatment of respiratory disorders in children (18 years and under). It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care. These are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

The diagnosis-driven HRGs within this subchapter are differentiated by disorder type, with HRGs specific to disorders such as asthma and cystic fibrosis.

Interactive CC splits are employed within all HRG roots within this subchapter – up to a maximum of 6 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**24**	**24**
Total HRG Roots	**6**	**6**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	24	24
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Differences from the HRG4+ 2021/22 Local Payment Grouper

Remapping of codes

Diagnosis codes in category B39.- Histoplasmosis have been remapped from HRG root **PD14 Paediatric Lower Respiratory Tract Disorders without Acute Bronchiolitis** to **PW16 Paediatric Major Infections** for patients aged 18 years and under, to reflect that the treatment of this condition is more like the treatment of other infections than it is the treatment of lung disease.

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC list for this subchapter, **PD_CC**.

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Subchapter PE – Paediatric Cardiology Disorders

Subchapter **PE Paediatric Cardiology Disorders** contains activity relating to the medical treatment of cardiac disorders in children (18 years and under). It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care. These are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

The diagnosis-driven HRGs within this subchapter are differentiated by disorder type, with HRGs specific to disorders such as arrythmia.

Interactive CC splits are employed within all HRG roots within this subchapter – up to a maximum of 6 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**12**	**12**
Total HRG Roots	**3**	**3**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	12	12
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Differences from the HRG4+ 2021/22 Local Payment Grouper

Remapping of codes

Diagnosis code ***B39.9 Histoplasmosis, unspecified*** has been remapped from HRG root **PE23 Paediatric Cardiac Conditions** to **PW16 Paediatric Major Infections** for patients aged 18 years and under, to reflect that the treatment of this condition is more like the treatment of other infections than it is the treatment of heart disease.

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC list for this subchapter, **PE_CC**.

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Subchapter PF – Paediatric Gastroenterology Disorders

Subchapter **PF Paediatric Gastroenterology Disorders** contains activity relating to the medical treatment of intestinal disorders in children (18 years and under). It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care. These are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

The diagnosis-driven HRGs within this subchapter are differentiated by disorder type, with HRGs specific to disorders such as gastroenteritis and inflammatory bowel disease.

There are also 2 HRG roots that are differentiated based on complexity for major and other gastrointestinal disorders.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**17**	**17**
Total HRG Roots	**5**	**5**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	17	17
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Interactive CC splits are employed within all HRG roots within this subchapter – up to a maximum of 5 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure has*** been added to the CC list for this subchapter, **PF_CC**.

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Subchapter PG – Paediatric Hepatobiliary Disorders

Subchapter **PG Paediatric Hepatobiliary Disorders** contain activity relating to the medical treatment of hepatobiliary and pancreatic disorders in children (18 years and under). It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care. These are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

There is 1 diagnosis-driven HRG root within this subchapter for all paediatric hepatobiliary and pancreatic disorders.

Interactive CC splits are employed within the one HRG root within this subchapter – to 3 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**3**	**3**
Total HRG Roots	**1**	**1**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	3	3
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC list for this subchapter, **PG_CC**.

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Subchapter PH – Paediatric Rheumatology Disorders

Subchapter **PH Paediatric Rheumatology Disorders** contains activity relating to the medical treatment of musculoskeletal and rheumatological disorders in children (18 years and under). It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care. These are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

There is 1 diagnosis-driven HRG root within this subchapter for all paediatric musculoskeletal or connective tissue disorders.

Interactive CC splits are employed within the 1 HRG root within this subchapter –to 4 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**4**	**4**
Total HRG Roots	**1**	**1**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	4	4
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC list for this subchapter, **PH_CC**.

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Subchapter PJ – Paediatric Dermatology Disorders

Subchapter **PJ Paediatric Dermatology Disorders** contains activity relating to the medical treatment of skin disorders in children (18 years and under). It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care. These are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

There are 2 diagnosis-driven HRG roots within this subchapter, 1 for rashes and the other for all other paediatric skin disorders.

Interactive CC splits are employed within both HRG roots within this subchapter – up to a maximum of 4 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**7**	**7**
Total HRG Roots	**2**	**2**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	7	7
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC list for this subchapter, **PJ_CC**.

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Subchapter PK – Paediatric Diabetology, Endocrinology and Metabolic Disorders

Subchapter **PK Paediatric Diabetology, Endocrinology and Metabolic Disorders** contains activity relating to the medical treatment of endocrine and metabolic disorders and diabetes in children (18 years and under). It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care – these are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

The diagnosis-driven HRGs within this subchapter are differentiated by disorder type, with HRGs specific to endocrine disorders, metabolic disorders and diabetes split by with / without ketoacidosis or coma.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**11**	**11**
Total HRG Roots	**4**	**4**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	11	11
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Interactive CC splits are employed within all HRG roots within this subchapter – up to a maximum of 3 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC list for this subchapter, **PK_CC**.

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Subchapter PL – Paediatric Renal Disorders

Subchapter **PL Paediatric Renal Disorders** contains activity relating to the medical treatment of renal disorders in children (18 years and under). It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care. These are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

There are 3 HRG roots within this subchapter, 1 for nephrotic and nephritis renal disease, 1 for renal disease with renal failure, and the other for all other paediatric renal disorders.

Interactive CC splits are employed within all HRG roots within this subchapter – up to a maximum of 4 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**10**	**10**
Total HRG Roots	**3**	**3**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	10	10
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC list for this subchapter, **PL_CC**.

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Subchapter PM – Paediatric Haematological-Oncology Disorders

Subchapter **PM Paediatric Haematological-Oncology Disorders** contains activity relating to the medical treatment of cancer in children (18 years and under). It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care. These are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

The diagnosis-driven HRGs within this subchapter are differentiated by cancer type, with HRGs specific to cancers such as leukaemia and brain tumours.

There is logic employed so that all activity with a length of stay of zero days maps to **PM44Z Paediatric Neoplasm Diagnoses with length of stay 0 days**, irrespective of cancer type.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**14**	**14**
Total HRG Roots	**6**	**6**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	14	14
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	Yes	Yes

There is logic to ensure activity groups to HRG root **PM45 Febrile Neutropenia with Malignancy** where at least 1 diagnosis code from each of the lists **Cancer**, **PM_Infection** and **PM_Neutropenia** is recorded.

Interactive CC splits are employed within some of the HRG roots within this subchapter – up to a maximum of 4 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

As an exception, this subchapter has an additional CC list, **PM_PM45_CC** that is used exclusively to determine the CC score for HRG root **PM45 Febrile Neutropenia with Malignancy**. This list contains all diagnosis codes that are on list **PM_CC** with the exception of the cancer, infection or neutropenia diagnosis codes that are used to reach HRG root **PM45 Febrile Neutropenia with Malignancy** This is to ensure that the cancer, infection or neutropenia secondary diagnosis codes used to reach HRG root **PM45 Febrile Neutropenia with Malignancy** are not double counted when calculating the CC score.

In addition, there is a supporting list **PM45_Canc_Inf_Neut**, which contains all the cancer, infection and neutropenia diagnosis codes that, when combined, enable the generation of HRG root **PM45 Paediatric Febrile Neutropenia with Malignancy**. Each member of this list has a list value of 1, so all activity that maps to HRG this HRG root will have a minimum score of 3 from this list (as it includes the value for the primary diagnosis codes). However, some patients may suffer from multiple cancers or infections, and these patients will have a higher score from this list.

A combined score from both **PM_PM45_CC** and **PM45_Canc_Inf_Neut** lists is calculated, from which 3 is subtracted (the value of the 3 diagnosis codes used to reach the HRG root – to avoid double counting these in this score), which is used to determine the final CC score.

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- For example, a record with a value of 4 from list **PM45_Canc_Inf** plus a value of 2 from list **PM_PM45_CC** will generate a CC score of 3 (i.e., 6-3), resulting in **PM45B Paediatric Febrile Neutropenia with Malignancy, with CC Score 3-5** being generated.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC lists for this subchapter, **PM_CC** and **PM_PM45_CC**.

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Subchapter PN – Paediatric Non-Malignant Haematological Disorders

Subchapter **PN Paediatric Non-Malignant Haematological Disorders** contains activity relating to the medical treatment of non-malignant blood disorders in children (18 years and under). It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care. These are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

The diagnosis-driven HRGs within this subchapter are differentiated by disorder type, with HRGs specific to disorders such as thalassaemia and sickle-cell anaemia.

There is 1 HRG root, **PN46 Paediatric Thalassaemia**, which can be reached directly with a primary diagnosis of thalassaemia, or where a procedure code classifying a blood transfusion is the dominant procedure, with a primary diagnosis of thalassaemia.

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs*	**9**	**9**
Total HRG Roots	**4**	**4**
Procedure-driven HRGs	2	2
Diagnosis-driven HRGs	9	9
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

* Includes 2 hybrid HRGs that are driven by either procedure or diagnosis

Interactive CC splits are employed within all HRG roots within this subchapter – up to a maximum of 3 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC list for this subchapter, **PN_CC**.

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Subchapter PP – Paediatric Ophthalmic Disorders

Subchapter **PP Paediatric Ophthalmic Disorders** contains activity relating to the medical treatment of eye disorders in children (18 years and under). It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care. These are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

There is 1 diagnosis-driven HRG root within this subchapter for all paediatric eye disorders.

Interactive CC splits are employed within the 1 HRG root within this subchapter – to 2 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**2**	**2**
Total HRG Roots	**1**	**1**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	2	2
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC list for this subchapter, **PP_CC**.

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Subchapter PQ – Paediatric Immune System Disorders

Subchapter **PQ Paediatric Immune System Disorders** contains activity relating to the medical treatment of immune system disorders in children (18 years and under). It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care – these are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

There is 1 diagnosis-driven HRG root within this subchapter for all paediatric immune system disorders.

Interactive CC splits are employed within the 1 HRG root within this subchapter – to 2 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**2**	**2**
Total HRG Roots	**1**	**1**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	2	2
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC list for this subchapter, **PQ_CC**.

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Subchapter PR – Paediatric Nervous System Disorders

Subchapter **PR Paediatric Nervous System Disorders** contains activity relating to the medical treatment of nervous system disorders in children (18 years and under). It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care. These are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

The diagnosis-driven HRGs within this subchapter are differentiated by disorder type, with HRGs specific to disorders such as epilepsy, intracranial injury.

Interactive CC splits are employed within all HRG roots within this subchapter – up to a maximum of 5 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**22**	**22**
Total HRG Roots	**7**	**7**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	22	22
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC list for this subchapter, **PR_CC**.

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Subchapter PT – Paediatric Mental Health Disorders

Subchapter **PT Paediatric Mental Health Disorders** contains activity relating to the medical treatment of mental health disorders in children (18 years and under). It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care – these are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

Some paediatric activity for mental health conditions continues to map to Subchapter **WD Treatment of Mental Health Patients by Non-Mental Health Service Providers**.

There are 2 diagnosis-driven HRG roots within this subchapter, 1 for behavioural disorders and 1 for eating disorders.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**4**	**4**
Total HRG Roots	**2**	**2**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	4	4
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Interactive CC splits are employed within both of the HRG roots within this subchapter – to 2 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC list for this subchapter, **PT_CC**.

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Subchapter PV – Paediatric Trauma Medicine

Subchapter **PV Paediatric Trauma Medicine** contains activity relating to the medical treatment of injuries in children (18 years and under). It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care. These are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

The diagnosis-driven HRGs within this subchapter are differentiated based on the expected complexity of treatment for minor, intermediate and major injuries (excluding intracranial injuries).

Interactive CC splits are employed within all HRG roots within this subchapter – up to a maximum of 3 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**7**	**7**
Total HRG Roots	**3**	**3**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	7	7
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC list for this subchapter, **PV_CC**.

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Subchapter PW – Paediatric Infectious Diseases

Subchapter **PW Paediatric Infectious Diseases** contains activity relating to the medical treatment of infections in children (18 years and under). It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care. These are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

The diagnosis-driven HRGs within this subchapter are differentiated based on the expected complexity of the disorders into 3 levels - minor, intermediate and major. There is also an HRG root specific to fever.

Interactive CC splits are employed within all HRG roots within this subchapter – up to a maximum of 5 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**15**	**15**
Total HRG Roots	**4**	**4**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	15	15
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Differences from the HRG4+ 2021/22 Local Payment Grouper

Remapping of codes

Diagnosis codes in category B39.- Histoplasmosis have been remapped from HRG roots **PD14 Paediatric Lower Respiratory Tract Disorders without Acute Bronchiolitis** and **PE23 Paediatric Cardiac Condition** to **PW16 Paediatric Major Infections** for patients aged 18 years and under, to reflect that the treatment of this condition is more like the treatment of other infections than it is the treatment of lung or heart disease.

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC list for this subchapter, **PW_CC**.

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Subchapter PX – Paediatric Medicine

Subchapter **PX Paediatric Medicine** contains activity relating to the medical treatment in children (18 years and under) of condition that do not otherwise fit within the more specific paediatric subchapters. It includes activity undertaken in inpatient and day case settings.

This subchapter does not include neonatal critical care or paediatric critical care. These are covered in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**, respectively.

The diagnosis-driven HRGs within this subchapter are differentiated by body system for the congenital HRGs e.g., congenital spinal conditions, congenital renal disorders etc. There are also disorder or symptom specific HRGs such as those for chest pain, failure to thrive.

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**46**	**46**
Total HRG Roots	**19**	**19**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	46	46
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Interactive CC splits are employed within the majority of HRG roots within this subchapter – up to a maximum of 5 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis code ***R65.3 Systemic Inflammatory Response Syndrome of non-infectious origin with organ failure*** has been added to the CC list for this subchapter, **PX_CC**.

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Subchapter RD – Diagnostic Imaging Procedures

Subchapter **RD Diagnostic Imaging Procedures** covers diagnostic imaging for patients of all ages, undertaken in admitted or non-admitted care settings.

All but 2 of the HRGs in this subchapter are unbundled.

The unbundled diagnostic imaging HRGs are separated based on the modality of scan (MRI, CT, DEXA, ultrasound, contrast fluoroscopy and simple echocardiogram).

The standard CT and MRI HRGs are differentiated based on the number of body areas scanned, whether contrast is used, and for MRI whether patient required extensive repositioning as determined by subsidiary OPCS-4 codes recorded alongside the scan.

The ultrasound and contrast fluoroscopy HRGs are differentiated by duration of the scan and by whether the scan is mobile/intraoperative. In addition, the ultrasound scans are split based on whether contrast is used, as indicated by subsidiary OPCS-4 codes recorded alongside the scan.

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**49***	**49***
Total HRG Roots	**39**	**39**
Procedure-driven HRGs	49	49
Diagnosis-driven HRGs	0	0
Age Splits	Yes	Yes
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

* Includes 2 core HRG (**RD97Z, RD98Z**) that also utilise TFC

There are also HRGs specific to more specialised scans such as cardiac MRI (differentiated by type of contrast), colon CT, cardiac CT; and for scans such as vascular ultrasound, ultrasound elastography, dexa scans and simple echocardiography.

Diagnostic imaging HRG derivation aligns with the national coding standard for diagnostic imaging scans. Where multiple body areas are scanned using the same modality in the same visit to the radiology department, 1 unbundled HRG indicating that multiple body areas have been scanned is generated, rather than multiple separate HRGs indicating a scan of a single body area.

- For example, where a patient has an MRI scan of their chest, abdomen and pelvis (with post contrast) during the same trip to the radiology department, a single unbundled HRG for the MRI scan covering all 3 body areas is generated. This would be coded using the following OPCS-4 procedure codes and would generate the unbundled HRG **RD05Z Magnetic Resonance Imaging Scan of 2 or 3 Areas**:

  U21.1 Magnetic resonance imaging NEC +
  Y79.3 Radiology with post contrast +
  Y98.3 Radiology of 3 body areas **(or 20-40 minutes)** +
  Z92.4 Chest NEC
  Z92.6 Abdomen NEC
  O16.1 Pelvis NEC

Age splits are employed in several of the HRG roots for MRIs, CTs and simple echocardiograms: There are specific HRGs for adult activity (19 years and over) and others

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for paediatric activity (18 years and under). There are also HRGs specific to the treatment of young children (0 to 5 years of age) and those for the treatment of older children (6 to 18 years).

There are 2 “empty core” HRGs within this subchapter that are not unbundled: **RD97Z Same Day Diagnostic Imaging Admission or Attendance** and **RD98Z Admission or Attendance for Diagnostic Imaging under General Anaesthetic**.

- **RD97Z Same Day Diagnostic Imaging Admission or Attendance** is generated when a diagnostic imaging scan is recorded, the TFC is **812 Diagnostic Imaging Service**, no significant procedures are recorded (such that the core HRG which would otherwise be generated is diagnosis-driven, or an attendance HRG in outpatients), and the length of stay is zero days.
- **RD98Z Admission or Attendance for Diagnostic Imaging under General Anaesthetic** is generated where a diagnostic imaging or nuclear medicine scan is recorded, an additional OPCS-4 procedure code classifying GA is recorded; no significant procedures are recorded (such that the core HRG which would otherwise be generated is diagnosis-driven, or an attendance HRG in outpatients), and the TFC is **812 Diagnostic Imaging Service** or **371 Nuclear Medicine Service**.

Differences from the HRG4+ 2021/22 Local Payment Grouper

New HRGs have been created / Existing HRGs deleted

RD98Z Admission or Attendance for Diagnostic Imaging under General Anaesthetic has been created specifically to accommodate patients admitted for a diagnostic imaging or nuclear medicine scan under general anaesthetic.

RD28Z Complex Computerised Tomography Scan has been deleted and replaced with 2 new HRGs that split out cardiac CT from CT colonography to appropriately differentiate the expected resource usage between these types of complex CT scans:

RD60Z Cardiac Computerised Tomography Scan

RD61Z Colon Computerised Tomography Scan

Changes to logic

Logic has been added to allow the generation of **RD98Z Admission or Attendance for Diagnostic Imaging under General Anaesthetic**. This new HRG requires the following criteria to be met:

- a diagnostic imaging or nuclear medicine scan recorded using an appropriate OPCS-4 code, and
- a general anaesthetic OPCS-4 code is recorded, and
- no significant procedures are recorded, that the core HRG which would otherwise be generated is diagnosis-driven (or an attendance HRG in outpatients), and
- the treatment function code is TFC 812 Diagnostic Imaging or 371 Nuclear Medicine.

The logic to generate the “empty core” HRG has been amended to only be generated where length of stay is zero days. To reflect this change, the HRG label **RD97Z Same Day Diagnostic Imaging Admission or Attendance** has been amended.

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Remapping of codes

OPCS-4 code ***J50.1 T tube cholangiography*** has been remapped from **YG12Z Other Percutaneous Diagnostic, Hepatobiliary or Pancreatic Procedures** to base unbundled **HRG RD30Z Contrast Fluoroscopy Procedures with duration of less than 20 minutes** to reflect that this is a diagnostic imaging procedure rather than an imaging intervention.

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Subchapter RN – Nuclear Medicine Procedures

Subchapter **RN Nuclear Medicine Procedures** covers both diagnostic and therapeutic nuclear medicine procedures for patients of all ages, undertaken in admitted or non-admitted care settings.

All but one of the HRGs in this subchapter are unbundled.

The unbundled HRGs within this subchapter are separated based on the type of test performed e.g., PET-CT, nuclear bone scan, dopamine transporter scan, parathyroid scan etc.

There are also 3 unbundled HRGs specific to therapeutic nuclear medicine also known as molecular radiotherapy procedures.

The PET-CT and SPECT-CT HRGs are differentiated based on the number of body areas scanned, as determined by the subsidiary OPCS-4 code recorded alongside the scan.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**69***	**69***
Total HRG Roots	**38**	**38**
Procedure-driven HRGs	69	69
Diagnosis-driven HRGs	0	0
Age Splits	Yes	Yes
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

* Includes one core HRG (**RN97Z**) that also utilises TFC

Due to limitations in the current underlying OPCS-4 classification, for the majority of activity it is not yet possible to differentiate activity based on the type of radionuclide used. However, the available subsidiary OPCS-4 codes for radionuclides are used to create procedure combination codes that generate **RN10Z Octreotide Scan**, **RN11Z Dopamine Transporter Scan,** and the **RN12* Metaiodobenzylguanidine (MIBG) Scan** HRGs.

Age splits are employed in the majority of these nuclear medicine HRGs; there are specific HRGs for adult activity (19 years and over) and others for paediatric activity (18 years and under). There are also HRGs specific to the treatment of young children (0 to 5 years of age) and those for the treatment of older children (6 to 18 years).

There is 1 “empty core” HRG within this subchapter that is not unbundled: **RN97Z Same Day Nuclear Medicine Admission or Attendance**. This is generated when a nuclear medicine scan is recorded, the TFC is **812 Diagnostic Imaging Service** or **371 Nuclear Medicine Service,** no significant procedures are recorded (such that the core HRG which would otherwise be generated is diagnosis-driven, or an attendance HRG in outpatients), and the length of stay is zero days.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to logic

The logic to generate the “empty core” HRG in this subchapter has been amended to only be generated where length of stay is zero days. To reflect this change, the HRG label **RN97Z Same Day Nuclear Medicine Admission or Attendance** has been amended. In addition, the logic to generate this HRG has been updated to include TFC 371 Nuclear Medicine.

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Subchapter SA – Haematological Procedures and Disorders

Subchapter **SA Haematological Procedures and Disorders** covers haematological procedures for patients of all ages and haematological conditions in adults. It includes activity undertaken in inpatient, day case and non-admitted care settings.

Within this subchapter there are procedure-driven HRG roots specific to blood and bone marrow transplantation and harvest. In addition to HRGs specific to blood transfusion and diagnostic extraction of blood or marrow.

The bone marrow and peripheral blood stem cell transplant HRGs are differentiated on donor type as per the specific OPCS-4 procedure codes, or where subsidiary OPCS-4 codes identifying a related or volunteer-unrelated donor, are recorded.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. In this subchapter they are used to identify automated red blood cell exchange and harvest procedures.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs*	104	104
Total HRG Roots	41	41
Procedure-driven HRGs	33	33
Diagnosis-driven HRGs	72	72
Age Splits	Yes	Yes
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

* Includes one hybrid HRG that is driven by either procedure or diagnosis

With the exception of the transplant HRG, most HRGs within this subchapter employ maximum length of stay logic to ensure that minor procedures, such as a blood transfusion, are not used to determine the HRG for a long-stay medical patient, e.g., a child who has sickle-cell anaemia.

All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in Chapter **P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework. The adult diagnosis-driven HRGs within this subchapter are differentiated by disorder type, with HRGs specific to disorders such as aplastic anaemia, acute lymphoblastic leukaemia, myelodysplastic syndrome.

The **SA11Z Thalassaemia** HRG can be reached with a primary diagnosis of thalassaemia or where a procedure code classifying a blood transfusion is recorded as the dominant procedure alongside a primary diagnosis of thalassaemia.

Similarly, the child equivalent of the adult **SA11Z Thalassaemia** HRG**, PN46* Paediatric Thalassaemia**, can be reached directly with a primary diagnosis of thalassaemia, or where a procedure code classifying a blood transfusion is recorded as the dominant procedure alongside a primary diagnosis of thalassaemia.

Interactive CC splits are employed within the majority of HRG roots within this subchapter – up to a maximum of 6 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

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Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **SA_CC**.

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Subchapter SB – Chemotherapy

Subchapter **SB Chemotherapy** covers both the procurement and delivery of chemotherapy regimens for patients of all ages. All but 1 of the HRGs in this subchapter are unbundled. This subchapter includes activity undertaken in inpatient, day case and non-admitted care settings.

There are chemotherapy procurement and chemotherapy delivery HRGs within this subchapter.

The chemotherapy procurement HRGs are separated according to high cost drug band, with band 1 having the lowest expected cost (£0 to £200) and band 10 having the highest expected cost (£1,801 upwards).

These bands are derived from a national list owned by NHS England and Improvement. In addition, there is a catch-all HRG for the procurement of drugs not on the list.

There are HRGs specific to chemotherapy delivery, distinguished by method of delivery, e.g., oral, intravenous infusion etc.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**18***	**18***
Total HRG Roots	**18**	**18**
Procedure-driven HRGs	18	18
Diagnosis-driven HRGs	1	1
Age Splits	No	No
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

* Includes one core HRG (**SB97Z**) that is driven by both diagnosis and procedure logic for admitted patient care and by procedure only for non-admitted patients

The chemotherapy procurement HRGs are generated per cycle, while the delivery HRGs are generated per session, based on the OPCS-4 codes recorded.

SB97Z Same Day Chemotherapy Admission or Attendance is an “empty core” HRG which ensures that the total resource usage of a patient undergoing same day chemotherapy is associated with the unbundled HRG derived, rather than with the core HRG. This HRG can be derived in 2 ways, requiring either:

- a delivery or procurement of chemotherapy OPCS-4 code, a length of stay of zero days, and no other significant procedure.
- a secondary diagnosis code of ***Z51.1 Chemotherapy session***, a length of stay of zero days, and no other significant procedure.

However, as ICD-10 codes are not yet mandated for use in the non-admitted care setting, only OPCS-4 codes can be used to derive **SB97Z Same Day Chemotherapy Admission or Attendance** in an outpatient setting.

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Subchapter SB: Worked Examples: Regimens and Treatments

Case 1: Inpatient Treatment

A soft tissue sarcoma patient receives Doxorubicin and Ifosfamide chemotherapy as an inpatient. This consists of doxorubicin treatment on day one, followed by 24 hours of Ifosfamide and Mesna continuous infusion. This is repeated every 21 days.

Coding

Primary Diagnosis Code: ***C49.9 Malignant neoplasm of connective and soft tissue, unspecified***

OPCS-4 Code: ***X70.4 Procurement of drugs for chemotherapy for neoplasm for regimens in Band 4***

HRG Output

Core HRG: **HD40* Malignancy, of Bone or Connective Tissue**

Unbundled HRG(s): **SB04Z Procure Chemotherapy drugs for regimens in Band 4**

Case 2: Day Case

A lymphoma patient is receiving ABVD chemotherapy. This consists of 4 drugs and is given every 14 days.

Coding

Primary Diagnosis Code: ***C81.9 Hodgkin lymphoma, unspecified***

Cycle 1:

OPCS-4 Codes: ***X70.2 Procurement of drugs for chemotherapy for neoplasm for regimens in Band 2*** + ***X72.2 Delivery of complex parenteral chemotherapy for neoplasm at first attendance***

Repeat for attendance of each new cycle every 14 days

HRG Output

Core HRG: **SB97Z Same day Chemotherapy admission or attendance**

Unbundled HRG(s): **SB02Z Procure Chemotherapy drugs for regimens in Band 2** +

SB13Z Deliver more Complex Parenteral Chemotherapy at First Attendance

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Case 3: Ambulatory Patient

A breast cancer patient is receiving Trastuzumab 7 loading dose followed by Trastuzumab 7 maintenance dose on a weekly basis. This is repeated every 7 days.

Coding

Cycle 1: Trastuzumab 7 loading dose (1 attendance)

OPCS-4 Codes***: X70.5 Procurement of drugs for chemotherapy for neoplasm for regimens in Band 5*** + ***X72.3 Delivery of simple parenteral chemotherapy for neoplasm at first attendance***

Cycle 2: Trastuzumab 7 maintenance dose (1 attendance)

OPCS-4 Codes: ***X70.3 Procurement of drugs for chemotherapy for neoplasm for regimens in Band 3*** + ***X72.3 Delivery of simple parenteral chemotherapy for neoplasm at first attendance***

Do not use ***X72.4 Delivery of subsequent element of cycle of chemotherapy for neoplasm*** *because the cycle length is 7 days. These are classed as different cycles because they are different regimens.*

HRG Output

HRG output is based on different cycles. For the first attendance of cycle 1, the grouper will output a procurement HRG and a delivery HRG. For the first attendance of cycle 2, the grouper will again output both a procurement HRG and a delivery HRG.

First attendance of cycle 1:

Core HRG: **SB97Z Same day Chemotherapy admission or attendance**

Unbundled HRG(s): **SB05Z Procure Chemotherapy drugs for regimens in Band 5** +

SB12Z Deliver Simple Parenteral Chemotherapy at First Attendance

First attendance of cycle 2:

Core HRG: **SB97Z Same day Chemotherapy admission/attendance**

Unbundled HRG(s): **SB03Z Procure Chemotherapy drugs for regimens in Band 3** +

SB12Z Deliver Simple Parenteral Chemotherapy at First Attendance

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Case 4: A regimen with inpatient and outpatient components

An inpatient receives BEP 5-day chemotherapy for a testicular solid tumour. The chemotherapy consists of 3 different drugs given over 3 inpatient days and the 2 consecutive outpatient treatments at 7-day intervals. The whole cycle is repeated every 21 days.

Coding

Primary Diagnosis Code: ***C62.9 Malignant neoplasm of testis, unspecified***

Cycle 1: Day 1 (Inpatient episode)

OPCS-4 Code: ***X70.3 Procurement of drugs for chemotherapy for neoplasm for regimens Band 3***

HRG Output

Core HRG: **LB35* Scrotum, Testis or Vas Deferens Disorders**

Unbundled HRG: **SB03Z Procure Chemotherapy drugs for regimens in Band 3**

Day 8 (first outpatient attendance)

OPCS-4 Code: ***X72.4 Delivery of subsequent element of cycle of chemotherapy for neoplasm.***

HRG Output

Core HRG: **SB97Z Same day Chemotherapy admission or attendance**

Unbundled HRG: **SB15Z Deliver subsequent elements of a Chemotherapy cycle**

Day 15 (second outpatient attendance)

OPCS-4 Code: ***X72.4 Delivery of subsequent element of cycle of chemotherapy for neoplasm***

HRG Output

Core HRG: **SB97Z Same day Chemotherapy admission or attendance**

Unbundled HRG: **SB15Z Deliver subsequent elements of a Chemotherapy cycle**

Cycle 2

Day 21 (Inpatient episode)

OPCS-4 Code: ***X70.3 Procurement of drugs for chemotherapy for neoplasm for regimens Band 3***

HRG Output

Core HRG: **LB35* Scrotum, Testis or Vas Deferens Disorders**

Unbundled HRG: **SB03Z Procure Chemotherapy drugs for regimens in Band 3**

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Case 5: Outpatient treatment with a subsequent element

A lung cancer patient is receiving Carboplatin + Vinorelbine chemotherapy as an outpatient. This consists of one day of treatment with Vinorelbine and carboplatin both IV. This is followed 7 days later by Vinorelbine therapy oral. The cycle is repeated every 21 days.

Coding

Day 1 (first outpatient attendance)

OPCS-4 Codes: ***X70.3 Procurement of drugs for chemotherapy for neoplasms for regimens in Band 3*** + ***X72.3 Delivery of simple parenteral chemotherapy for neoplasm at first attendance***

HRG Output

Core HRG: **SB97Z Same day Chemotherapy admission or attendance**

Unbundled HRGs: **SB03Z Procure Chemotherapy drugs for regimens in Band 4** + **SB12Z Deliver Simple Parenteral Chemotherapy at First Attendance**

Day 8 (second outpatient attendance)

OPCS-4 Code: ***X72.4 Delivery of subsequent element of cycle of chemotherapy for neoplasm***

HRG Output

Core HRG: **SB97Z Same day Chemotherapy admission or attendance**

Unbundled HRG: **SB15Z Deliver subsequent elements of a Chemotherapy cycle**

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to logic

Logic has been added to the “empty core” **SB97Z Same Day Chemotherapy Admission or Attendance** so that it is also reached where there is no unbundled chemotherapy procedure but a secondary diagnosis code of ***Z51.1 Chemotherapy session*** is recorded. As this diagnosis code is only to be used when a patient is solely admitted for this treatment, it is used as an indicator that the patient has had chemotherapy that has not been coded using OPCS-4 codes.

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Subchapter SC – Radiotherapy

Subchapter **SC Radiotherapy** covers both the preparation and delivery of radiotherapy for patients of all ages. This subchapter includes activity undertaken in inpatient, day case and non-admitted care settings.

All but 1 of the radiotherapy HRGs in this subchapter are unbundled.

Within this subchapter the HRGs are separated into HRGs for the pre-treatment (planning) processes and HRG for radiotherapy delivery

The planning HRGs are intended to cover all attendances required for completion of the planning process. It is not intended that individual attendances for parts of this process will be recorded separately.

The planning HRGs do not include the consultation at which the patient consents to radiotherapy, nor do they cover any outpatient attendance for medical review required by any change in the status of the patient.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**30***	**30***
Total HRG Roots	**30**	**30**
Procedure-driven HRGs	30	30
Diagnosis-driven HRGs	1	1
Age Splits	No	No
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

* Includes 1 core HRG (**SC97Z**) that is driven by both diagnosis and procedure logic for admitted patient care, and by procedure only for non-admitted patients

The radiotherapy delivery HRGs are differentiated based on type of external beam and brachytherapy.

- The external beam radiotherapy HRGs have logic which relies on the coding of a subsidiary OPCS-4 code to indicate delivery of a simple or complex fraction, using a megavoltage or orthovoltage machine, and whether technical support was used.

In addition, there are specific radiotherapy HRGs that are generated when a subsidiary OPCS-4 code is recorded indicating the radiotherapy treatment was performed under general anaesthetic.

HRG **SC97Z Same Day External Beam Radiotherapy Admission or Attendance excluding Brachytherapy)** is an “empty core” HRG which ensures that the total resource usage of a patient undergoing same day radiotherapy is associated with the unbundled HRG derived rather than with the core HRG. This HRG can be derived in 2 ways, it requires either:

- a delivery of external beam radiotherapy OPCS-4 code, a length of stay of 0 days, and a lack of any other significant procedure code.
- a secondary diagnosis code of ***Z51.0 Radiotherapy session****,* a length of stay of zero days, and a lack of any other significant procedure code.

However, as ICD-10 diagnosis codes are not mandated for use in the non-admitted care setting, only OPCS-4 codes can be used to derive **SC97Z Same Day External Beam Radiotherapy Admission or Attendance excluding Brachytherapy)** in an outpatient setting.

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Subchapter SC: Outpatient Example

Cases A to **E** illustrate the 5-fraction course of Total body irradiation (TBI) of a patient diagnosed as having Hodgkin's lymphoma prior to a bone marrow transplant. The TBI is planned, and the first treatment is given immediately afterwards (same attendance):

Case	Attendance	Dominant Procedure (OPCS-4)		Other Procedures (OPCS-4)		HRG4+	
A	1st attendance	X67.2	Preparation for total body irradiation	X65.1	Delivery of a fraction of total body irradiation (TBI)	*SC97Z* + SC42Z + SC25Z	*Same Day External Beam Radiotherapy Admission or Attendance* + Preparation for Total Body Irradiation + Deliver a fraction of Total Body irradiation
B	2nd attendance	X65.1	Delivery of a fraction of total body irradiation (TBI)			*SC97Z* + SC25Z	*Same Day External Beam Radiotherapy Admission or Attendance* + Deliver a fraction of Total Body irradiation
C	3rd attendance	X65.1	Delivery of a fraction of total body irradiation (TBI)			*SC97Z* + SC25Z	*Same Day External Beam Radiotherapy Admission or Attendance* + Deliver a fraction of Total Body irradiation
D	4th attendance	X65.1	Delivery of a fraction of total body irradiation (TBI)			*SC97Z* + SC25Z	*Same Day External Beam Radiotherapy Admission or Attendance* + Deliver a fraction of Total Body irradiation
E	5th attendance	X65.1	Delivery of a fraction of total body irradiation (TBI)			*SC97Z* + SC25Z	*Same Day External Beam Radiotherapy Admission or Attendance* + Deliver a fraction of Total Body irradiation

Subchapter SC: Inpatient Example

Case F highlights a patient who is diagnosed with malignant neoplasm of breast and undergoes total mastectomy, followed by radiotherapy treatment delivered as part of the inpatient episode:

Case	Age	Length of Stay (days)	Primary Diagnosis (ICD-10)		Dominant Procedure (OPCS-4)		Other Procedures (OPCS-4)		HRG4+	
F	32	2	C50.9	Malignant neoplasm of breast, unspecified	B27.4	Total mastectomy	X67.4 + X65.8 + Y91.2	Volume definition for simple radiotherapy with imaging and dosimetry + Other specified radiotherapy delivery + Delivery of a fraction of simple radiotherapy on a megavoltage machine	*JA20F* + SC45Z + SC22Z	*Unilateral Major Breast Procedures with CC Score 0-2* + Preparation for simple radiotherapy with imaging and dosimetry + Deliver a fraction of treatment on a megavoltage machine

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Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to logic

Logic has been added to the “empty core” **SC97Z Same Day Radiotherapy Admission or Attendance (excluding Brachytherapy)** so that it is reached where there is no unbundled radiotherapy procedure but a secondary diagnosis code of ***Z51.0 Radiotherapy session*** is recorded. As this diagnosis code is only to be used when a patient is solely admitted for this treatment, it is used as an indicator that the patient has had radiotherapy that has not been coded using OPCS-4 codes.

Redundant logic using flag **SC_OtherExtBeam** has been removed from OPCS-4 code ***X65.4 Delivery of a fraction of external beam radiotherapy NEC*** as this generated the same unbundled HRG.

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Subchapter SD – Specialist Palliative Care

Subchapter **SD Specialist Palliative Care** relates to care in which the clinical intent or treatment goal is primarily to improve the quality of life of a patient with an active, progressive disease with little or no prospect of cure. This subchapter covers both adult and paediatric activity.

All of the HRGs in this subchapter are unbundled HRGs.

Specialist palliative care (SPC) is usually evidenced by an interdisciplinary assessment and/or management of the physical, psychological, emotional and spiritual needs of the patient, and a grief and bereavement support service for the patient and their carers/family.

SPC includes care provided under the principal clinical management of a SPC medicine consultant, either in a palliative care unit or in a designated palliative care programme. It can be delivered by NHS, voluntary sector, and other accredited providers.

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**10**	**10**
Total HRG Roots	**5**	**5**
Procedure-driven HRGs	N/A	N/A
Diagnosis-driven HRGs	N/A	N/A
Age Splits	Yes	Yes
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	Yes	Yes

The main driver for these HRGs is a combination of Main Specialty Code and Treatment Function Code.

Diagnoses are used in the subchapter-specific grouping logic, in conjunction with an SPC length of stay (day(s)) and age, when determining the HRG. See the table below for details.

Subchapter SD comprises:

- Specialist support services delivered to inpatients
- Outpatients, day therapy assessments and interventions for inpatients and day cases

The services provided by palliative care specialists include the following:

- Clinical consultancy/care
- Personal care
- Spiritual/emotional support/counselling
- Home care/support
- Education
- Case management/care coordination

When an inpatient is not admitted under the care of a specialist palliative medicine consultant but is receiving support from a member of a SPC Team, this is classed as SPC support.

The following specialist palliative care is not intended to be within the scope of HRG4+:

- General palliative care
- Community specialist palliative care
- Bereavement care as a separate HRG
- Patients admitted for holiday relief/respite

The SPC HRGs require 1 or a combination of the following: an MSC or TFC of **315 Palliative Medicine Service**; a diagnosis code of ***Z51.5 Palliative Care***.

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SD01A/B Inpatient Specialist Palliative Care (not Same Day) SPC HRGs are generated on a per diem basis for the entire SPC consultant episode. The Grouper generates these in addition to the core HRG, based on the number of SPC days recorded in the CDS field. These are identified by the use of a “star multiplier” in the Grouper outputs, to indicate the number of days that inpatient care was provided.

SD02A/B Inpatient Specialist Palliative Care, Same Day a single SPC HRG is generated. The Grouper generates this in addition to the core HRG, when the number of SPC days recorded in the CDS field is zero. This will always be identified in the Grouper outputs with a “star multiplier” of 1. This HRG cannot be generated when the patient has died (identified as DISMETH = 4)

SD03A/B Hospital Specialist Palliative Care Support is NOT generated per diem, irrespective of the number of SPC days recorded in the CDS field.

SD04A/B & SD05A/B Hospital Specialist Palliative Care are generated for non-admitted attendances. The Grouper allocates an appropriate SPC HRG, in addition to the core HRG. This will always be identified in the Grouper outputs with a “star multiplier” of 1

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Subchapter SD: Specialised Palliative Care HRGs Explained by Setting

Inpatient SPC HRGs:

HRG	Label	Definition	Notes
SD01A	Inpatient Specialist Palliative Care, 19 years and over	Age = 19 years and over **AND** Main Specialty Code = **315 Palliative Medicine** **AND** Treatment Function Code = **315 Palliative Medicine Service** **AND** SPC DAYS > 0 **OR** Discharge Method = 4 (Patient Died) **AND** Secondary Diagnosis (ICD-10) = ***Z51.5 Palliative Care*** **AND NOT** Primary Diagnosis (ICD-10) = ***Z75.5 Holiday Relief Care***	Adult inpatients under the care of a specialist palliative medicine consultant, excluding patients discharged on the day of admission (unless they die on the day of admission), excluding patients admitted for respite care [Note: Requires SPC days CDS field to be populated to indicate duration of specialist palliative care and produce multiple unbundled HRGs accordingly]
SD01B	Inpatient Specialist Palliative Care, 18 years and under	As above with: Age = 18 years and under	Paediatric inpatients under the care of a specialist palliative medicine consultant, excluding patients discharged on the day of admission (unless they die on the day of admission), excluding patients admitted for respite care [Note: Requires SPC days CDS field to be populated to indicate duration of specialist palliative care and produce multiple unbundled HRGs accordingly]
SD02A	Inpatient Specialist Palliative Care, Same Day, 19 years and over	Age = 19 years and over **AND** Main Specialty Code = **315 Palliative Medicine** **AND** Treatment Function Code = **315 Palliative Medicine Service** **AND** SPC DAYS = 0 **AND** Discharge Method ≠ 4 (Patient did not die) **AND** Secondary Diagnosis (ICD-10) = ***Z51.5 Palliative care*** **AND NOT** Primary Diagnosis (ICD-10) = ***Z75.5 Holiday relief care***	[Note: a maximum of 1 SPC unbundled HRG will be generated, in addition to the core HRG, irrespective of SPC days recorded in the CDS]
SD02B	Inpatient Specialist Palliative Care, Same Day, 18 years and under	As above with: Age = 18 years and under	[Note: a maximum of 1 SPC unbundled HRG will be generated, in addition to the core HRG, irrespective of SPC days recorded in the CDS]

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HRG	Label	Definition	Notes
SD03A	Hospital Specialist Palliative Care Support, 19 years and over	Age = 19 years and over **AND** Secondary Diagnosis (ICD-10) = ***Z51.5 Palliative care*** **AND NOT** Main Specialty Code = **315 Palliative Medicine**	Adult inpatients not under the care of a specialist palliative medicine consultant but receiving input from a specialist palliative care specialist support service [Note: SPC days should not be recorded in the CDS]
SD03B	Hospital Specialist Palliative Care Support, 18 years and under	As above with: Age = 18 years and under	Paediatric inpatients not under the care of a specialist palliative medicine consultant but receiving input from a specialist palliative care specialist support service [Note: SPC days should not be recorded in the CDS]

Outpatient, Day Therapy Assessment, and Intervention HRGs

HRG	Label	Definition
SD04A	Medical Specialist Palliative Care Attendance, 19 years and over	Age = 19 years and over **AND** Main Specialty Code = **315 Palliative Medicine** **AND** Treatment Function Code = **315 Palliative Medicine Service**
SD04B	Medical Specialist Palliative Care Attendance, 18 years and under	As above with: Age = 18 years and under
SD05A	Non-Medical Specialist Palliative Care Attendance, 19 years and over	Age = 19 years and over **AND** Main Specialty Code = **950 Nursing Episode OR 960 Allied Health Profession Episode** **AND** Treatment Function Code = **315 Palliative Medicine Service**
SD05B	Non-Medical Specialist Palliative Care Attendance, 18 years and under	As above with: Age = 18 years and under

The Outpatient Commissioning Data Set can record contacts by medical, nursing, and allied health professionals (AHPs), including physiotherapists, speech and language therapists, occupational therapists, podiatrists, dietitians, and clinical psychologists. Chaplains and social workers may also record contacts as AHPs.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

A change has been made in the HRG4+ 2022/23 Local Payment Grouper when compared to the HRG4+ 2021/22 Local Payment Grouper. The “not died” reference list used in the Special Palliative Care unbundled HRG design has been updated to remove code 5 – Stillborn logic.

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Subchapter UZ – Undefined Groups

Subchapter **UZ Undefined Groups** covers the instance where a patient record is not valid for grouping to HRGs in other subchapters.

There is only one HRG in this subchapter, **UZ01Z Data Invalid for Grouping**.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	1	1
Total HRG Roots	1	1
Procedure-driven HRGs	N/A	N/A
Diagnosis-driven HRGs	N/A	N/A

This subchapter is intended to help an organisation identify invalid data and take action, for example, to understand whether clinical coding errors are due to a lack of information specificity or the unavailability of information at the time of coding.

This subchapter is comprised of 11 underlying U Error categories that lead to the assignment of **UZ01Z Data Invalid for Grouping**. These are as follows:

- **UZ01 Invalid Primary Diagnosis:**
  - The primary diagnosis code is blank
  - The primary diagnosis code is not valid or cannot be used in the primary position
- **UZ02 Poorly Coded Primary Diagnosis:**
  - The diagnosis code exists and is valid as a primary diagnosis, but it is so unspecific that the resource use cannot be defined
- **UZ03 Age Conflicting with Diagnosis**
- **UZ04 Diagnosis conflicting with anatomical sites:**
  - The diagnosis code reflecting an anatomical site code, specified at the fifth character level, conflicts with the diagnosis in the record
- **UZ05 Invalid procedure for Casemix grouping purposes**
- **UZ06 Poorly coded procedure for Casemix grouping purposes**
- **UZ11 Neonatal Critical Care Error**
- **UZ13 Adult Critical Care Error**
- **UZ14 Renal (NRD) Error**
- **UZ15 Burns Error**
  - Burns primary diagnosis code of unspecified body region or with no subsequent total body surface area (TBSA) code
- **UZ21 CCAC Inappropriate for NCC**

Note that **UZ99 Indicator flag for Specialist Palliative Care** is not an error category but an indicator flag that stops certain criteria from being processed for Specialist Palliative Care activity. It does not generate **UZ01Z Data Invalid for Grouping** in and of itself.

The HRG4+ grouping software ensures that the data are complete, valid and within expected value ranges. The software applies the following 3 stages of validation to the data during a processing run:

- Field content within record
- Cross validation of episodes within spell
- Grouping logic (assignment of flag values)

Where the Grouper cannot assign a valid HRG, **UZ01Z Data invalid for grouping** is returned in the output record, signifying that the record is unclassified.

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Where there are errors in the input data, these will be reported in the data quality report, as part of the Grouper output files, but processing will not be halted. There can be more than 1 reason for non-assignment of an HRG, so there may be more than 1 data quality message for each data row, all of which need to be reviewed to identify the underlying problem(s).

UZ01 Invalid Primary Diagnosis
This error indicates that there is an error with the primary diagnosis code.

UZ02 Poorly Coded Primary Diagnosis
This error is generated where a diagnosis code exists and is valid as a primary diagnosis, but is too vague to determine resource use.

UZ03 Diagnosis Conflicts with Age
This error indicates that a paediatric diagnosis has been recorded for an adult patient (age 19 years and over).

UZ04 Diagnosis Conflicts with Anatomical Site
This error indicates that an invalid ICD-10 code indicating an incorrect anatomical site. This only applies to specific musculoskeletal codes entered at the fifth character level.

UZ05 Invalid procedure for Casemix grouping purposes
This error is reported where the OPCS-4 procedure code with the highest procedure hierarchy in the record is a valid procedure code but is not valid for grouping, for example, where the code represents a “conversion from” code in orthopaedic surgery.

UZ06 Poorly coded procedure for Casemix grouping purposes
This error indicates that a procedure code is valid as a dominant procedure but is insufficiently specific to determine the resource use from an HRG design perspective, for example, OPCS-4 code ***X45.9 Unspecified donation of organ***.

UZ11 Neonatal Critical Care Error
This is a general error for neonatal critical care and is generated when conditions in the grouping algorithm have not been met.

UZ13 ACC Grouping Error
This is a general error for adult critical care and is generated when conditions in the grouping algorithm have not been met.

UZ14 Renal (NRD) Error
This is a general error for grouping renal activity using the national renal data set and is generated when conditions in the grouping algorithm have not been met.

UZ15 Burns Error
This error is produced when a primary diagnosis code for burn of unspecified body region or total body surface area (TBSA) is recorded, or when a diagnosis code of burn is recorded in any position with no subsequent TBSA code present. Failure to record TBSA means that the resource use cannot be determined to generate the appropriate burns HRG.

UZ21 CCAC Inappropriate in NCC
Certain critical care activity codes (CCAC) are not valid for neonatal critical care (NCC) grouping or are valid only when used in combination with other codes. UZ21 is generated when the CCAC or combination of codes in the input record is not appropriate for the derivation of an NCC HRG.

UZ99 Indicator flag for Specialist Palliative Care
This indicator flag ensures Specialist Palliative Care unbundled HRGs cannot be generated when certain conditions are met, for example, it enables holiday relief care to be excluded from Specialist Palliative Care grouping.

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Further information regarding the underlying U categories can be found in the Group to Split worksheet within the Code to Group Excel workbook.

Field Validation Errors

All clinical codes are validated against the Grouper's internal database of codes. Clinical codes in the patient record that are not on this list will result in the generation of **UZ01Z Data Invalid for Grouping**.

- ICD-10 diagnosis codes that are not on the list are classified as invalid. These will not result in a specific error message but will be output in the Data Quality report as follows:

  ICD|XXXX|Diagnosis Code is invalid in DIAG_XX

- OPCS-4 procedure codes that are not on the list are classified as invalid. These will not result in a specific error message but will be output in the Data Quality report as follows:

  OPCS|XXXX|Procedure Code is invalid in OPER_XX

Differences from the HRG4+ 2021/22 Local Payment Grouper

Remapping of codes

Previously, several diagnosis codes for congenital disorders would generate error code UZ03 Age Conflicting with Diagnosis when recorded as the primary diagnosis for adult activity. These diagnosis codes have been remapped to appropriate HRGs to reflect the fact that, although it would be extremely rare for a patient to survive to adulthood with one of these conditions, there are no coding rules preventing the use of congenital diagnosis codes for adults.

- ***Q39.0 Atresia of oesophagus without fistula***, ***Q39.1 Atresia of oesophagus with tracheo-oesophageal fistula*** and ***Q41.0 Congenital absence, atresia and stenosis of duodenum*** previously U grouped where the patient was 19 years or over but have been remapped to base HRG root **FD10 Non-Malignant Gastrointestinal Tract Disorders**.
- ***Q60.1 Renal agenesis, bilateral*** and ***Q60.6 Potter syndrome*** previously U grouped where the patient was 19 years or over but have been remapped to base HRG root **LA09 General Renal Disorders**.
- ***Q86.0 Fetal alcohol syndrome (dysmorphic)***, ***Q86.1 Fetal hydantoin syndrome***, ***Q86.2 Dysmorphism due to warfarin***, ***Q86.8 Other congenital malformation syndromes due to known exogenous causes*** and ***Q89.4 Conjoined twins*** previously U grouped where the patient was 19 years or over but have been remapped to base HRG root **WH15 Special Screening, Examinations or Other Genetic Disorders**.

Diagnosis codes within ICD-10 chapter block P00-P04 Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery continue to generate UZ01Z Data Invalid for Grouping but have been remapped to U Error category UZ01 Invalid Primary Diagnosis, from U Error category UZ03 Age Conflicting with Diagnosis. This reflects the fact that these codes do not conflict with age; rather they are not allowed to be used in as a primary diagnosis for patients who are not stillborn.

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Subchapter VA – Multiple Trauma

Subchapter **VA Multiple Trauma** covers treatments associated with multiple trauma cases for patients of all ages. In the HRG4+ design, multiple trauma is determined by the presence of significant simultaneous traumatic injuries involving more than 1 body area.

Traumatic single injuries are addressed elsewhere within the relevant body system subchapters.

This subchapter includes activity undertaken in inpatient and day case settings.

Following validation and unbundling, multiple trauma grouping takes precedence over any other grouping logic that might otherwise be applied across the episode or spell. The multiple trauma logic is made up of the following elements:

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**24***	**24***
Total HRG Roots	**6**	**6**
Procedure-driven HRGs	20	20
Diagnosis-driven HRGs	24	24
Age Splits	No	No
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

* Includes 20 hybrid HRGs, which are diagnosis driven but also need a procedure to be generated

- For single episode spells, where the episode HRG is multiple trauma, the HRG of the spell will be the same multiple trauma HRG
- A multiple trauma spell HRG will be generated where the HRG of the first episode of a multi-episode spell is multiple trauma. The multiple trauma HRG of the first episode, that of any later episode(s) and that of the spell may be different because of the additive nature of the logic employed
- For multi-episode spells where the first episode is not multiple trauma, but a later episode is multiple trauma, the spell HRG will not be multiple trauma.

To be derived, all multiple trauma HRGs require at least 2 trauma (injury) ICD-10 diagnosis codes (1 must be the primary diagnosis code), with each relating to a different body site. These injuries should be coded in accordance with ICD-10 *Chapter XIX, Injury, poisoning and certain other consequences of external causes (S00 – T98)*. The trauma injury diagnoses are separated into 9 categories based on body site, which have their own lists used in the derivation of the multiple trauma HRGs:

- Abdominal trauma diagnoses – on list **VA_Ab**
- Chest trauma diagnoses – on list **VA_Chest**
- Head trauma diagnoses – on list **VA_Head**
- Kidney trauma diagnoses – on list **VA_Kid**
- Lower limb trauma diagnoses – on list **VA_Lower**
- Other trauma diagnoses, such as blood loss and shock – on list **VA_Other**
- Pelvis or spine trauma diagnoses – on list **VA_Pel_Sp**
- Upper limb trauma diagnoses – on list **VA_Upper**
- Urinary trauma diagnoses – on list **VA_Urinary**

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The table of non-superficial trauma injuries relating to these specific body sites can be found in the **VA_ *** lists in the Other Lists tab of the Code to Group Excel workbook. The complementary lists to these specific body sites can be found in the **Comp_VA_ *** lists on th same tab.

- For example, the **VA_Ab** list contains all non-superficial trauma injuries relating to the abdomen. These non-superficial trauma injury codes relating to the abdomen are also necessarily present on all other complementary lists, with the exception of list **Comp_VA_Ab**, in order not to double count non-superficial injuries to the same body site..

This subchapter employs grid logic that takes into account multiple procedures as well as multiple diagnoses to ensure the complexity involved in both the medical and surgical treatment of patients that have multiple traumatic injuries is accurately reflected in the HRG design.

Relevant codes (both OPCS-4 procedure codes and procedure combination codes) and ICD-10 diagnosis codes can be found on lists **MT_OPCS_Value** and **MT_ICD_Value**, on the 'Other Lists' tab of the Code to Group Excel workbook. The members of each list have an assigned value ranging from 5-13 (OPCS) and 3-7 (ICD).

To determine which multiple trauma HRG is derived, the score of all relevant procedure codes and all relevant ICD-10 diagnosis codes recorded are summed, to determine a procedure score and a diagnosis score, respectively. This pair of scores determines which HRG is derived.

The following grid provides the scoring levels used and which HRG would be produced from a given pair of scores.

Multiple Trauma HRG Derivation Grid:

Procedure score => Diagnosis score	0	1–8	9–8	19–29	30–44	>=45
<=23	VA10A	VA11A	VA12A	VA13A	VA14A	VA15A
24–32	VA10B	VA11B	VA12B	VA13B	VA14B	VA15B
33–50	VA10C	VA11C	VA12C	VA13C	VA14C	VA15C
>=51	VA10D	VA11D	VA12D	VA13D	VA14D	VA15D

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to HRG labels

The label of HRG root **VA10 Multiple Trauma with Intervention Score 0** and that of its associated HRGs have been updated to reflect that within these HRGs there may be interventions recorded, but not from the multiple trauma procedure list. The HRG labels are now as follows:

VA10A Multiple Trauma with Diagnosis Score <=23, with Intervention Score 0
VA10B Multiple Trauma with Diagnosis Score 24-32, with Intervention Score 0
VA10C Multiple Trauma with Diagnosis Score 33-50, with Intervention Score 0
VA10D Multiple Trauma with Diagnosis Score >=51, with Intervention Score 0

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Changes to logic

A review of multiple trauma logic has been undertaken alongside the global review of procedure and diagnosis hierarchies. This has resulted in the following changes:

- The removal of several non-specific and/or superficial injury diagnosis codes from Core4 multiple trauma logic and lists (i.e., they will no longer drive grouping to a multiple trauma HRG or contribute to the multiple trauma diagnosis score), e.g., ***T11.0 Superficial injury of upper limb, level unspecified***
- The removal of several procedures from Core4 multiple trauma logic and/or lists (i.e., they will no longer contribute to multiple trauma procedure scores) that would not be undertaken for the care of multiple trauma patients, e.g., ***A73.5 Injection of therapeutic substance around peripheral nerve***
- The list values for codes on multiple trauma lists **MT_OPCS_Value** and **MT_ICD_Value** have been amended to be scaled based on the revised procedure and diagnosis hierarchies, respectively, to more appropriately reflect expected resource use, while retaining the multiple trauma value and score ranges
- Non-body-site-specific OPCS-4 procedure codes now require a site qualifier to be recognised when determining multiple trauma procedure scoring. For example, OPCS-4 code ***O17.6 Remanipulation of fracture of bone and fixation using plate*** is only present on list **MT_OPCS_Value** when used to form an orthopaedic site-specific combination code, e.g., ***O176+HIP Remanipulation of fracture of bone and fixation of hip using plate***. This change is intended to improve the recording of OPCS-4 site codes
- Certain new procedure combination codes created as a result of changes made to other subchapters have been added into the multiple trauma design. This is generally the case where the driving procedure was already part of the multiple trauma design
- Removal of 1 combination code from the **MT_OPCS** List

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Subchapter VB – Emergency Medicine

Subchapter **VB Emergency Medicine** covers activity for patients of all ages recorded within the Emergency Care Data Set (ECDS), Commissioning Data Set 6.2.2 Type 011, for treatment undertaken in the following types of emergency departments:

Type 01
Emergency Departments: Consultant-led 24-hour service with full resuscitation facilities and designated accommodation for the reception of accident and emergency patients

Type 02
Consultant-led mono-specialty accident and emergency service (e.g., ophthalmology, dental) with designated accommodation for the reception of patients, with the exception of gynaecology casualty departments

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	12	12
Total HRG Roots	12	12
Procedure-driven HRGs	N/A	N/A
Diagnosis-driven HRGs	N/A	N/A
Age Splits	No	No
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Type 03
Other types of units with designated accommodation for the reception of minor accident and emergency patients, including other open access treatment services offering at least minor injury/illness services, whether located alongside a main A&E department or at another location

Type 04
NHS walk-in centres

The HRGs in this subchapter are separated into 10 complexity levels based on the combination of investigation and treatment categories that formed part of the Accident & Emergency Commissioning Data Set (CDS type 010). There are also HRGs specific to emergency dental care and to patients that are dead on arrival.

The emergency medicine HRGs within this subchapter do not cover activity within clinical decision units and observation type wards/units.

The emergency medicine HRG derived depends on the investigation codes and treatment codes as previously recorded within the A&E Commissioning Data Set (CDS 010). To generate HRGs from the ECDS, data fields need to be mapped back to the investigation codes and treatment codes as previously recorded within CDS 010, prior to grouping. The HRG assigned to each attendance depends on the dominant investigation and dominant treatment and their respective complexity categories of care.

Grouping logic for each attendance works as follows:

- Each treatment code and investigation code recorded has an associated hierarchy (See the associated tables below for the full list of investigation codes and treatment codes and their associated complexity categories and hierarchy values).
- This hierarchy values determine the dominant treatment code and dominant investigation code, and thereby the complexity categories of both.

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- Combining the investigation and treatment complexity categories of care of the dominant investigation code and treatment code will result in the most resource intensive HRG being generated, subject to the exceptions identified below.

Records with neither an investigation code nor a treatment code recorded will generate **UZ01Z Data Invalid for Grouping**.

Where there is no investigation code recorded, the treatment code alone will be used to derive the emergency medicine HRG.

List of Investigation codes with associated complexity categories and hierarchy values:

Investigation Code	Description	Category (3=highest; 1= lowest)	Hierarchy (7=highest; 1=lowest)
01	X-ray plain film	2	6
02	Electrocardiogram	1	3
03	Haematology	2	6
04	Cross match blood/group & save serum for later cross match	2	6
05	Biochemistry	1	5
06	Urinalysis	1	3
07	Bacteriology	2	6
08	Histology	2	6
10	Ultrasound	3	7
11	Magnetic resonance imaging	3	7
12	Computerised tomography (exc genitourinary contrast examination/tomography)	3	7
13	Genitourinary contrast examination/tomography	3	7
14	Clotting studies	2	6
15	Immunology	2	6
16	Cardiac enzymes	2	6
17	Arterial/capillary blood gas	1	4
18	Toxicology	2	6
19	Blood culture	2	6
20	Serology	2	6
21	Pregnancy test	1	3
22	Dental investigation	2	2
23	Refraction, orthoptic tests and computerised visual fields	2	6
24	None	1 or 0 *	1
99	Other	1	3

*See grouping exceptions below

List of Treatment codes with associated complexity categories and hierarchy values:

Treatment Code	Description	Category (5=highest; 1=lowest)	Hierarchy (8=highest; 1=lowest)
011	Dressing minor wound/burn/eye	2	4
012	Dressing major wound/burn	3	5
02	Bandage/support	1	3
031	Primary sutures	3 or 4 *	6
032	Secondary/complex suture	3 or 4 *	6
033	Removal of sutures/clips	1	3
041	Wound closure - steristrips	2	4
042	Wound closure - wound glue	2	4

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Treatment Code	Description	Category (5=highest; 1=lowest)	Hierarchy (8=highest; 1=lowest)
043	Wound closure - other (e.g., clips)	2	4
051	Application Plaster of Paris	2	4
052	Removal Plaster of Paris	1	3
06	Splint	2	4
08	Removal foreign body	3	5
091	Physiotherapy - strapping, ultrasound treatment, short wave diathermy, manipulation	2	4
092	Physiotherapy - gait re-education, falls prevention	2	4
101	Manipulation of upper limb fracture	4	7
102	Manipulation of lower limb fracture	4	7
103	Manipulation of dislocation	4	7
11	Incision and drainage	3	5
12	Intravenous cannula	1 or 0 *	2
13	Central line	3	5
14	Lavage/emesis/charcoal/eye irrigation	2	4
15	Intubation & Endotracheal tubes/laryngeal mask airways/rapid sequence induction	4	7
16	Chest drain	4	7
17	Urinary catheter/suprapubic	3 or 4 *	6
181	Defibrillation	4	7
182	External pacing	4	7
19	Resuscitation/cardiopulmonary resuscitation	5	8
20	Minor surgery	3	5
21	Observation/electrocardiogram, pulse oximetry/head injury/trends	1	3
221	Guidance/advice only - written	1 or 0 *	2
222	Guidance/advice only - verbal	1 or 0 *	2
231	Anaesthesia - general	4	7
232	Anaesthesia - local	2	4
233	Anaesthesia - regional block	2	4
234	Anaesthesia - Entonox	2	4
235	Anaesthesia - sedation	3 or 4 *	6
236	Anaesthesia - other	2	4
241	Tetanus - immune	1 or 0 *	2
242	Tetanus - tetanus toxoid course	2	4
243	Tetanus - tetanus toxoid booster	2	4
244	Tetanus - human immunoglobulin	2	4
245	Tetanus - combined tetanus/diphtheria course	2	4
246	Tetanus - combined tetanus/diphtheria booster	2	4
25	Nebuliser/spacer	3	5
27	Other (consider alternatives)	1	3
281	Parenteral thrombolysis - streptokinase parenteral thrombolysis	4	7
282	Parenteral thrombolysis - recombinant - plasminogen activator	5	8
291	Other Parenteral drugs - intravenous drug, e.g., stat/bolus	4	7
292	Other Parenteral drugs - intravenous infusion	4	7
30	Recording vital signs	1	3
31	Burns review	1	3
32	Recall/x-ray review	1	3
33	Fracture review	1	3
34	Wound cleaning	1	3
35	Dressing/wound review	1	3
36	Sling/collar cuff/broad arm sling	1	3
37	Epistaxis control	2	4
38	Nasal airway	2	4
39	Oral airway	2	4

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Treatment Code	Description	Category (5=highest; 1=lowest)	Hierarchy (8=highest; 1=lowest)
40	Supplemental oxygen	3	5
41	Continuous positive airways pressure/nasal intermittent positive pressure ventilation/bag valve mask	3	5
42	Arterial line	3	5
43	Infusion fluids	2	4
44	Blood product transfusion	4	7
45	Pericardiocentesis	4	7
46	Lumbar puncture	4	7
47	Joint aspiration	3	5
48	Minor plastic procedure/split skin graft	4	7
49	Active rewarming of the hypothermic patient	3	5
50	Cooling - control body temperature	1	3
511	Medication administered - oral	2	4
512	Medication administered - intra-muscular	3 or 4 *	6
513	Medication administered - subcutaneous	3	5
514	Medication administered - per rectum	2	4
515	Medication administered - sublingual	3 or 4 *	6
516	Medication administered - intra-nasal	2	4
517	Medication administered - eye drops	1	3
518	Medication administered - ear drops	1	3
519	Medication administered - topical skin cream	1	3
521	Occupational Therapy - OT functional assessment	3	5
522	Occupational Therapy - OT activities of daily living equipment provision	1	3
53	Loan of walking aid (crutches)	1	3
54	Social work intervention	3	5
551	Eye - orthoptic exercises	1	3
552	Eye - laser of retina/iris or posterior capsule	5	8
553	Eye - retrobulbar injection	3	5
554	Eye - epilation of lashes	3	5
555	Eye - subconjunctival injection	4	7
56	Dental treatment	2	2
57	Prescription/medicines prepared to take away	1	3
99	None (consider guidance/advice option)	1 or 0 *	1

*See grouping exceptions below

Grouping Exceptions

When determining the emergency medicine HRG derived there are certain exceptions (highlighted with * in the tables above) where the investigation code or treatment code has 2 possible complexity categories.

In these cases, where the dominant investigation code is **24 None** or blank and the dominant treatment code is included in the following table, the HRG assigned will be **VB11Z Emergency Medicine, No Investigation with No Significant Treatment**. Otherwise, these treatment codes will be considered as Category 1 and the HRG will be derived based on the category of the dominant investigation code.

Treatment Code	Treatment Code Label	Treatment Category (5=highest; 1=lowest)
12	Intravenous cannula	1 or 0 *
221	Guidance/advice only – written	1 or 0 *
222	Guidance/advice only – verbal	1 or 0 *

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241	Tetanus – immune	1 or 0 *
99	None (consider guidance/advice option)	1 or 0 *

For the dominant Treatment codes listed in the table below, the treatment category will be dependent on the category of the dominant investigation code as follows:

Dominant Treatment Code	Category of Dominant Investigation	HRG
031 Primary sutures (Cat. 3 or 4) 032 Secondary/complex suture (Cat. 3 or 4) 17 Urinary catheter/suprapubic (Cat. 3 or 4) 235 Anaesthesia - sedation (Cat. 3 or 4) 512 Medication administered - intra-muscular (Cat. 3 or 4) 515 Medication administered - sublingual (Cat. 3 or 4)	Category 1 or blank	VB06Z Emergency Medicine, Category 1 Investigation with Category 3-4 Treatment
	Category 2	VB05Z Emergency Medicine, Category 2 Investigation with Category 3 Treatment
	Category 3	VB02Z Emergency Medicine, Category 3 Investigation with Category 4 Treatment

- For example, where the dominant treatment code is **031 Primary sutures**, which can be either complexity category 3 or 4, and this is recorded alongside the dominant investigation code of **01 X-ray plain film** (category 2), then the complexity category associated with the dominant treatment code 031 Primary sutures is 3, and derives **VB05Z Emergency Medicine, Category 2 Investigation with Category 3 Treatment**.

- And, where the dominant investigation code is **10 Ultrasound** (category 3), then the complexity category associated with the dominant treatment code **031 Primary sutures** is 4, and derives **VB02Z Emergency Medicine, Category 3 Investigation with Category 4 Treatment**.

VB99Z Emergency Medicine, Patient Dead On Arrival is for patients that are dead on arrival (DOA). This HRG is derived when data item *A&E Patient Group* has a value of 70 (brought in dead). This HRG will be derived in preference to any other HRGs within this subchapter. However, where no investigation code or treatment code is recorded, this activity will generate **UZ01Z Data Invalid for Grouping**.

VB10Z Emergency Medicine, Dental Care identifies a specific cohort of patients that seek emergency care for dental treatment only. This HRG will be derived in preference to any other HRGs within this subchapter. The table below identifies the combination of investigation codes and treatment codes that map to this HRG, based around the either the investigation code **22 Dental Investigation** and/or the treatment code **56 Dental Treatment** being recorded:

Inv. Code	Investigation Description	Treat. Code	Treatment Description
01	X-ray plain film	56	Dental treatment
22	Dental investigation	56	Dental treatment
24	None	56	Dental treatment
99	Other	56	Dental treatment
22	Dental investigation	57	Prescription\medicines prepared to take away
22	Dental investigation	99	None (consider guidance/advice option)

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Subchapter VB: Worked Examples

The examples below show how the different investigation codes and treatment codes are grouped to the various emergency medicine HRGs within this subchapter.

Case	Invest.1	Invest. 2	Treat. 1	Treat. 2	Dominant investigation	Dominant treatment	HRG4+
A	01-X-Ray (Category 2)	02-Electro-cardiogram (Category 1)	11-Incision & drainage (Category 3)	511-Medication administered-oral (Category 2)	01-X-ray (as Category 2>1)	11-Incision & drainage (as Category 3>2)	VB05Z Category 2 Investigation with Category 3 Treatment
B	01-X-Ray (Category 2)	02-Electro-cardiogram (Category 1)	282-Parenteral thrombolysis - recombinant - plasminogen activator (Category 5)	99-None (consider guidance/advice option) (Category 0 or 1)	01-X-ray (as Category 2>1)	282-Parenteral thrombolysis - recombinant - plasminogen activator (as Category 5>1 and 0)	VB01Z Any Investigation with Category 5 Treatment
C	22-Dental investigation	24-None	56-Dental treatment	99-None (consider guidance/advice option)	22-Dental investigation	56-Dental treatment	VB10Z Dental Care
D	24-None		56-Dental treatment	99-None (consider guidance/advice option)	24-None	56-Dental treatment	VB10Z Dental Care
E	22-Dental investigation	24-None	222-Guidance/advice only - verbal	99-None (consider guidance/advice option)	22-Dental investigation	222-Guidance/advice only – verbal	VB08Z Emergency Medicine, Category 2 Investigation with Category 1 Treatment
F	13-Genito urinary contrast examination/ tomography (Category 3)	03-Haematology (Category 2)	031-Primary sutures** (Category 3 or 4)	511-Medication administered - oral (Category 2)	13-Genito urinary contrast examination/ tomography (Category 3)	031-Primary sutures	VB02Z Category 3 Investigation with Category 4 Treatment
G	05-Biochemistry (Category 1)	24-None	17-Urinary catheter/suprapubic (Category 3 or 4)	12-Intravenous cannula (Category 0 or 1)	05-Biochemistry (Category 1)	17-Urinary catheter/suprapubic	VB06Z Category 1 Investigation with Category 3-4 Treatment

** **031 Primary sutures** is considered Category 4 in this example as it is recorded with a Category 3 dominant investigation. See page above for further detail.

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Differences from the HRG4+ 2021/22 Local Payment Grouper

No changes

No changes directly impacting this subchapter have been made in the HRG4+ 2022/23 Local Payment Grouper when compared to the HRG4+ 2021/22 Local Payment Grouper.

To confirm, this means that the input data required to generate the appropriate VB* HRGs continue to be based on the contents of Commissioning Data Set 010 Accident and Emergency, rather than CDS 011 Emergency Care (ECDS). The latter may be used to generate the HRGs once the contents (recorded via a SNOMED-CT subset as determined by the Royal College of Emergency Medicine) have been mapped to the required investigation and treatment codes, as per CDS 010, on which HRG derivation currently relies.

For further information on the ECDS, including the Enhanced Technical Output Specification containing the mapping of CDS010 Investigation and Treatment codes and their SNOMED-CT equivalents, please see:

https://digital.nhs.uk/data-and-information/data-collections-and-data-sets/data-sets/emergency-care-data-set-ecds/ecds-latest-update

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Subchapter VC – Rehabilitation

Subchapter **VC Rehabilitation** covers all activities relating to the assessment for, and the delivery of, rehabilitation for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**23**	**23**
Total HRG Roots	**23**	**23**
Procedure-driven HRGs	23	23
Diagnosis-driven HRGs	0	0
Age Splits	No	No
Complications and Comorbidities Splits	N/A	N/A
Intervention Splits	N/A	N/A
Multiple Procedures	N/A	N/A
Procedure Combination Codes	N/A	N/A
Diagnosis-qualified	N/A	N/A
Subsidiary Procedure-qualified	N/A	N/A
Length of Stay-qualified	N/A	N/A

Subchapter VC comprises:

- Assessment for rehabilitation
- Specific rehabilitation services for both inpatients and outpatients
- Rehabilitation services delivered to adults, children, and older people
- Rehabilitation services delivered by the NHS and, potentially, other accredited providers

The unbundled rehabilitation HRGs are not intended to cover the following:

- Rehabilitation within an acute care treatment episode
- The identification of highly complex specialist rehabilitation

The rehabilitation delivery HRGs are unbundled on a per diem basis, based on the number of rehabilitation days recorded in the CDS field. They are only generated where care is identified as taking place under a specialist rehabilitation consultant or within a discrete rehabilitation unit.

The rehabilitation delivery HRGs are differentiated based on the reason for rehabilitation e.g., for stroke, for hip fracture, for burns etc, and require the use of OPCS-4 procedure codes in categories ***U50-U54 Delivery of rehabilitation*.**

The rehabilitation assessment HRGs are differentiated based on whether they are unidisciplinary or multidisciplinary assessments, the latter of which is further split by specialist or non-specialist.

An unbundled rehabilitation assessment HRG is generated per instance of an OPCS-4 procedure code from category ***X60 Rehabilitation assessment*** recorded.

A diagnosis code indicating rehabilitation is not required to generate any of the unbundled rehabilitation HRGs.

Differences from the HRG4+ 2021/22 Local Payment Grouper

No changes

No changes directly impacting this subchapter have been made in the HRG4+ 2022/23 Local Payment Grouper when compared to the HRG4+ 2021/22 Local Payment Grouper.

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Subchapter WD – Treatment of Mental Health Patients by Non-Mental Health Service Providers

Subchapter **WD Treatment of Mental Health Patients by Non-Mental Health Service Providers** covers the treatment of mental health disorders in NHS organisations that do not provide specialist mental health services but do provide treatment to patients with a primary mental health condition, prior to discharge or transfer to a specialist mental health provider.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	9	9
Total HRG Roots	9	9
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	9	9
Age Splits	No	No
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

The majority of diagnosis-driven activity relating to the treatment of children (aged 18 years and under) with primary mental health disorders groups to an HRG in Chapter **P Diseases of Childhood and Neonates**, predominantly Subchapter **PT Paediatric Mental Health Disorders**, in line with the requirements of the Casemix Design Framework. However, some mental health disorders, such as those relating to sexual relationship disorders, map to HRGs within this subchapter irrespective of the age of the patient, due to the nature of treating these conditions.

The HRGs within this subchapter are differentiated based on type of mental health disorder such as Alzheimers, schizophrenia.

Mental health services provided by specialist mental health providers are captured using the mental health clustering classification and therefore fall outside of the HRG design.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

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Subchapter WF – Non-Admitted Consultations

Subchapter **WF Non-Admitted Consultations** covers non-admitted consultations, including outpatients and ward attenders, for patients of all ages.

Subchapter WF comprises:

- Unidisciplinary face-to-face first and follow-up attendances
- Multiprofessional face-to-face first and follow-up attendances
- Unidisciplinary non face-to-face first and follow-up attendances
- Multiprofessional non face-to-face first and follow-up attendances

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**8**	**8**
Total HRG Roots	**2**	**2**
Procedure-driven HRGs	8	8
Diagnosis-driven HRGs	0	0
Age Splits	No	No
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

Where significant procedures are recorded in outpatient attendances, an appropriate procedure-driven HRG from another subchapter is generated.

For outpatients or ward attenders, a significant procedure may not always be recorded. In these cases, activity is grouped to an attendance HRG in this subchapter.

The attendance HRG derived is based on the type of attendance (using the FIRST ATTENDANCE data item), modified by the presence of the following OPCS-4 codes to differentiate multiprofessional attendances:

- ***X62.2 Assessment by multi-professional team NEC***
- ***X62.3 Assessment by multi-disciplinary team NEC***

The table below shows how the type of attendance and the assessment OPCS-4 code recorded determine the attendance HRGs derived:

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		Attendance Type*			
		1 First Attendance Face-to-face	2 Follow-up Attendance Face-to-face	3 First Telephone or Telemedicine Consultation	4 Follow-up Telephone or Telemedicine Consultation
OPCS-4 Procedure Code	None ** or X62.1 Assessment by uni-professional team NEC or X62.8 Other specified assessment or X62.9 Unspecified assessment	WF01B Non-Admitted Face-to-Face Attendance, First	WF01A Non-Admitted Face-to-Face Attendance, Follow-up	WF01D Non-Admitted Non-Face-to-Face Attendance, First	WF01C Non-Admitted Non-Face-to-Face Attendance, Follow-up
	X62.2 Assessment by multi-professional team NEC or X62.3 Assessment by multi-disciplinary team NEC	WF02B Multiprofessional Non-Admitted Face-to-Face Attendance, First	WF02A Multiprofessional Non-Admitted Face-to-Face Attendance, Follow-up	WF02D Multiprofessional Non-Admitted Non-Face-to-Face Attendance, First	WF02C Multiprofessional Non-Admitted Non-Face-to-Face Attendance, Follow-up

*Attendance Type refers to the data item FIRST ATTENDANCE.
**None or OPCS-4 codes with a procedure hierarchy value of 1 (which are ignored for grouping)

- OPCS-4 codes ***X62.2 Assessment by multi-professional team NEC*** and ***X62.3 Assessment by multi-disciplinary team NEC*** have procedure hierarchy values of 4, reflecting the additional expected resource use of providing multi-professional or multi-disciplinary care, whereas the remaining codes within OPCS-4 category ***X62.- Assessment*** have procedure hierarchy values of 3.
- Where ***X62.2 Assessment by multi-professional team NEC*** or ***X62.3 Assessment by multi-disciplinary team NEC*** are recorded in in addition to other codes from category ***X62.- Assessment***, the first highest of these multi-codes in the patient record will drive grouping.

Although national coding guidance stipulates that codes in OPCS-4 category *X62.- Assessment* should not be used to record anything other than outpatient care, if the dominant procedure code in an admitted patient care record is within this OPCS-4 code category, the HRG generated will default to either **WF01A Non-Admitted Face-to-Face Attendance, Follow-up** or **WF02A Multiprofessional Non-Admitted Face-to-Face Attendance, Follow-up**, depending on the actual OPCS-4 code recorded, and irrespective of the length of stay of the episode or spell. This is because where no ATTEND TYPE is available in the Data Set, the Grouper will effectively set the ATTEND TYPE to 2 as the default.

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Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of procedure hierarchy (PH) values and the fact that some procedures have been mapped to be ignored for grouping purposes may have an impact across this subchapter.

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Subchapter WH – Poisoning, Toxic Effects, Special Examinations, Screening and Other Healthcare Contacts

Subchapter **WH Poisoning, Toxic Effects, Special Examinations, Screening and Other Healthcare Contacts** is made up of a range of disparate healthcare activity including poisoning, toxic effects, special examinations, and screening. It includes activity undertaken in inpatient and day case settings.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**68**	**68**
Total HRG Roots	**28**	**28**
Procedure-driven HRGs	2	2
Diagnosis-driven HRGs	66	66
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	Yes	Yes
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	Yes	Yes

The subchapter includes a single procedure-driven HRG root, for non-specific lymphatic system procedures for patients of all ages.

The majority of diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in Chapter **P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework. However, planned procedures not carried out, disorders relating to organ donation, and procreative management map to HRGs within this subchapter irrespective of the age of the patient, due to the nature of treating these conditions.

The diagnosis-driven HRGs within this subchapter are differentiated based on the disorder or symptom type such as poisoning, hyperthermia, alcohol intoxication.

There are specific HRGs for acute disorders including transplant rejection, other post-procedure complications and follow-up care, as well as HRGs specific to poisonings, allergies and effects of environment. The remaining HRGs cover various signs and symptoms and healthcare contacts, e.g., abdominal pain, senility, abnormal findings and respite care.

Length of stay logic is applied to HRG root **WH20 Respite Care** to determine which of the 3 duration-based HRGs are derived, for stays of 4 days or less, between 5 and 8 days, and 9 days or more.

There is 1 HRG root, **WH50 Procedure Not Carried Out**, specific to planned procedures not carried out. This root is split into 2 HRGs differentiated by the reason the procedure was not carried out, as follows:

- **WH50A Procedure Not Carried Out, for Medical or Patient Reasons**
- **WH50B Procedure Not Carried Out, for Other or Unspecified Reasons**

Both of these HRGs can be generated in 2 ways.

WH50A Procedure Not Carried Out, for Medical or Patient Reasons can be derived with a primary diagnosis of any of the following 3 ICD-10 codes:

- ***Z28.0 Immunization not carried out because of contraindication***

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- ***Z28.1 Immunization not carried out because of patient's decision for reasons of belief or group pressure***
- ***Z28.2 Immunization not carried out because of patient's decision for other and unspecified reasons***

WH50B Procedure Not Carried Out, for Other or Unspecified Reasons can be derived with a primary diagnosis of either of the following 2 ICD-10 codes:

- ***Z28.8 Immunization not carried out for other reasons***
- ***Z28.9 Immunization not carried out for unspecified reason***

Alternatively, HRG WH50A employs global exception logic (Core 5) and can be generated when no significant procedure is recorded, with any primary diagnosis, and a secondary diagnosis from ICD-10 category *Z53.- Persons encountering health services for specific procedures, not carried out*, as follows:

- ***Z53.0 Procedure not carried out because of contraindication***
- ***Z53.1 Procedure not carried out because of patient's decision for reasons of belief and group pressure***
- ***Z53.2 Procedure not carried out because of patient's decision for other and unspecified reasons***

HRG WH50B also employs global exception logic (Core 5) and can be generated when no significant procedure is recorded, with any primary diagnosis, and a secondary diagnosis from ICD-10 category *Z53.- Persons encountering health services for specific procedures, not carried out,* as follows:

- ***Z53.8 Procedure not carried out for other reasons***
- ***Z53.9 Procedure not carried out, unspecified reason***

Note that the dummy HRG root WH99 enables direct mapping to **WH50B Procedure Not Carried Out, for Other or Unspecified Reasons.** This is not an HRG and is not included in the counts in the Composition and Concepts table above.

Intervention splits are also employed within the majority of diagnosis-driven HRG roots within this subchapter to acknowledge where “minor interventions” undertaken during a patient admission are expected to result in additional resource usage.

Interactive CC splits are employed within the majority of HRG roots within this subchapter – up to a maximum of 4 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Remapping of codes

5 congenital ICD-10 diagnosis codes, ***Q86.0 Fetal alcohol syndrome (dysmorphic)***, ***Q86.1 Fetal hydantoin syndrome***, ***Q86.2 Dysmorphism due to warfarin***, ***Q86.8 Other congenital malformation syndromes due to known exogenous causes*** and ***Q89.4 Conjoined twins***, previously U grouped where the patient was 19 years or over. These codes have been remapped to base HRG root **WH15 Special Screening, Examinations or Other Genetic Disorders** to reflect the fact that, although it would be extremely rare for a

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patient to survive to adulthood with one of these conditions, there are no national coding rules preventing the use of congenital diagnosis codes for adults.

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **WH_CC**.

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Subchapter WJ – Infectious Diseases and Immune System Disorders

Subchapter **WJ Infectious Diseases and Immune System Disorders** covers multi-systemic infectious diseases and immune system disorders. It includes activity undertaken in inpatient and day case settings.

The majority of diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in Chapter **P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework. However, genitourinary disorders map to HRGs within this subchapter irrespective of the age of the patient, due to the nature of treating these conditions.

The diagnosis-driven HRGs within this subchapter are differentiated on disorder type such as sepsis, fever, HIV and genitourinary medicine (GUM) disorders.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	38	38
Total HRG Roots	8	8
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	38	38
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	Yes	Yes
Multiple Procedures	No	No
Procedure Combination Codes	No	No
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	No	No

There is 1 HRG root specific to all other immune system disorders

There are also HRGs for multi-systemic infections which are differentiated based on the expected complexity of care into 3 levels - standard, major and complex.

Within the multi-systemic infections HRG, escalation up 1 complexity level can occur when a secondary diagnosis, indicating that the patient requires isolation, or has antimicrobial resistance, is recorded.

Intervention splits, including those that differentiate between whether a single “minor intervention” or multiple “minor interventions” have been undertaken, are employed within the majority of the HRG roots in this subchapter. Intervention splits are used to acknowledge where “minor interventions” undertaken during a patient admission are expected to result in additional resource usage.

Interactive CC splits are employed within the majority of HRG roots within this subchapter – up to a maximum of 4 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for systemic inflammatory response syndrome with organ failure have been updated to a value of 2 on the CC list for this subchapter, **WJ_CC**.

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Subchapter XA – Neonatal Critical Care

Subchapter **XA Neonatal Critical Care** includes unbundled HRGs and covers neonatal critical care, including transportation (retrieval).

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	6	6
Total HRG Roots	6	6
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	0	0
Age Splits	N/A	N/A
Complications and Comorbidities Splits	N/A	N/A
Intervention Splits	N/A	N/A
Multiple Procedures	N/A	N/A
Procedure Combination Codes	N/A	N/A
Diagnosis-qualified	N/A	N/A
Subsidiary Procedure-qualified	N/A	N/A
Length of Stay-qualified	N/A	N/A

Other critical care services are addressed in Subchapters **XC Adult Critical Care** and **XB Paediatric Critical Care**.

The HRGs within this subchapter are split into 5 levels of complexity: there is 1 HRG specific to neonatal intensive care activity (NICU) – **XA01Z Neonatal Critical Care, Intensive Care** – and 1 HRG specific to neonatal high dependency care (NHDU) – **XA02Z Neonatal Critical Care, High Dependency**, and there are 3 HRGs specific to neonatal special care baby unit (SCBU) or transitional care activity – **XA03Z Neonatal Critical Care, Special Care, without External Carer**, **XA04Z Neonatal Critical Care, Special Care, with External Carer** and **XA05Z Neonatal Critical Care, Neonatology Supported Care**.

The unbundled HRGs within this subchapter are generated from information within the Neonatal Critical Care Minimum Data Set (Version 2.0, 2016) on a per diem basis, based on the Critical Care Unit Function (CCUF) and Critical Care Activity Code (CCAC) recorded. The main driver for grouping is the CCAC.

See SCCI Information Standard 0075 for further information regarding the updated 2016 NCCMDS: https://digital.nhs.uk/data-and-information/information-standards/information-standards-and-data-collections-including-extractions/publications-and-notifications/standards-and-collections/scci0075-neonatal-critical-care-minimum-data-set-version-2

For this subchapter, grouping is based on data items from the Neonatal Critical Care Minimum Data Set (Version 2.0, 2016), but additional data items are required from the APC data set (Discharge Date and Discharge Method).

A neonatal critical care HRG is generated for each day the baby receives critical care. The HRGs are unbundled, being generated in addition to the core HRGs for the associated admitted patient care episode and spell.

Please see the grouping algorithm flowchart at the end of the subchapter for further information.

There is also an HRG specific to neonatal transportation – **XA06Z Neonatal Critical Care, Transportation**. This HRG is derived from the APC data set as the Neonatal Critical Care data set does not incorporate data items that can be used to identify transportation. This represents the transfer of a baby in neonatal critical care from one provider trust to another.

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All of the following criteria must be met in order to derive the transportation HRG:

Data Item	Value	Notes
Admission Method	**81 Transfer of any admitted patient from other hospital provider other than in an emergency** or **28 Other Means** (includes transfer of an admitted patient from another hospital provider in an emergency) or **2B Transfer of an admitted PATIENT from another Hospital Provider in an emergency**	Hospital transfer
Source of Admission	**52 NHS other hospital provider - ward for maternity patients or neonates** or **87:Non NHS run hospital**	Confirms the transfer is from another hospital (Admission Method 28 includes other locations)
Treatment Function Code	**422 Neonatal Critical Care Service**	Includes Special Care, High Dependency and Intensive Care
Neonatal Level of Care	**3 Level 1 Intensive Care** (Maximal Intensive Care) or **2 Level 2 Intensive Care** (High Dependency Intensive Care)	

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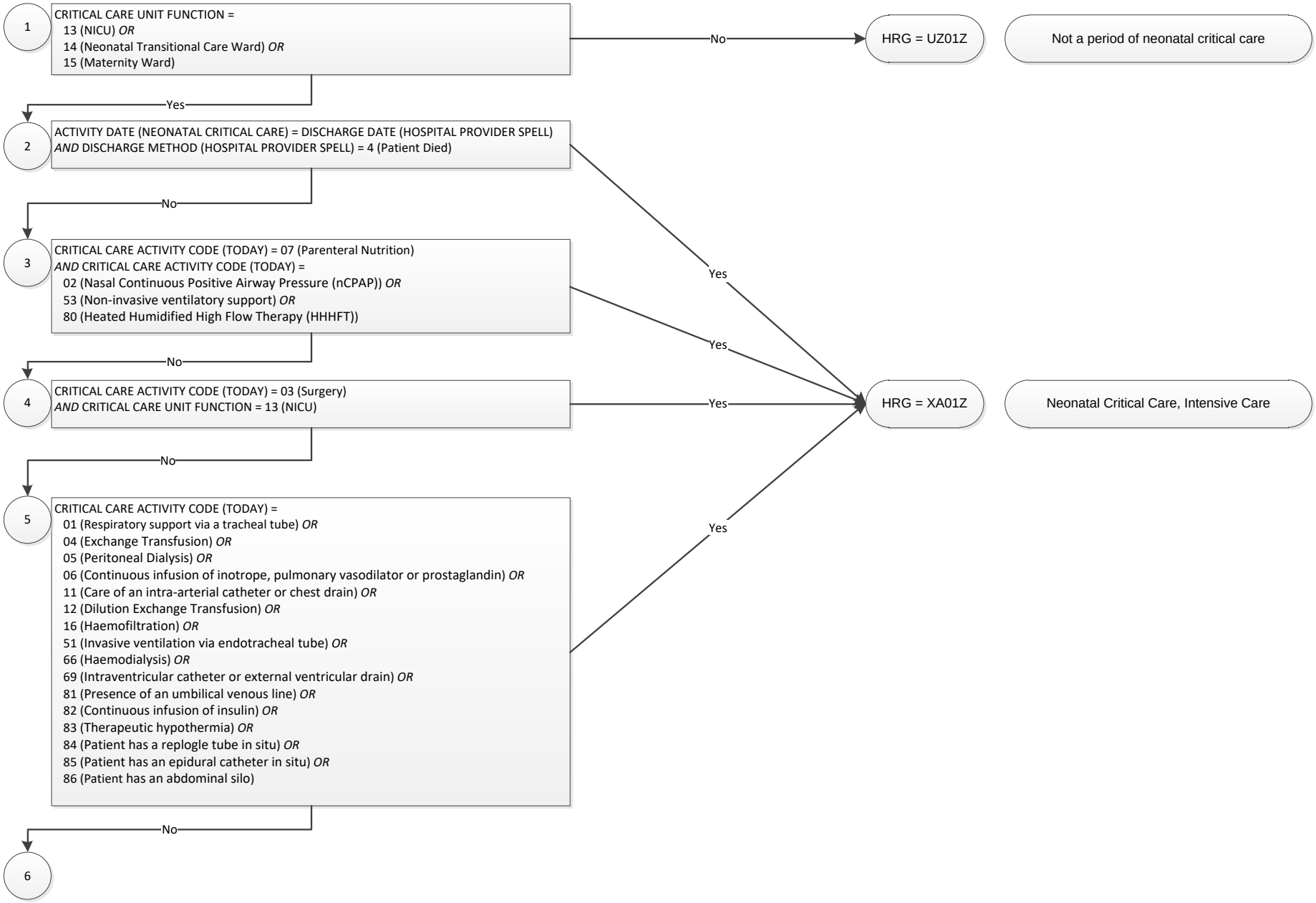

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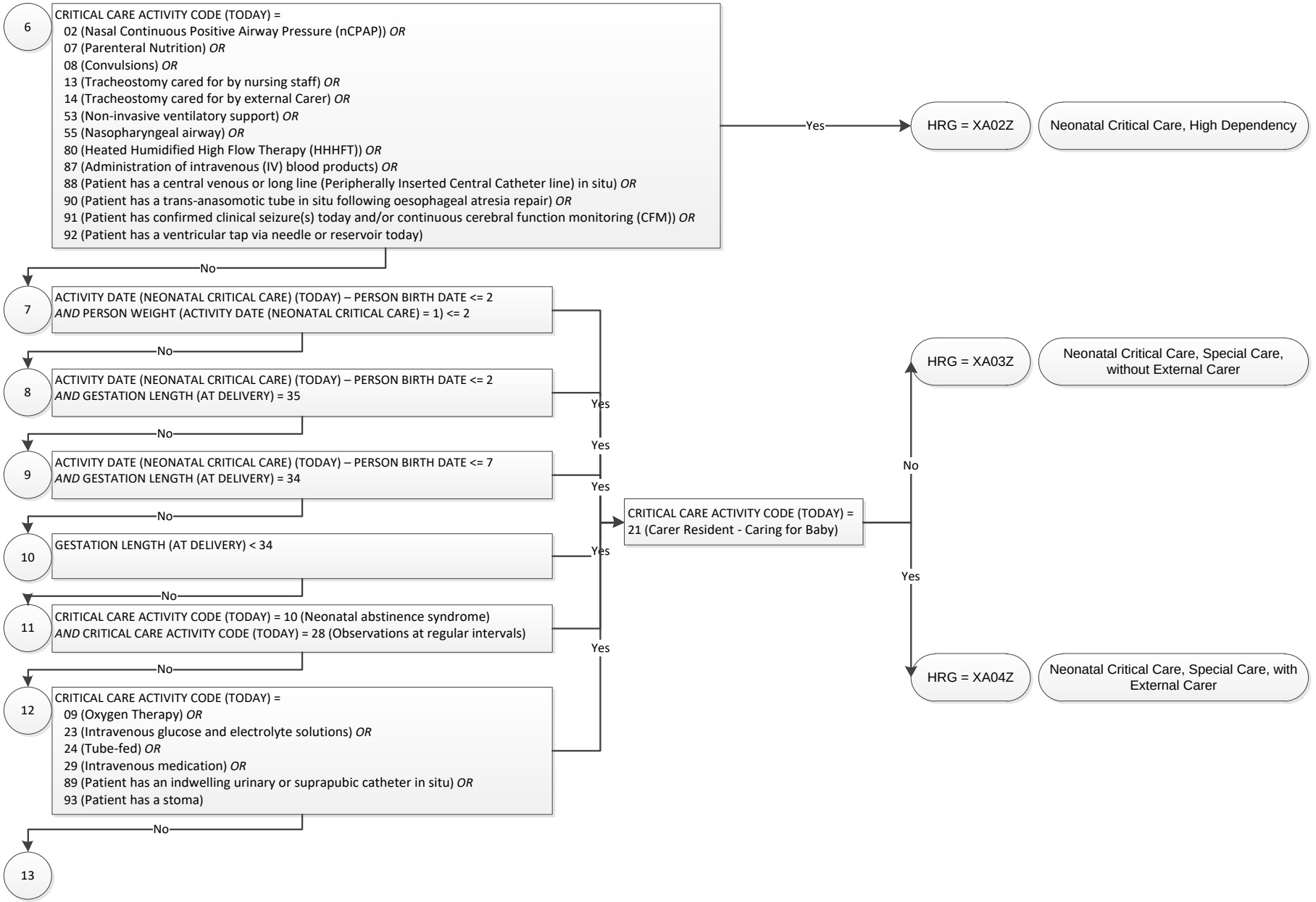

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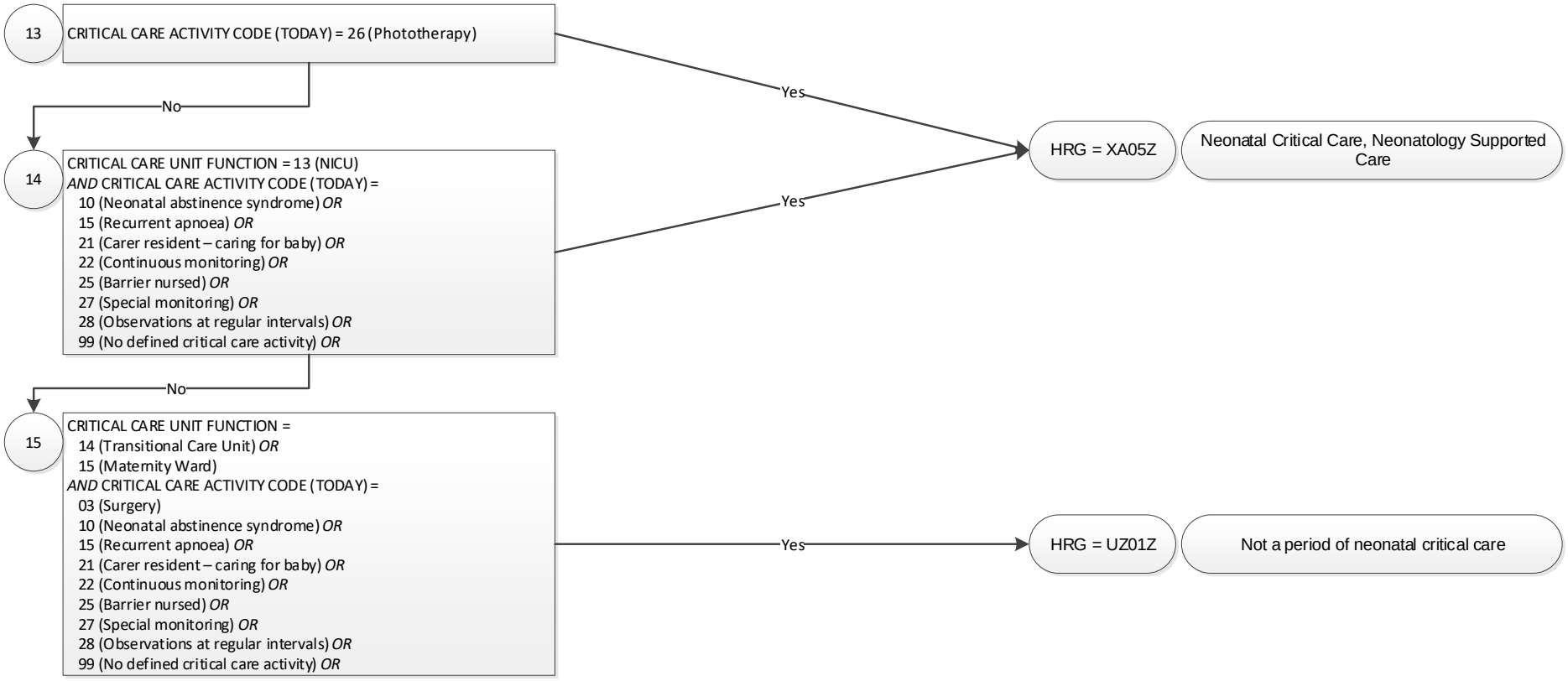

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Differences from the HRG4+ 2021/22 Local Payment Grouper

No changes

No changes directly impacting this subchapter have been made in the HRG4+ 2022/23 Local Payment Grouper when compared to the HRG4+ 2021/22 Local Payment Grouper.

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Subchapter XB – Paediatric Critical Care

Subchapter **XB Paediatric Critical Care** includes unbundled HRGs and covers paediatric critical care, including transportation (retrieval).

Other critical care services are addressed in Subchapters **XC Adult Critical Care** and **XA Neonatal Critical Care**.

The HRGs within this subchapter are split into 8 levels of complexity: there are 5 HRGs specific to paediatric intensive care activity, which would be undertaken in a paediatric intensive care unit (PICU); and 3 HRGs specific to paediatric high dependency care activity, which may take place in a PICU or paediatric high dependency unit or ward.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	9	9
Total HRG Roots	9	9
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	0	0
Age Splits	N/A	N/A
Complications and Comorbidities Splits	N/A	N/A
Intervention Splits	N/A	N/A
Multiple Procedures	N/A	N/A
Procedure Combination Codes	N/A	N/A
Diagnosis-qualified	N/A	N/A
Subsidiary Procedure-qualified	N/A	N/A
Length of Stay-qualified	N/A	N/A

The unbundled HRGs within this subchapter are generated from information within the Paediatric Critical Care Minimum Data Set (Version 2.0, 2016) on a per diem basis, based on the Critical Care Unit Function (CCUF) and Critical Care Activity Code (CCAC) recorded. The main driver for grouping is the CCAC.

See SCCI Information Standard 0076 for further information regarding the updated 2016 PCCMDS: https://digital.nhs.uk/data-and-information/information-standards/information-standards-and-data-collections-including-extractions/publications-and-notifications/standards-and-collections/scci0076-paediatric-critical-care-minimum-data-set-version-2

For this subchapter, grouping is based on data items from the Neonatal Critical Care Minimum Data Set (Version 2.0, 2016), but additional data items are required from the APC data set (including Discharge Date and Discharge Method and Diagnosis). ICD-10 diagnosis codes are used to identify whether a patient has a condition which would typically require the patient to be treated in a single-occupancy isolation area.

A paediatric critical care HRG is generated for each day the child receives critical care. The HRGs are unbundled, being generated in addition to the HRGs for the associated admitted patient care episode and spell.

Please see the grouping algorithm flowchart at the end of the subchapter for further information.

There is also an HRG specific to paediatric transportation, **XB08Z Paediatric Critical Care, Transportation**. This HRG is derived from the APC data set as the Paediatric Critical Care data set does not incorporate data items that can be used to identify transportation or retrieval. This represents the transfer of a child in critical care from one provider trust to another.

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All of the following criteria must be met in order to derive the transportation HRG:

Data Item	Value	Notes
Admission Method	**81 Transfer of any admitted patient from other hospital provider other than in an emergency** (or **28 Other Means** (includes transfer of an admitted patient from another hospital provider in an emergency) or **2B Transfer of an admitted PATIENT from another Hospital Provider in an emergency**	Hospital transfer
Source of Admission	**51 NHS other hospital provider - ward for general patients or the younger physically disabled or A&E department** or **87 Non NHS run hospital**	Confirms the transfer is from another hospital (Admission Method 28 includes other locations)
Treatment Function Code of the first episode in the spell	**242 Paediatric Intensive Care Service**-	Only to be used by designated Paediatric Intensive Care Units

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Subchapter XB: Worked Examples

Case A: A patient is being treated in the paediatric critical care unit and has apnoea requiring intervention.

Case	Critical Care Unit Function Code	Patient Age (Days)	Discharge Method (Hospital Provider Spell)	Main Critical Care Activity Code	Other Critical Care Activity Codes	ICD-10 Diagnosis Code		HRG4+	
A	04 (Paediatric Intensive Care Unit)	10	1 (Patient discharged on clinical advice or with clinical consent)	58 Apnoea requiring intervention				XB07Z	Paediatric Critical Care, Basic Critical Care

Case B: A patient is being treated on a ward for children and young people and has central venous pressure monitoring.

B	16 (Ward for children and young people)	10	1 (Patient discharged on clinical advice or with clinical consent)	62 Central venous pressure monitoring				XB06Z	Paediatric Critical Care, Basic Critical Care

Case C: A patient is being treated in the paediatric critical care unit and has invasive ventilation after being severely burned. This illustrates how the diagnosis is used in deriving the HRG.

C	04 (Paediatric Intensive Care Unit)	10	1 (Patient discharged on clinical advice or with clinical consent)	51 Invasive ventilation via endotracheal tube		T31.5	Burns involving 50-59% of body surface	XB03Z	Paediatric Critical Care, Advanced Critical Care 3

Case D: A patient with renal hypoplasia who develops adenoviral pneumonia is admitted to a single occupancy cubicle in the paediatric critical care unit. This illustrates how both the diagnosis and CCAC affect the HRG derived.

D	04 (Paediatric Intensive Care Unit)	10	1 (Patient discharged on clinical advice or with clinical consent)	51 Invasive ventilation via endotracheal tube	05 Peritoneal dialysis + 74 Patient nursed on single occupancy cubicle	Q60.5 + J12.0	Renal hypoplasia, unspecified + Adenoviral pneumonia	XB02Z	Paediatric Critical Care, Advanced Critical Care 4

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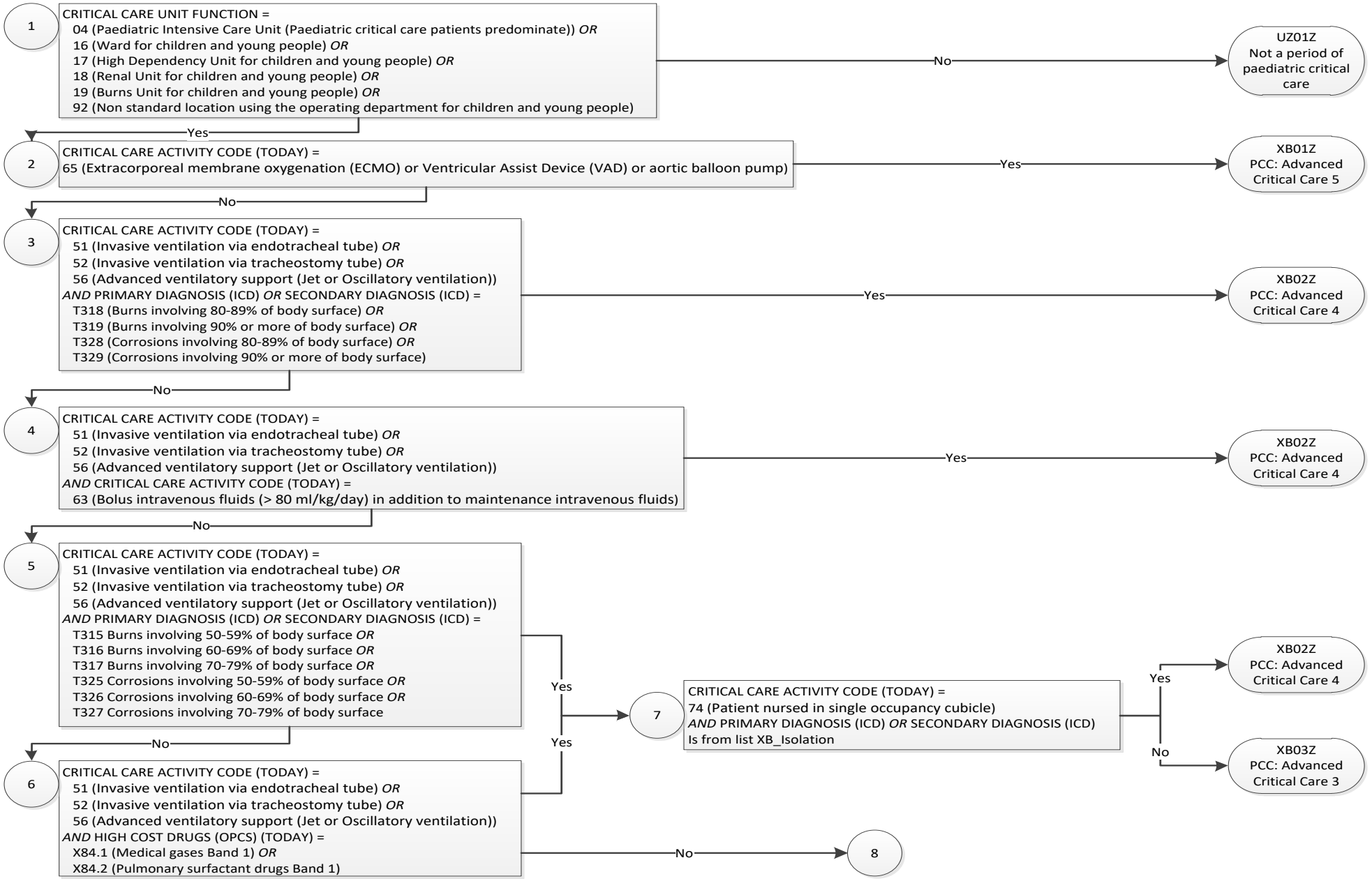

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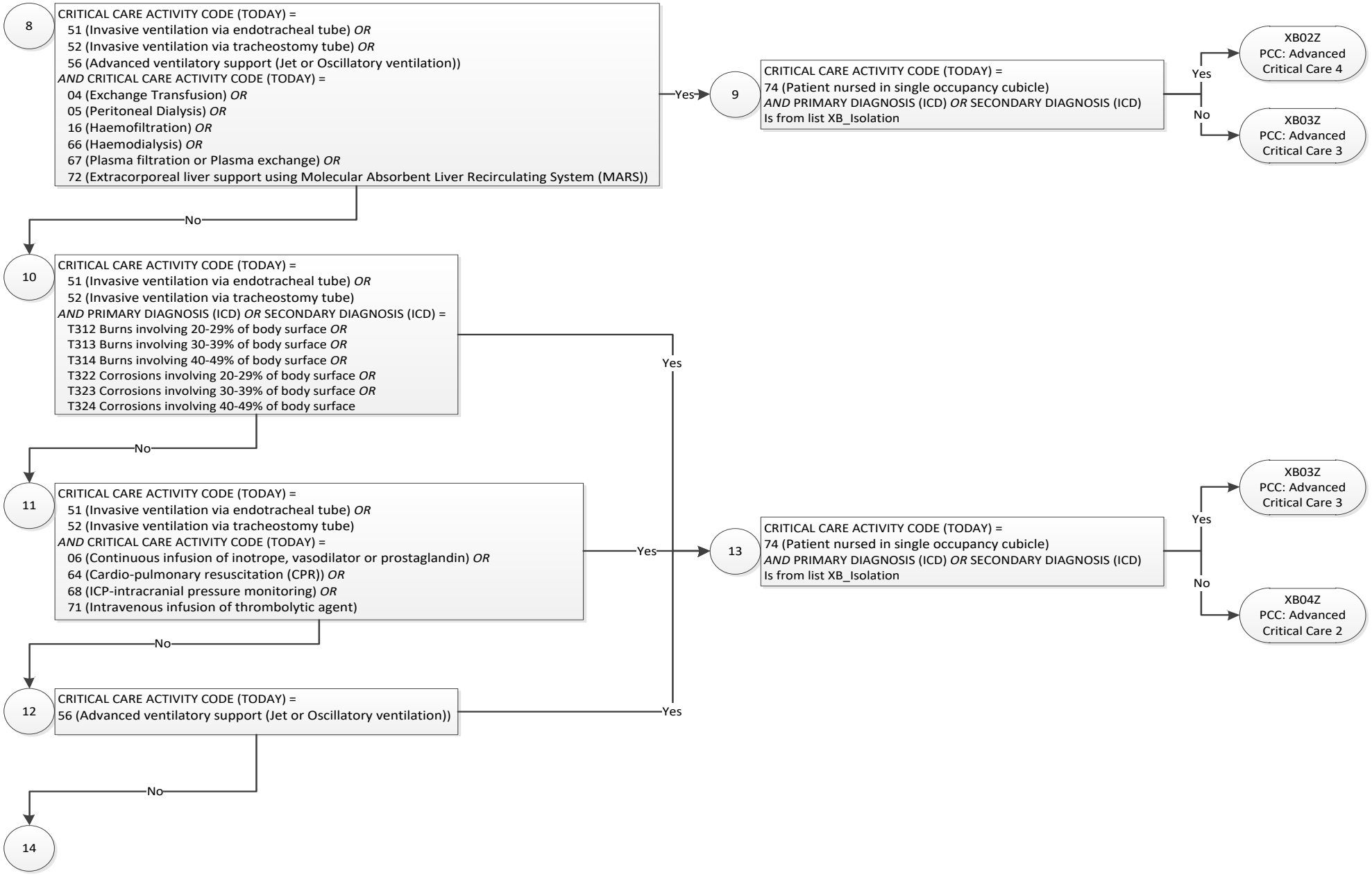

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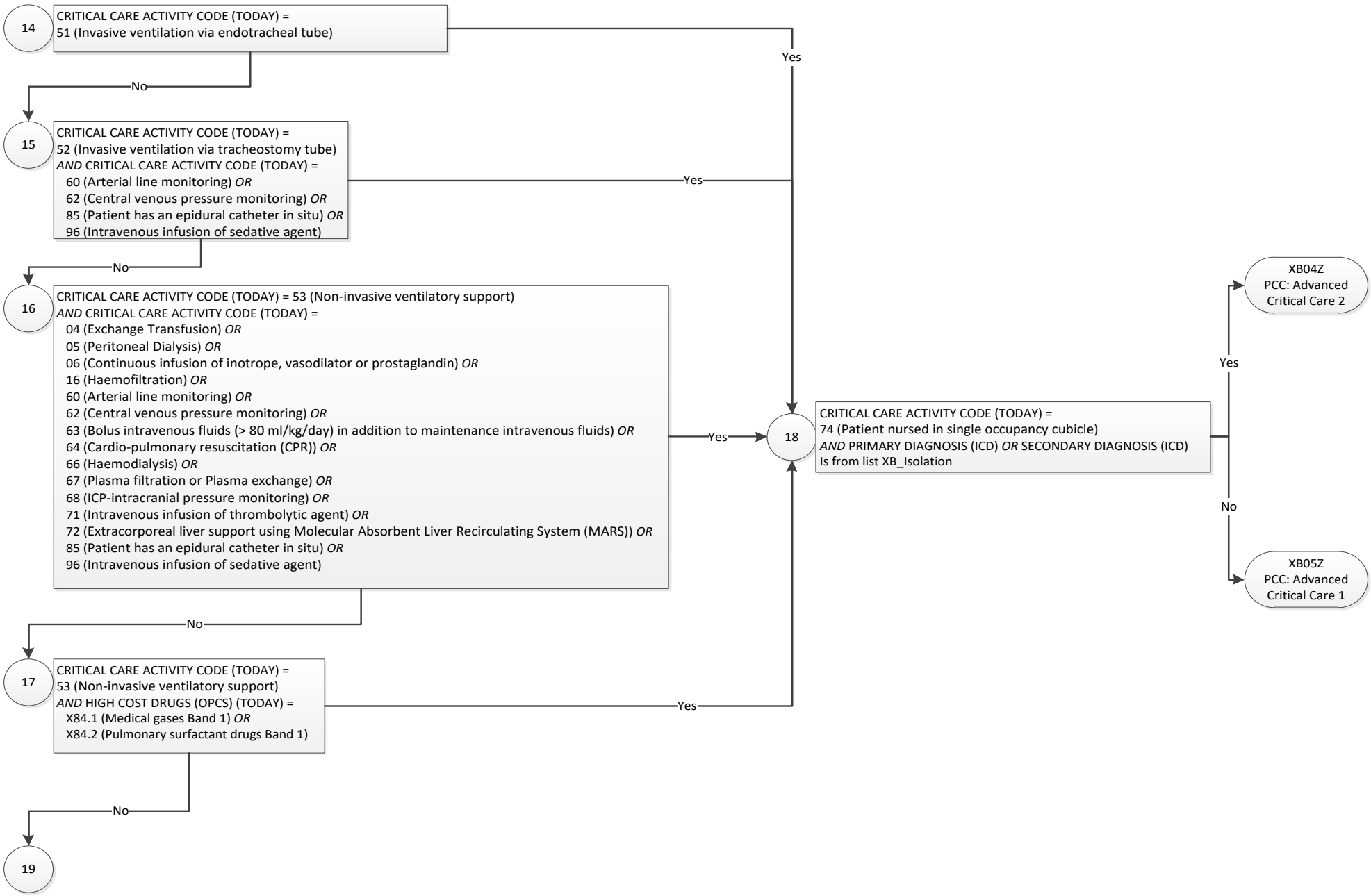

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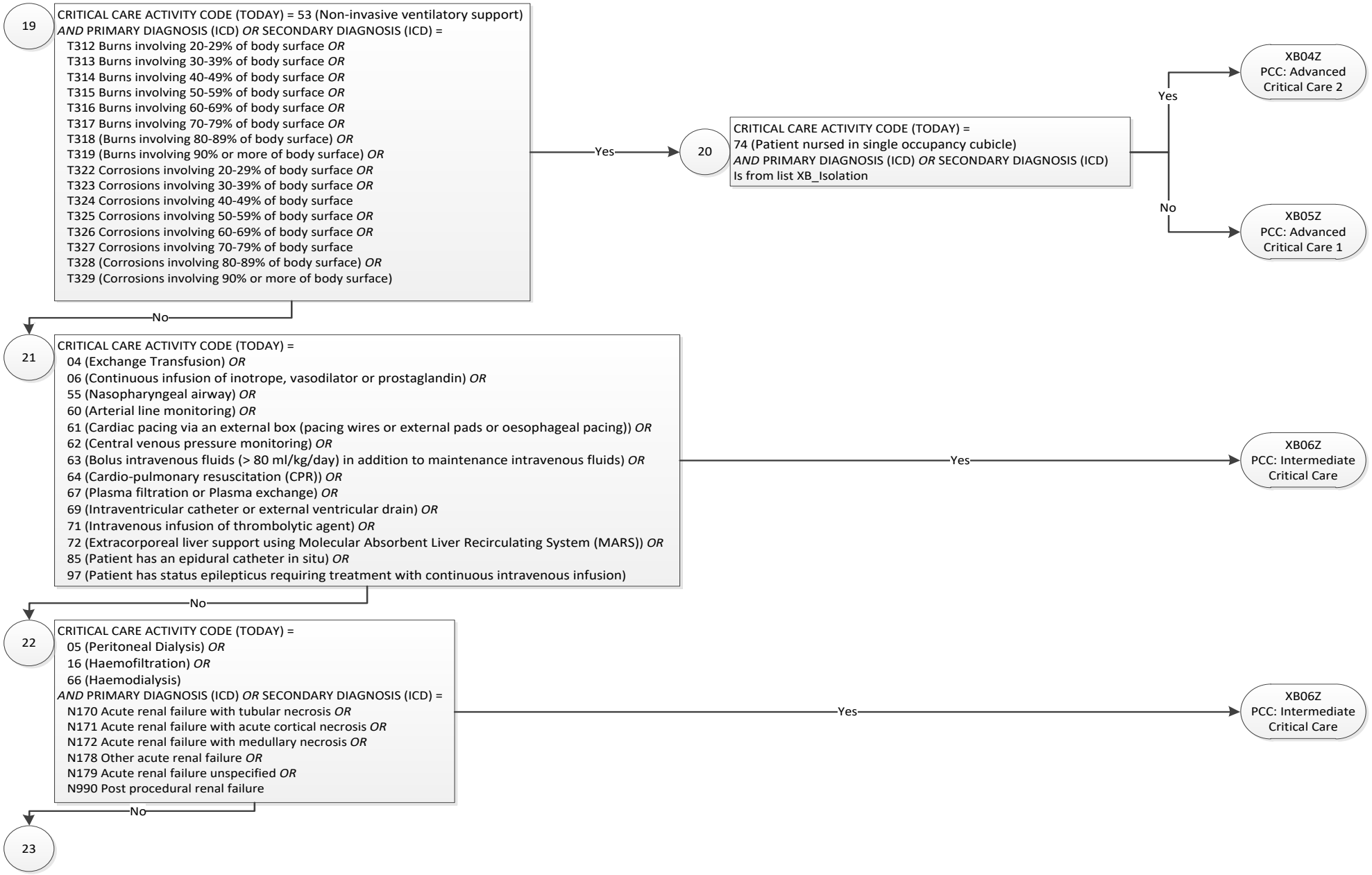

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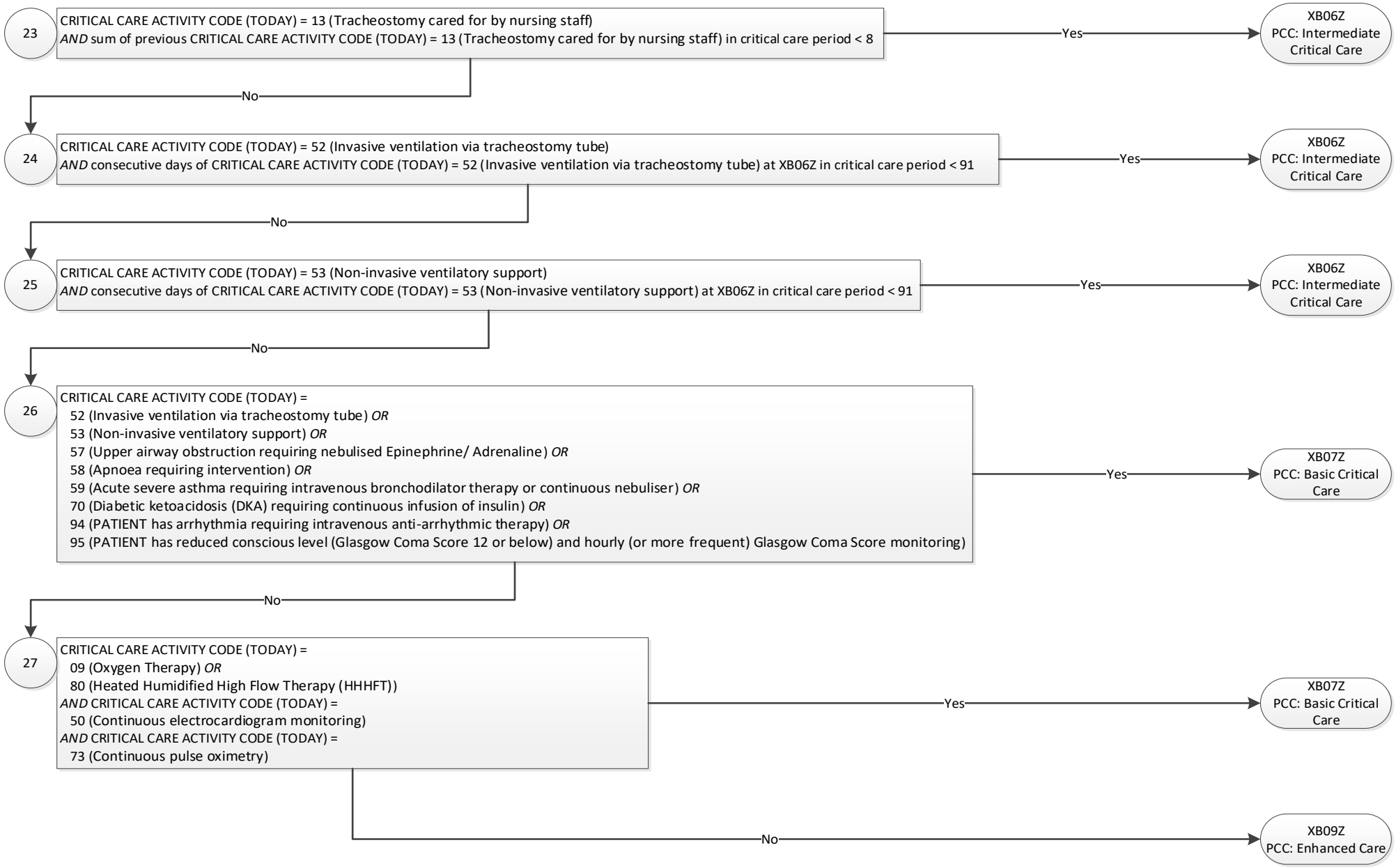

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Subchapter XB: List XB_ISOLATION

ICD-10 code	Description
A00.0	Cholera due to Vibrio cholerae 01, biovar cholerae
A00.1	Cholera due to Vibrio cholerae 01, biovar eltor
A00.9	Cholera, unspecified
A01.0	Typhoid fever
A01.1	Paratyphoid fever A
A01.2	Paratyphoid fever B
A01.3	Paratyphoid fever C
A01.4	Paratyphoid fever, unspecified
A02.0	Salmonella enteritis
A02.1	Salmonella sepsis
A02.2	Localized salmonella infections
A03.0	Shigellosis due to Shigella dysenteriae
A03.1	Shigellosis due to Shigella flexneri
A03.2	Shigellosis due to Shigella boydii
A03.3	Shigellosis due to Shigella sonnei
A03.8	Other shigellosis
A03.9	Shigellosis, unspecified
A04.3	Enterohaemorrhagic Escherichia coli infection
A04.5	Campylobacter enteritis
A04.7	Enterocolitis due to Clostridium difficile
A07.2	Cryptosporidiosis
A08.0	Rotaviral enteritis
A08.1	Acute gastroenteropathy due to Norwalk agent
A08.2	Adenoviral enteritis
A08.3	Other viral enteritis
A08.4	Viral intestinal infection, unspecified
A09.0	Other and unspecified gastroenteritis and colitis of infectious origin
A09.9	Gastroenteritis and colitis of unspecified origin
A15.0	Tuberculosis of lung, confirmed by sputum microscopy with or without culture
A15.1	Tuberculosis of lung, confirmed by culture only
A15.2	Tuberculosis of lung, confirmed histologically
A15.3	Tuberculosis of lung, confirmed by unspecified means
A15.4	Tuberculosis of intrathoracic lymph nodes, confirmed bacteriologically and histologically
A15.5	Tuberculosis of larynx, trachea and bronchus, confirmed bacteriologically and histologically
A15.6	Tuberculous pleurisy, confirmed bacteriologically and histologically
A15.7	Primary respiratory tuberculosis, confirmed bacteriologically and histologically
A15.8	Other respiratory tuberculosis, confirmed bacteriologically and histologically
A15.9	Respiratory tuberculosis unspecified, confirmed bacteriologically and histologically

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ICD-10 code	Description
A17.0	Tuberculous meningitis
A19.2	Acute miliary tuberculosis, unspecified
A36.0	Pharyngeal diphtheria
A36.1	Nasopharyngeal diphtheria
A36.2	Laryngeal diphtheria
A36.3	Cutaneous diphtheria
A36.8	Other diphtheria
A36.9	Diphtheria, unspecified
A37.0	Whooping cough due to Bordetella pertussis
A37.1	Whooping cough due to Bordetella parapertussis
A37.8	Whooping cough due to other Bordetella species
A37.9	Whooping cough, unspecified
A38X	Scarlet fever
A39.0	Meningococcal meningitis
A39.2	Acute meningococcaemia
A39.4	Meningococcaemia, unspecified
A39.9	Meningococcal infection, unspecified
A87.1	Adenoviral meningitis
A98.4	Ebola virus disease
B00.0	Eczema herpeticum
B00.1	Herpesviral vesicular dermatitis
B00.2	Herpesviral gingivostomatitis and pharyngotonsillitis
B00.3	Herpesviral meningitis
B00.4	Herpesviral encephalitis
B00.5	Herpesviral ocular disease
B00.7	Disseminated herpesviral disease
B00.8	Other forms of herpesviral infection
B00.9	Herpesviral infection, unspecified
B01.0	Varicella meningitis
B01.1	Varicella encephalitis
B01.2	Varicella pneumonia
B01.8	Varicella with other complications
B01.9	Varicella without complication
B02.0	Zoster encephalitis
B02.1	Zoster meningitis
B02.2	Zoster with other nervous system involvement
B02.3	Zoster ocular disease
B02.7	Disseminated zoster
B02.8	Zoster with other complications
B02.9	Zoster without complication

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ICD-10 code	Description
B05.0	Measles complicated by encephalitis
B05.1	Measles complicated by meningitis
B05.2	Measles complicated by pneumonia
B05.3	Measles complicated by otitis media
B05.4	Measles with intestinal complications
B05.8	Measles with other complications
B05.9	Measles without complication
B15.0	Hepatitis A with hepatic coma
B15.9	Hepatitis A without hepatic coma
B17.2	Acute hepatitis E
B20.0	HIV disease resulting in mycobacterial infection
B20.1	HIV disease resulting in other bacterial infections
B20.2	HIV disease resulting in cytomegaloviral disease
B20.3	HIV disease resulting in other viral infections
B20.4	HIV disease resulting in candidiasis
B20.5	HIV disease resulting in other mycoses
B20.6	HIV disease resulting in Pneumocystis jirovecii pneumonia
B20.7	HIV disease resulting in multiple infections
B20.8	HIV disease resulting in other infectious and parasitic diseases
B20.9	HIV disease resulting in unspecified infectious or parasitic disease
B23.0	Acute HIV infection syndrome
B24X	Unspecified human immunodeficiency virus [HIV] disease
B26.0	Mumps orchitis
B26.1	Mumps meningitis
B26.2	Mumps encephalitis
B26.3	Mumps pancreatitis
B26.8	Mumps with other complications
B26.9	Mumps without complication
B30.0	Keratoconjunctivitis due to adenovirus
B30.1	Conjunctivitis due to adenovirus
B44.0	Invasive pulmonary aspergillosis
B44.1	Other pulmonary aspergillosis
B44.2	Tonsillar aspergillosis
B44.7	Disseminated aspergillosis
B44.8	Other forms of aspergillosis
B44.9	Aspergillosis, unspecified
B97.0	Adenovirus as the cause of diseases classified to other chapters
B97.4	Respiratory syncytial virus as the cause of diseases classified to other chapters
D70X	Agranulocytosis
D81.0	Severe combined immunodeficiency [SCID] with reticular dysgenesis

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ICD-10 code	Description
D81.1	Severe combined immunodeficiency [SCID] with low T- and B-cell numbers
D81.2	Severe combined immunodeficiency [SCID] with low or normal B-cell numbers
D84.8	Other specified immunodeficiencies
J10.0	Influenza with pneumonia, seasonal influenza virus identified
J10.1	Influenza with other respiratory manifestations, seasonal influenza virus identified
J12.0	Adenoviral pneumonia
J12.1	Respiratory syncytial virus pneumonia
J12.2	Parainfluenza virus pneumonia
J15.2	Pneumonia due to staphylococcus
J15.8	Other bacterial pneumonia
J20.4	Acute bronchitis due to parainfluenza virus
J20.5	Acute bronchitis due to respiratory syncytial virus
J21.0	Acute bronchiolitis due to respiratory syncytial virus
J21.8	Acute bronchiolitis due to other specified organisms
J21.9	Acute bronchiolitis, unspecified
L12.3	Acquired epidermolysis bullosa
L51.1	Bullous erythema multiforme
L51.2	Toxic epidermal necrolysis [Lyell]
T31.2	Burns involving 20-29% of body surface
T31.3	Burns involving 30-39% of body surface
T31.4	Burns involving 40-49% of body surface
T31.5	Burns involving 50-59% of body surface
T31.6	Burns involving 60-69% of body surface
T31.7	Burns involving 70-79% of body surface
T31.8	Burns involving 80-89% of body surface
T31.9	Burns involving 90% or more of body surface
T32.2	Corrosions involving 20-29% of body surface
T32.3	Corrosions involving 30-39% of body surface
T32.4	Corrosions involving 40-49% of body surface
T32.5	Corrosions involving 50-59% of body surface
T32.6	Corrosions involving 60-69% of body surface
T32.7	Corrosions involving 70-79% of body surface
T32.8	Corrosions involving 80-89% of body surface
T32.9	Corrosions involving 90% or more of body surface
T86.0	Bone-marrow transplant rejection
U04.9	Severe acute respiratory syndrome [SARS], unspecified
U07.1	COVID-19, virus identified
U07.2	COVID-19, virus not identified
U07.5	Multisystem inflammatory syndrome associated with COVID-19
U82.1	Resistance to methicillin

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ICD-10 code	Description
U82.2	Extended spectrum betalactamase (ESBL) resistance
U82.8	Resistance to other betalactam antibiotics
U82.9	Resistance to betalactam antibiotics, unspecified
U83.0	Resistance to vancomycin
U83.7	Resistance to multiple antibiotics
U83.8	Resistance to other single specified antibiotic
U84.1	Resistance to antifungal drug(s)
U84.2	Resistance to antiviral drug(s)
U84.3	Resistance to tuberculostatic drug(s)
U84.7	Resistance to multiple antimicrobial drugs
Z94.3	Heart and lungs transplant status
Z94.4 with Z94.0	Liver transplant status with Kidney transplant status
Z94.4 with Z94.8	Liver transplant status with Other transplanted organ and tissue status
A40.0 with M72.6*	Sepsis due to streptococcus, group A with Necrotizing fasciitis

* Fifth character code

Differences from the HRG4+ 2021/22 Local Payment Grouper

Changes to list membership

Diagnosis codes ***U07.1 COVID-19, virus identified***, ***U07.2 COVID-19, virus not identified*** and ***U07.5 Multisystem inflammatory syndrome associated with COVID-19*** have been added to list **XB_Isolation** to reflect the additional resource use associated with patients in paediatric critical care, who have these conditions and therefore require isolation.

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Subchapter XC – Adult Critical Care

Subchapter **XC Adult Critical Care** includes unbundled HRGs and covers adult critical care services. Other critical care services are addressed in Subchapters **XA Neonatal Critical Care** and **XB Paediatric Critical Care**.

Subchapter XC comprises unbundled HRGs specific to the numbers of organs the patient needs supported – from 0 to 6+ – and the HRGs are generated from information within the Critical Care Minimum Data Set (MDS).

The adult critical care HRGs are unbundled from the rest of the patient episode/spell. The HRGs are based on the data in the Critical Care MDS and differentiate on the level of support required by the patient, which is determined by the number of organ systems supported.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**7**	**7**
Total HRG Roots	**7**	**7**
Procedure-driven HRGs	0	0
Diagnosis-driven HRGs	0	0
Age Splits	N/A	N/A
Complications and Comorbidities Splits	N/A	N/A
Intervention Splits	N/A	N/A
Multiple Procedures	N/A	N/A
Procedure Combination Codes	N/A	N/A
Diagnosis-qualified	N/A	N/A
Subsidiary Procedure-qualified	N/A	N/A
Length of Stay-qualified	N/A	N/A

Adult critical care HRGs are generated per Critical Care Period, i.e., one (maximum) HRG is generated for each Critical Care Period and not on a per diem basis, although the Grouper output will also identify the numbers of days of each critical care period.

In addition to the Critical Care Unit Function (CCUF) field, the following additional fields from the Critical Care MDS, relating to the organ support groups, are used in the derivation of these HRGs:

- Advanced Respiratory Support Days
- Basic Respiratory Support Days
- Advanced Cardiovascular Support Days
- Basic Cardiovascular Support Days
- Renal Support Days
- Neurological Support Days
- Dermatological Support Days
- Liver Support Days

Gastrointestinal support days do not contribute to the derivation of critical care HRGs, on clinical advice. The expected cost of providing this support is subsumed within the other organ support groups. In addition, in line with the Critical Care MDS, where basic respiratory and basic cardiovascular support occur on 1 day, it is counted as 1 organ

Note that the “Organ Support Maximum” field is not used in grouping. The number of organ systems supported is calculated based on the existence of support days for each of the organ systems.

In addition to the fields listed above, the grouper requires Critical Care Start Date and Critical Care Discharge Date in the input data. These are used to calculate critical care days in the grouper output file. They are not used in HRG derivation.

The grouping algorithm flowchart below illustrates how each of the adult critical care HRGs is generated.

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Subchapter XC: Worked Examples

Advanced Respiratory Support days	Basic Respiratory Support days	Advanced Cardiovascular support days	Basic Cardiovascular support days	Renal Support days	Neurological Support days	Dermatological Support days	Liver Support days	L2 Days	L3 Days	CC Start date	CC Discharge Date	Unit Function	Length of Stay	HRG	HRG Label
Case A illustrates a patient having basic and advanced respiratory support.															
1	1	0	0	0	0	0	0	1	1	01 Jan 20	02 Jan 20	1	2	XC05Z	2 organ systems supported
Case B illustrates a patient having basic and advanced respiratory support plus basic and advanced cardiovascular support.															
5	10	4	4	0	0	0	0	10	5	01 Jan 20	15 Jan 20	2	15	XC04Z	3 organ systems supported
Case C illustrates a patient having basic and advanced respiratory support plus liver support.															
2	1	0	0	0	0	0	1	0	3	01 Jan 20	03 Jan 20	2	3	XC04Z	3 organ systems supported
Case D illustrates a patient having basic and advanced cardiovascular support.															
0	0	5	5	0	0	0	0	10	0	01 Jan 20	10 Jan 20	1	10	XC06Z	One organ system supported

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Advanced Respiratory Support days	Basic Respiratory Support days	Advanced Cardiovascular support days	Basic Cardiovascular support days	Renal Support days	Neurological Support days	Dermatological Support days	Liver Support days	L2 Days	L3 Days	CC Start date	CC Discharge Date	Unit Function	Length of Stay	HRG	HRG Label
Case E illustrates a patient with no organ systems supported and neither Level 2 nor Level 3 care.															
0	0	0	0	0	0	0	0	0	0	01 Jan 20	05 Jan 20	1	5	UZ01Z	Data Invalid for Grouping
Case F illustrates a patient with no organ systems support days and Level 2 care.															
0	0	0	0	0	0	0	0	1	0	01 Jan 20	05 Jan 20	5	5	XC07Z	No organ systems supported

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Differences from the HRG4+ 2021/22 Local Payment Grouper

No changes

No changes directly impacting this subchapter have been made in the HRG4+ 2022/23 Local Payment Grouper when compared to the HRG4+ 2021/22 Local Payment Grouper.

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Subchapter XD – High Cost Drugs

Subchapter **XD High Cost Drugs** comprises unbundled HRGs for select high cost drugs across all body systems, for patients of all ages.

The list of named high cost drugs was created by the Payment by Results team within the Department of Health (now NHS England and Improvement pricing teams) in conjunction with advice from the High Cost Drugs Steering Group.

In Subchapter XD, there is a one-to-one mapping of high cost drug OPCS-4 codes to a high cost drug HRG.

Where multiple high cost drugs are recorded, multiple high cost drug unbundled HRGs will be generated, since 1 unbundled HRG is generated for each distinct high cost drug OPCS-4 code recorded in the patient record.

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**58**	**58**
Total HRG Roots	**58**	**58**
Procedure-driven HRGs	58	58
Diagnosis-driven HRGs	0	0
Age Splits	N/A	N/A
Complications and Comorbidities Splits	N/A	N/A
Intervention Splits	N/A	N/A
Multiple Procedures	N/A	N/A
Procedure Combination Codes	N/A	N/A
Diagnosis-qualified	N/A	N/A
Subsidiary Procedure-qualified	N/A	N/A
Length of Stay-qualified	N/A	N/A

Multiple doses of the same drug will only generate 1 unbundled high cost drug HRG, however, because the current HRG4+ design cannot consider dosage due to a lack of such information in the underlying OPCS-4 codes or other data fields within the Commissioning Data Sets (CDS).

Note that coding standard **PCSX24: High Cost Drugs (*X81-X98*)** has been updated to state:

*There is no national requirement to collect high cost drugs data using codes in categories **X81-X98**, with the exception of:*

- ***X83.3 Fibrinolytic drugs Band 1** when alteplase is given in the treatment of acute stroke,*
- ***X90.4 Intravenous nutrition Band 1** which must be assigned once on every episode that a patient receives parenteral nutrition, regardless of the number of days this is given*

However, where any high cost drug OPCS-4 codes are recorded in the patient record, the associated unbundled high cost drug HRG(s) will be derived.

Differences from the HRG4+ 2021/22 Local Payment Grouper

No changes

No changes directly impacting this subchapter have been made in the HRG4+ 2022/23 Local Payment Grouper when compared to the HRG4+ 2021/22 Local Payment Grouper.

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Subchapter YA – Neurological Imaging Interventions

Subchapter **YA Neurological Imaging Interventions** covers neurological imaging interventions for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

This activity is separate from the neurosurgery procedures mapped to Subchapter **AA Nervous System Procedures and Disorders** and from the other non-vascular imaging interventions found in the other subchapters within Chapter **Y Vascular Procedures and Disorders and Imaging Interventions**.

The HRGs in this subchapter are separated based on the type of intracranial and extracranial imaging intervention performed e.g., embolisation of brain aneurysm, angiography of intracranial blood vessel.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**11**	**11**
Total HRG Roots	**8**	**8**
Procedure-driven HRGs	11	11
Diagnosis-driven HRGs	0	0
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	Yes	Yes

The embolisation of intracranial or extracranial aneurysm HRGs (**YA01-YA03***) are differentiated based on the size of aneurysms treated (small or medium, large, and giant); and/or by the number of aneurysms treated (single, 2, or 3 or more aneurysms). These are defined as per the OPCS-4 codes.

In addition, there is escalation logic to map to the appropriate HRG where procedure codes indicating multiple aneurysms of different intracranial or extracranial blood vessels are operated on.

To reflect the complex nature of the procedures, flow diverting stent assisted coil embolisation and stent assisted liquid polymer embolisation of aneurysm procedures map directly to **YA01Z Percutaneous Transluminal Embolisation of, Single Giant or 3 or more Other, Intracranial or Extracranial Aneurysms** irrespective of the size or number of aneurysms treated.

There is also logic on many of the embolisation of intracranial or extracranial blood vessel procedure codes to reach **YA04Z Percutaneous Transluminal Embolisation of Intracranial Arteriovenous Malformation**, where a primary diagnosis indicating an arteriovenous malformation is recorded.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. As many OPCS-4 codes for vascular imaging interventions are not blood vessel specific, many "**+NEURO**" procedure combination codes are used specific to operations on the intracranial or extracranial blood vessels to appropriately map them to HRGs within this subchapter. These use combination list **CL_Neuro** which includes OPCS-4 site codes relating to the blood vessels of the brain.

There are no paediatric specific HRGs within this subchapter due to a low volume of paediatric neurological imaging intervention activity.

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HRG **YA11Z Percutaneous Transluminal Arteriography, of Intracranial or Extracranial Blood Vessel** employs maximum length of stay logic to ensure that relatively minor procedures such as cerebral angiography are not used to determine the HRG for a long stay medical patient, e.g., a person who has suffered a stroke.

Interactive CC splits are employed within 2 of the HRG roots in this subchapter – up to a maximum of 3 levels – to more appropriately differentiate expected resource usage between routine and complex patients. These use list **YAYQYR_CC**.

Differences from the HRG4+ 2021/22 Local Payment Grouper

Creation of combination codes

2 new procedure combination codes have been created to support the identification of procedures undertaken alongside repair of aortic aneurysms, as part of the redesign of aortic aneurysm surgery. These new procedure combination codes, ***L713+Z361 Percutaneous transluminal embolisation of carotid artery*** and ***L713+Z367 Percutaneous transluminal embolisation of brachiocephalic artery***, have been mapped to base HRG root **YA03 Percutaneous Transluminal Embolisation of, Single Small or Medium, Intracranial or Extracranial Aneurysm**.

Changes to list membership

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **YAYQYR_CC**.

CC list **YAYQYR_CC** has been updated to include paediatric-specific CCs such as disorders of prematurity and autistic spectrum disorders to reflect the additional resource usage associated with treating patients with these underlying conditions.

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Subchapter YC – Head and Neck Imaging Interventions

Subchapter **YC Head and Neck Imaging Interventions** covers head and neck imaging interventions for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

This activity is separate from the open and endoscopic head and neck procedures mapped to Subchapters **CA Ear, Nose, Mouth, Throat, Head and Neck Procedures** and **KA Endocrine System Procedure and Disorders,** and from the other non-vascular imaging interventions found in other subchapters within Chapter **Y Vascular Procedures and Disorders and Imaging Interventions**.

The HRGs in this subchapter are separated based on the type of head and neck imaging intervention performed, and consist of HRGs for image guided biopsies, aspirations, and therapeutic procedures.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**3**	**3**
Total HRG Roots	**3**	**3**
Procedure-driven HRGs	3	3
Diagnosis-driven HRGs	0	0
Age Splits	No	No
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

YC02Z Percutaneous Fine Needle Aspiration Biopsy of Lesion of, Head or Neck is reached with a dominant head or neck biopsy procedure with a subsidiary OPCS-4 code indicating fine needle aspiration biopsy.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. The majority of procedures that map to this subchapter are either classified using a procedure combination code consisting of an OPCS-4 procedure code followed by a subsidiary OPCS-4 code indicating the procedure was performed under image control, or a subsidiary OPCS-4 code indicating a site of head or neck, or a combination thereof.

There are no paediatric specific HRGs within this subchapter due to a low volume of paediatric head and neck imaging intervention activity.

All HRGs within this subchapter employ maximum length of stay logic to ensure that relatively minor procedures such as biopsy of thyroid gland are not used to determine the HRG for a long stay medical patient, e.g., a person who has complicated diabetes.

As the majority of head and neck imaging intervention activity is short stay, there are no complication and comorbidity splits within this subchapter.

Differences from the HRG4+ 2021/22 Local Payment Grouper

New Subchapter and HRGs has been created

A new Subchapter, **YC Head and Neck Imaging Interventions**, has been created specifically for head and neck imaging interventions. The new HRGs have been created to accommodate existing procedure codes that have been remapped from Subchapters **CA**

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Ear, Nose, Mouth, Throat, Head and Neck Procedures and KA Endocrine System Procedures and Disorders, as well as new procedure combination codes.

This subchapter consists of three new HRGs:

YC01Z Percutaneous Core Needle Biopsy of Lesion of, Head or Neck

YC02Z Percutaneous Fine Needle Aspiration Biopsy of Lesion of, Head or Neck

YC10Z Percutaneous Therapeutic, Head or Neck Procedures

Changes to logic

Logic on the head and neck biopsy codes ensures this activity maps to **YC02Z Percutaneous Fine Needle Aspiration Biopsy of Lesion of, Head or Neck** when a subsidiary OPCS-4 code indicating fine needle aspiration biopsy is also recorded.

Remapping / Creation of combination codes

The creation of the new HRGs within this subchapter has resulted in the remapping of several procedure codes relating to percutaneous head and neck soft tissue procedures, such as excisions, biopsies and drainage of neck glands and lymph nodes, from HRGs within Subchapters **CA Ear, Nose, Mouth, Throat, Head and Neck Procedures** and **KA Endocrine System Procedures and Disorders** to HRGs within this new subchapter.

In addition, 11 new combination codes have been created specific to head and neck imaging interventions and mapped to the appropriate HRGs within this subchapter:

- ***T811+HEAD Percutaneous biopsy of muscle of head***, ***T871+IMAGE Excision or biopsy of scalene lymph node under image control***, ***T872+IMAGE Excision or biopsy of cervical lymph node under image control***, ***T878+IMAGE+HEAD Other specified excision or biopsy of lymph node of head under image control*** and ***T878+IMAGE+NECK Other specified excision or biopsy of lymph node of neck under image control*** have been created and mapped to **YC01Z Percutaneous Core Needle Biopsy of Lesion of, Head or Neck**.
- ***B108+Y22 Drainage of thyroglossal tissue***, ***B168+Y22 Drainage of parathyroid gland***, ***F488+Y22 Drainage of salivary gland***, ***T888+HEAD Other specified drainage of lesion of lymph node of head***, ***T964+HEAD Evacuation of seroma from soft tissue of head*** and ***B128+Y135 Ultrasonic destruction of lesion of thyroid gland*** have been created and mapped to **YC10Z Percutaneous Therapeutic, Head or Neck Procedures**.

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Subchapter YD – Thoracic Imaging Interventions

Subchapter **YD Thoracic Imaging Interventions** covers thoracic imaging interventions for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

This activity is separate from the open and endoscopic thoracic procedures mapped to Subchapter **DZ Respiratory System Procedures and Disorders** and from the other non-vascular imaging interventions found in other subchapters within Chapter **Y Vascular Procedures and Disorders and Imaging Interventions**.

The HRGs in this subchapter are separated based on the type of thoracic imaging intervention performed, and consist of HRGs specific to thoracic ablation procedures, biopsy of pleura and lung or mediastinum, drainage and aspiration of pleural cavity.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**5**	**5**
Total HRG Roots	**5**	**5**
Procedure-driven HRGs	5	5
Diagnosis-driven HRGs	0	0
Age Splits	No	No
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	Yes	Yes

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. In this subchapter they are used to identify different types of lung ablation.

There are no paediatric specific HRGs within this subchapter due to a low volume of paediatric thoracic imaging intervention activity.

With the exception of **YD01Z Percutaneous Ablation of Lesion of Respiratory Tract**, all of the HRGs within this subchapter employ maximum length of stay logic to ensure that relatively minor procedures such as thoracentesis are not used to determine the HRG for a long stay medical patient, e.g., a person who has tuberculosis.

As the majority of thoracic imaging intervention activity is short stay, there are no complication and comorbidity splits within this subchapter.

Differences from the HRG4+ 2021/22 Local Payment Grouper

OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could be split out and captured using a new procedure combination code formed using a ***.8 Other specified*** OPCS-4 code and mapped accordingly.

Within this subchapter, these global reviews have resulted in ***T12.8 Other specified puncture of pleura*** being remapped from **YD04Z Percutaneous Drainage of Pleural**

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Cavity to **YD05Z Percutaneous Aspiration of Pleural Cavity**, and a new procedure combination code ***T128+Y032 Renewal of tube drain into pleural cavity*** has been created and mapped to **YD04Z Percutaneous Drainage of Pleural Cavity**.

Changes to list membership

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

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Subchapter YF – Gastrointestinal Imaging Interventions

Subchapter **YF Gastrointestinal Imaging Interventions** covers gastrointestinal imaging interventions for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

This activity is separate from the open and endoscopic digestive system procedures mapped to Subchapters **FF Digestive System Procedures and Disorders** and **FE Digestive System Endoscopic Procedures** and from the other non-vascular imaging interventions found in the other subchapters within Chapter **Y Vascular Procedures and Disorders and Imaging Interventions**.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**9**	**9**
Total HRG Roots	**5**	**5**
Procedure-driven HRGs	9	9
Diagnosis-driven HRGs	0	0
Age Splits	Yes	Yes
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

The HRGs in this subchapter are specific to the type of gastrointestinal imaging intervention performed. There are HRGs for the insertion of gastrostomy and jejunostomy tubes, for the single and multiple drainage of abdominal lesions, and for the biopsy of lesion of abdominal cavity.

- HRG **YF02Z Radiological Insertion of, Gastrojejunostomy or Jejunostomy Tube** can be reached directly via procedure codes indicative of radiological jejunostomy insertion, or where an insertion of gastrostomy tube is recorded alongside a subsidiary OPCS-4 code indicating a site of jejunum.
- HRG root **YF03 Multiple Percutaneous Drainage of Abdominal Lesion Procedures** is reached when 2 or more percutaneous abdominal drainage procedures are recorded.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. In this subchapter they are used to identify percutaneous biopsy using a subsidiary OPCS-4 code indicating ‘under image control’.

HRG root **YF01 Radiological Insertion of Gastrostomy Tube** includes an age split to separate paediatric activity (18 years and under) from adult activity (19 years and over).

Several HRGs within this subchapter employ maximum length of stay logic to ensure that these relatively minor procedures such as these procedures are not used to determine the HRG for a long stay medical patient, e.g., a person who has Crohn’s disease.

Interactive CC splits are employed within 2 ‘drainage’ HRG roots in this subchapter – up to a maximum of 3 levels – to more appropriately differentiate expected resource usage between routine and complex patients. These use list **FDFEFFYF_CC**.

Differences from the HRG4+ 2021/22 Local Payment Grouper

New HRGs have been created

YF05Z Percutaneous Biopsy of Abdominal Cavity has been created to accommodate several new procedure combination codes, created to classify image guided biopsy of abdominal organs procedures, e.g., those undertaken on the omentum or peritoneum.

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Changes to HRG labels

The labels of HRG roots **YF03-YF04** and that of their associated HRGs have been amended to clarify the type of procedures covered by these HRGs.

The new HRG labels are:

YF03A Multiple Percutaneous Drainage of Abdominal Lesion Procedures, with CC Score 5+

YF03B Multiple Percutaneous Drainage of Abdominal Lesion Procedures, with CC Score 0-4

YF04A Single Percutaneous Drainage of Abdominal Lesion Procedure, with CC Score 5+

YF04B Single Percutaneous Drainage of Abdominal Lesion Procedure, with CC Score 2-4

YF04C Single Percutaneous Drainage of Abdominal Lesion Procedure, with CC Score 0-1

Remapping / Creation of combination codes

13 new combination codes have been created and mapped to **YF05Z Percutaneous Biopsy of Abdominal Cavity**. This activity would have previously mapped to HRGs within Subchapter **FF Digestive System Open and Laparoscopic Procedures**. Many of these new procedure combination codes use "'**+IMAGE**'", which requires a subsidiary code classifying approach to organ under image control:

- ***T294+IMAGE Biopsy of lesion of umbilicus under image control***
- ***T311+IMAGE Biopsy of lesion of anterior abdominal wall under image control***
- ***T364+IMAGE Biopsy of lesion of omentum under image control***
- ***T393+IMAGE Biopsy of lesion of posterior peritoneum under image control***
- ***T411+IMAGE Biopsy of lesion of peritoneum under image control***
- ***T458+Y20 Image controlled biopsy of abdominal cavity***
- ***T875+IMAGE Excision or biopsy of para-aortic lymph node under image control***
- ***T876+IMAGE Excision or biopsy of porta hepatis lymph node under image control***
- ***T877+IMAGE Excision or biopsy of inguinal lymph node under image control***
- ***T878+IMAGE+O141 Excision or biopsy of pelvic lymph node under image control***
- ***T878+IMAGE+O143 Excision or biopsy of mesenteric lymph node under image control***
- ***T878+IMAGE+Z617 Excision or biopsy of retroperitoneal lymph node under image control***
- ***X551+IMAGE Biopsy of lesion of unspecified organ under image control***

New procedure combination codes ***T315+IMAGE Drainage of anterior abdominal wall under image control***, ***T888+O141 Drainage of lesion of pelvic lymph node***, ***T888+Z615 Drainage of lesion of para-aortic lymph node*** and ***T888+Z617 Drainage of lesion of retroperitoneal lymph node*** have been created and mapped to base HRG root **YF04 Percutaneous Single Drainage of Abdominal Abscess**.

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OPCS-4 code ***T45.4 Image controlled percutaneous drainage of lesion of abdominal cavity NEC***, which was previously ignored for grouping purposes, has been mapped to base HRG root **YF04 Percutaneous Single Drainage of Abdominal Abscess**, on clinical advice.

Combination code ***G345+Y032 Renewal of gastrostomy tube*** has been deleted. This combination code can be used for both full renewals and renewal of part of the device, i.e., the button. As it is more frequently used for the latter, which is more akin in resource terms to an “attention to” the device, the combination code is no longer required, and this activity will appropriately default to the same HRGs as the “attention to” code recorded alone.

Changes to list membership

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **FDFEFFYF_CC**.

CC list **FDFEFFYF_CC** has been updated to include paediatric-specific CCs such as disorders of prematurity and autistic spectrum disorders to reflect the additional resource usage associated with treating patients with these underlying conditions. In addition, the list value of diagnosis code ***E34.0 Carcinoid syndrome*** on **FDFEFFYF_CC** has been increased to a value of 2 to reflect that this disorder is considered a major comorbidity.

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Subchapter YG – Hepatobiliary and Pancreatic Imaging Interventions

Subchapter **YG Hepatobiliary and Pancreatic Imaging Interventions** covers hepatobiliary and pancreatic imaging interventions for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**16**	**16**
Total HRG Roots	**10**	**10**
Procedure-driven HRGs	16	16
Diagnosis-driven HRGs	0	0
Age Splits	Yes	Yes
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

This activity is separate from the open and endoscopic hepatobiliary and pancreatic procedures mapped to Subchapters **GA Hepatobiliary and Pancreatic System Open Procedures** and **GB Hepatobiliary and Pancreatic System Endoscopic Procedures**, respectively, and from the other non-vascular imaging interventions found in the other subchapters within Chapter **Y Vascular Procedures and Disorders and Imaging Interventions**.

The HRGs in this subchapter are separated by type of hepatobiliary and pancreatic imaging intervention performed. There are HRGs for ablation procedures, the insertion of stents, drainage procedures, biopsies, and other diagnostic and therapeutic procedures.

- The insertion of stent HRGs (**YG02*-YG05***) are differentiated based on type of stent: other or metal (requiring a subsidiary OPCS-4 code indicating metal stent insertion); with multiple stents (requiring an additional stent insertion procedure code); or with drainage (requiring an additional percutaneous drainage of hepatobiliary or pancreatic duct procedure code.)

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. In this subchapter they are used to identify pancreas and liver ablation procedures.

HRG root **YG11 Percutaneous Punch Biopsy of Lesion of Liver** includes an age split to separate paediatric activity (18 years and under) from adult activity (19 years and over).

Several HRGs within this subchapter employ maximum length of stay logic to ensure that relatively minor procedures such as biopsies are not used to determine the HRG for a long stay medical patient, e.g., a person with liver failure.

Interactive CC splits are employed within many HRG roots in this subchapter – up to a maximum of 2 levels – to more appropriately differentiate expected resource usage between routine and complex patients. These use list **GAGBGCYG_CC**.

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Differences from the HRG4+ 2021/22 Local Payment Grouper

Remapping / Creation of combination codes

OPCS-4 code ***J50.1 T tube cholangiography*** has been remapped from **YG12Z Other Percutaneous Diagnostic, Hepatobiliary or Pancreatic Procedures** to unbundled base HRG **RD30Z Contrast Fluoroscopy Procedures with duration of less than 20 minutes**, to reflect that this is a diagnostic imaging procedure rather than an imaging intervention.

New procedure combination code ***J128+CRY Percutaneous cryoablation to liver*** has been created and mapped to base HRG root **YG01 Percutaneous Ablation of Lesion of, Liver or Pancreas**.

Changes to list membership

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **GAGBGCYG_CC**.

CC list **GAGBGCYG_CC** has been updated to include paediatric-specific CCs such as disorders of prematurity and autistic spectrum disorders to reflect the additional resource usage associated with treating patients with these underlying conditions. In addition, the list value of diagnosis code ***E34.0 Carcinoid syndrome*** on **GAGBGCYG_CC** has been increased to a value of 2 to reflect that this disorder is considered a major comorbidity.

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Subchapter YH – Musculoskeletal Imaging Interventions

Subchapter **YH Musculoskeletal Imaging Interventions** covers musculoskeletal imaging interventions for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings. However, it does not include any activity included in a Pain Management Programme which can be found within Subchapter **AB Pain Management**.

The activity mapped to this subchapter is separate from the open spinal and orthopaedic procedures mapped to Chapter **H Musculoskeletal System,** and from the other non-vascular imaging interventions found in the other subchapters within Chapter **Y Vascular Procedures and Disorders and Imaging Interventions**.

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**11**	**11**
Total HRG Roots	**8**	**8**
Procedure-driven HRGs	11	11
Diagnosis-driven HRGs	0	0
Age Splits	Yes	Yes
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	No	No
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	No	No
Length of Stay-qualified	Yes	Yes

The HRGs in this subchapter are separated based on the type of musculoskeletal imaging intervention performed. There are HRGs for ablation procedures, vertebroplasty, joint aspiration, and various musculoskeletal biopsies.

- The vertebroplasty HRGs (**YH0***) are differentiated based on levels of spine – 1, 2, or 3 or more - which are generated based on the procedure combination code recorded. These procedure combination codes include the vertebroplasty OPCS-4 procedure code, with the subsidiary level of spine OPCS-4 codes.

Age splits are employed in the joint aspiration and the biopsy of bone and muscle / connective tissue HRGs. There are specific HRGs for adult activity (19 years and over) and others for paediatric activity (18 years and under).

With the exception of the vertebroplasty and bone ablation HRGs, the HRGs within this subchapter employ maximum length of stay logic to ensure that relatively minor procedures such as biopsies are not used to determine the HRG for a long stay medical patient, e.g., a person who has metastatic bone cancer.

As the majority of musculoskeletal imaging intervention activity is short stay, there are no complication and comorbidity splits within this subchapter.

Differences from the HRG4+ 2021/22 Local Payment Grouper

New HRGs have been created / Existing HRGs deleted

Paediatric age splits have been added to the aspiration and biopsy HRGs within this subchapter to reflect the additional resource usage associated with treating children. This includes the deletion of 3 HRGs (**YH30Z Image Guided Aspiration of Joint**, **YH31Z Image Guided Biopsy of Lesion of Bone** and **YH32Z Image Guided Biopsy of, Lesion of Muscle or Connective Tissue**) and their replacement with 6 new HRGs.

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The new HRGs are:

YH30A Percutaneous Aspiration of Joint, 19 years and over

YH30B Percutaneous Aspiration of Joint, 18 years and under

YH31A Percutaneous Biopsy of Lesion of Bone, 19 years and over

YH31B Percutaneous Biopsy of Lesion of Bone, 18 years and under

YH32A Percutaneous Biopsy of, Lesion of Muscle or Connective Tissue, 19 years and over

YH32B Percutaneous Biopsy of, Lesion of Muscle or Connective Tissue, 18 years and under

Changes to HRG labels

The labels of the HRGs within this subchapter have been amended for clarity to state “Percutaneous” rather than “Image Guided”. This reflects the fact that although these procedures would typically be expected to be performed under image guidance, there is no logic check for OPCS-4 subsidiary image guidance codes in the patient record; therefore, “percutaneous” more accurately reflects the HRG content:

YH10Z Percutaneous Biopsy of Extradural Spinal Lesion

Changes to list membership

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

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Subchapter YJ – Breast Imaging Interventions

Subchapter **YJ Breast Imaging Interventions** covers breast imaging interventions for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

This activity is separate from the open breast procedures mapped to Subchapter **JA Breast Procedures and Disorders,** and from the other non-vascular imaging interventions found in the other subchapters within Chapter **Y Vascular Procedures and Disorders and Imaging Interventions**.

The HRGs in this subchapter are separated by the type of breast imaging intervention performed and include HRGs specific to various types of biopsies and aspirations.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**9**	**9**
Total HRG Roots	**9**	**9**
Procedure-driven HRGs	9	9
Diagnosis-driven HRGs	0	0
Age Splits	No	No
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

- The core needle biopsy HRGs (**YJ13Z-YJ14Z**) are differentiated by approach type – ultrasound guided or stereotactic – using subsidiary OPCS-4 codes.
- HRG **YJ03Z Biopsy of Lesion of Breast and Associated Lymph Nodes,** is reached when procedures indicating a biopsy or aspiration of breast, and a biopsy or aspiration of axillary lymph node, are recorded.

All the procedures that map to **YJ12Z Insertion of, Wire or Marker, for Localisation of Breast Lesion** are procedure combination codes that use subsidiary OPCS-4 codes indicating the insertion of marker

There are no paediatric-specific HRGs within this subchapter due to a low volume of paediatric breast imaging intervention activity.

All HRGs within this subchapter have maximum length of stay logic to ensure that relatively minor procedures such as biopsies are not used to determine the HRG for a long stay medical patient, e.g., a person who has metastatic breast cancer.

As the majority of breast imaging intervention activity is short stay, there are no complication and comorbidity splits within this subchapter.

Differences from the HRG4+ 2021/22 Local Payment Grouper

New HRGs have been created / Existing HRGs deleted

Several of the HRGs within this subchapter have been redesigned to more appropriately reflect clinical care. This includes the deletion of HRGs that differentiate unilateral and bilateral procedures in favour of distinguishing by the type of image control (x-ray versus ultrasound guidance, and core versus fine needle aspiration biopsy). This redesign has led to the deletion of 5 HRGs (**YJ01Z Bilateral Core Needle Biopsy of Lesions of Breasts**, **YJ02Z Unilateral Core Needle Biopsy of Lesion of Breast**, **YZ05Z Bilateral Fine Needle Aspiration of Lesions of Breasts**, **YJ06Z Unilateral Fine Needle Aspiration of Lesion of**

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Breast and **YJ07Z Fine Needle Aspiration of Lesion of Breast and Associated Lymph Nodes**), which have been replaced by 3 new HRGs.

The new HRGs are:

YJ13Z Ultrasound Guided Core Needle Biopsy of Lesions of Breast

YJ14Z Stereotactic Core Needle Biopsy of Lesion of Breast

YJ15Z Fine Needle Aspiration of Lesion of Breast

HRG **YJ10Z Wire Guided Biopsy of Lesion of Breast** has been deleted from this subchapter to reflect that this is a surgical procedure rather than an imaging intervention. As such, the activity that mapped to this HRG now maps to HRGs within Subchapter **JA Breast Procedures and Disorders**.

Changes to HRG labels

Alongside the redesign of HRGs within this subchapter, and to more appropriately reflect the content, the labels of existing HRGs have been updated.

The new HRG labels are:

YJ03Z Biopsy of Lesion of Breast and Associated Lymph Nodes

YJ08Z Fine Needle Aspiration of Axillary Lymph Nodes

YJ09Z Vacuum Assisted Biopsy or Excision of Lesion of Breast

YJ11Z Drainage of Lesion of Breast or Associated Lymph Nodes

Changes to logic

Logic has been added to codes that map to **YJ13Z Ultrasound Guided Core Needle Biopsy of Lesions of Breas**t to allow the generation of **YJ14Z Stereotactic Core Needle Biopsy of Lesion of Breast** when a subsidiary OPCS-4 code indicating that a stereotactic biopsy i.e., under radiological (x-ray) control is recorded.

With the deletion of HRGs that differentiate between uni- and bilateral procedures, the associated logic has been deleted.

Remapping / Creation of combination codes

With the deletion of **YJ10Z Wire Guided Biopsy of Lesion of Breast**, OPCS-4 code ***B32.3 Wire guided biopsy of lesion of breast*** has been remapped from this HRG to base HRG root **JA43 Unilateral Intermediate Breast Procedures** to reflect that this is a surgical rather than radiological procedure.

A new coding standard has been issued that allows for the differentiation of surgical versus radiological sentinel lymph node biopsies, with the coding guidance stating that the latter can be captured using a subsidiary code classifying approach to organ under image control. Therefore, to appropriately reflect the different expected resource usage, OPCS-4 code ***T91.1 Biopsy of sentinel lymph node*** has been remapped from **YJ04Z Core Needle Biopsy of Axillary Lymph Nodes** to base HRG root **JA43 Unilateral Intermediate Breast Procedures**, as this code classifies a surgical biopsy. In addition, a new procedure combination code ***T911+IMAGE Biopsy of sentinel lymph node under image control*** has been created (where **+IMAGE** is a subsidiary code classifying approach to organ under image control) and mapped to **YJ04Z Core Needle Biopsy of Axillary Lymph Nodes**, as this code classifies a radiological sentinel node biopsy.

The 2 (now-redundant) procedure combination codes that mapped to **YJ09Z Vacuum Assisted Biopsy of Lesion of Breast** have been deleted as the procedures they classified can already be coded using a single existing OPCS-4 code. In addition, new procedure

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combination code ***B283+Y066 Vacuum assisted excision of lesion of breast*** has been created and mapped to this HRG.

New procedure combination codes ***B321+Y204 Percutaneous fine needle aspiration biopsy of lesion of breas***t and ***B322+Y204 Fine needle aspiration biopsy of lesion of breast NEC*** have been created and mapped to **YJ15Z Fine Needle Aspiration of Lesion of Breast**.

Changes to list membership

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

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Subchapter YL – Urological Imaging Interventions

Subchapter **YL Urological Imaging Interventions** covers urological interventions for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

This activity is separate from the open urological procedures mapped to Subchapter **LB Urological and Male Reproductive System Procedures and Disorders** and from the other non-vascular imaging interventions found in the other subchapters within Chapter **Y Vascular Procedures and Disorders and Imaging Interventions**.

The HRGs within this subchapter are separated based on the type of urological imaging intervention performed. There are HRGs for ablation procedures, biopsies, insertion of stent and nephrostomy, and other procedures.

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**9**	**9**
Total HRG Roots	**8**	**8**
Procedure-driven HRGs	9	9
Diagnosis-driven HRGs	0	0
Age Splits	Yes	Yes
Complications and Comorbidities Splits	No	No
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	No	No
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

- Cryoablation and irreversible electroporation procedures map to HRG **YL01Z Complex Percutaneous Ablation of Lesion of Kidney**, and radiofrequency, microwave or other ablation procedures map to **YL02Z Standard Percutaneous Ablation of Lesion of Kidney**.

HRG **YL10Z Bilateral or Multiple, Percutaneous Insertion of, Ureteric Stent or Nephrostomy** is reached via escalation logic, with a dominant procedure of percutaneous insertion of ureteric stent or nephrostomy, and either: an additional procedure indicating a percutaneous insertion of ureteric stent or nephrostomy: or a subsidiary OPCS-4 code indicating a bilateral operation.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. In this subchapter they are used to identify kidney and prostate ablation, and insertion and renewal of stents.

HRG root **YL20 Percutaneous Needle Biopsy of Lesion of Kidney** includes an age split to separate paediatric activity (18 years and under) from adult activity (19 years and over).

With the exception of the ablation HRGs, all HRGs within this subchapter employ maximum length of stay logic to ensure that relatively minor procedures such as insertion of nephrostomy are not used to determine the HRG for a long stay medical patient, e.g., a person who has chronic kidney disease.

As the majority of urological imaging intervention activity is short stay, there are no complication and comorbidity splits within this subchapter.

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Differences from the HRG4+ 2021/22 Local Payment Grouper

New HRGs have been created

YL30Z Percutaneous Ablation of Lesion of Prostate has been created to enable all types of percutaneous ablation procedures on the prostate to be separately identified.

Changes to HRG labels

The HRG labels **YL01Z Complex Percutaneous Ablation of Lesion of Kidney** and **YL02Z Standard Percutaneous Ablation of Lesion of Kidney** have been amended to reflect the expansion of the types of procedures mapping to the ablation HRGs.

Remapping of codes

With the creation of **YL30Z Percutaneous Ablation of Lesion of Prostate**, the procedure codes specific to percutaneous ablation procedures on the prostate have been remapped from either base HRG root **LB26 Intermediate Endoscopic, Prostate or Bladder Neck Procedures (Male and Female)**, **LB70 Complex Endoscopic, Prostate or Bladder Neck Procedures (Male and Female)** or the now deleted HRG **LB49Z High Intensity Focused Ultrasound (Male and Female)**.

OPCS-4 Other specified (-.8) and Unspecified (-.9) global review

Cross-chapter reviews of ***.8 Other specified*** and ***.9 Unspecified*** OPCS-4 codes has been undertaken to ensure activity which is less specific does not group to a higher expected resource HRG than activity with a more specific code, from the same OPCS-4 code category. Also, a review has been undertaken to determine where specific procedures could be split out and captured using a new procedure combination code formed using a ***.8 Other specified*** OPCS-4 code and mapped accordingly.

Within this subchapter, these global reviews have resulted in ***M13.8 Other specified percutaneous puncture of kidney*** and ***M15.8 Other specified operations on kidney along nephrostomy tube track*** being remapped from **YL11Z Unilateral, Percutaneous Insertion of, Ureteric Stent or Nephrostomy** to **YL21Z Other Percutaneous Urinary Tract Procedures** to reflect that these are not necessarily drainage procedures.

New procedure combination code ***M158+STENT Insertion of stent along nephrostomy tube track*** has been created and mapped to **YL11Z Unilateral, Percutaneous Insertion of, Ureteric Stent or Nephrostomy**. To enable the creation of this new procedure combination code, new combination list **CL_Stent** has been created. This list consists of subsidiary OPCS-4 codes within category Y14 Placement of stent into organ and ***Y15.2 Renewal of stent in organ NOC***.

Changes to list membership

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

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Subchapter YQ – Vascular Open Procedures and Disorders

Subchapter **YQ Vascular Open Procedures and Disorders** covers vascular open procedures for patients of all ages and adult disorders. It includes activity undertaken in inpatient, day case and non-admitted care settings.

This activity is separate from the interventions that map to Subchapter **YR Vascular Imaging Interventions**.

The procedure-driven HRGs within this subchapter are differentiated based on the site of the blood vessel and are separated into the following surgical areas:

YQ0* Abdominal aorta procedures
YQ1* Lower limb blood vessel procedures, including varicose vein surgery
YQ2* Vascular amputation procedures
YQ3* Upper limb blood vessel procedures
YQ4* Other vascular procedures

Composition and Concepts		
	LP22/23	**LP21/22**
Total HRGs	**64**	**64**
Total HRG Roots	**29**	**29**
Procedure-driven HRGs	53	53
Diagnosis-driven HRGs	11	11
Age Splits	No	No
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

Some groups of related HRGs are separated based on the expected complexity of the procedures, to differentiate between either Standard and Complex HRGs, or Single and Multiple procedure HRGs.

Multiple Procedure Recognition

Multiple-procedure escalation logic is employed by the majority of HRGs in this subchapter to escalate activity to an HRG with a higher expected resource usage. This escalation occurs where significant additional procedures are recorded, which are on specific lists.

The multiple-procedure escalation logic escalates activity from Single to Multiple procedure HRGs, where an additional major vascular procedure is recorded from list **YQ_Mult**. This list contains vascular procedures, vascular imaging interventions and certain cardiac procedure.

In addition, for amputations and procedures on the limbs, escalation from Single to Multiple procedure HRGs also occurs where a subsidiary OPCS-4 code indicating a bilateral operation is recorded.

For the (**YQ2***) amputation HRGs, escalation to the ‘with Other Open Blood Vessel Procedure’ HRGs occurs when the dominant procedure is an amputation procedure and an additional major vascular procedure is recorded from list **YQ_Mult**, or when the dominant procedure is a major vascular procedure and an additional amputation procedure from list **YQ_Amp** is recorded

Some limb and amputation procedure HRGs are also separated into ‘with Imaging Interventions’ HRGs, which are reached when an additional vascular imaging intervention procedure from list **YQ_Vasc_IR** is recorded.

The (**YQ2***) amputation HRGs can be generated when certain amputation or disarticulation of bone procedures are performed on a patient with a primary diagnosis of vascular disorder,

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else the activity would map to an HRG in Subchapter **DZ Respiratory System Procedures and Disorders** or **HN Orthopaedic Non-Trauma Procedures**.

For the (**YQ06Z-YQ09***) surgical repair of aortic aneurysm HRGs, escalation from Standard to Complex HRGs occurs when either:

- an additional procedure indicating bypass of iliac or femoral artery, or replantation of renal or visceral artery is recorded, or
- a subsidiary OPCS-4 code indicating revisional operation is recorded, or
- a diagnosis code of cardiovascular infection is recorded in any position, or
- (for certain procedures), a diagnosis code of aortic dissection is recorded in any position.

HRG **YQ06Z Open Repair of Thoracoabdominal Aortic Aneurysm** can be reached with a dominant procedure of repair of suprarenal aortic aneurysm alongside an additional repair of thoracic aorta procedure, or a dominant procedure of repair of thoracic aorta procedure (which would otherwise map to an HRG within Subchapter **ED Open Cardiac Procedures for Acquired Conditions)**, alongside an additional repair of abdominal aorta procedure.

The (**YQ14Z-YQ16Z**) open treatment of varicose vein HRGs are separated into unilateral and bilateral HRGs. The latter can include either the identical procedure performed on both legs i.e., stripping of varicose veins with a subsidiary OPCS-4 code indicating bilateral operation; or a different varicose vein procedure being performed on each leg (i.e., stripping of varicose veins with a subsidiary OPCS-4 code indicating left-sided operation and ligation of varicose veins with a subsidiary OPCS-4 code indicating right-sided operation.

YQ15Z Open Treatment of Recurrent Unilateral Varicose Veins can be reached directly with OPCS-4 procedure codes which are explicitly for the treatment of recurrent varicose veins, or with a varicose vein procedure and a subsidiary OPCS-4 code indicating a revisional operation.

Some activity with a dominant procedure mapped to an HRG in this subchapter will group to an HRG in another subchapter in certain scenarios.

- For example, when an intervention on an arteriovenous shunt or fistula is performed under image control, activity maps to an HRG in **Subchapter YR Vascular Imaging Interventions**; when an aortic or vena cava procedure is performed on a child or to treat an adult with congenital heart disease, activity maps to an HRG in **Subchapter EC Open and Interventional Procedures for Congenital Heart Disease**.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS codes are required to identify a single procedure. As many vascular OPCS-4 codes are not blood vessel specific, procedure combination codes are used specific to operations on certain blood vessels to appropriately map them to site-specific procedure HRGs within this subchapter e.g., ***L682+CAROTID Endarterectomy of carotid artery***, ***L701+LOWLIMB Open embolectomy of artery of lower limb***. These use combination lists such as **CL_LowLimb** which includes OPCS-4 site codes relating to the blood vessels of the lower limbs.

The minor procedure HRGs in this subchapter, e.g., varicose vein surgery and vascular access procedures, have maximum length of stay logic to ensure that minor procedures such as arteriovenous (AV) fistula insertion are not used to determine the HRG for a long stay medical patient, e.g., a person who has chronic kidney disease.

There are no paediatric-specific HRGs within this subchapter due to a low volume of paediatric vascular surgery activity.

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All diagnosis-driven activity relating to the treatment of children (aged 18 years and under) groups to an HRG in Chapter **P Diseases of Childhood and Neonates**, in line with the requirements of the Casemix Design Framework. There are 2 adult diagnosis-driven HRG roots within this subchapter: 1 specific to deep vein thrombosis (DVT); and another that covers all other peripheral vascular disease.

Interactive CC splits are employed within the majority of procedure-driven and diagnosis-driven HRGs within this subchapter – up to a maximum of 6 levels – to more appropriately differentiate expected resource usage between routine and complex patients. These use list **YAYQYR_CC**.

Differences from the HRG4+ 2021/22 Local Payment Grouper

New HRGs have been created / Existing HRGs deleted

A cross-chapter review of aortic aneurysm repair has led to the redesign of HRGs within Subchapters **ED Open Cardiac Procedures for Acquired Conditions**, **YQ Vascular Open Procedures and Disorders** and **YR Vascular Imaging Interventions**. Within this subchapter, this has led to the deletion of 5 HRGs (**YQ01A Multiple or Revisional, Open Repair of, Abdominal or Thoracoabdominal Aortic Aneurysm, with CC Score 6+**; **YQ01B Multiple or Revisional, Open Repair of, Abdominal or Thoracoabdominal Aortic Aneurysm; with CC Score 0-5**, **YQ02Z Open Repair of Thoracoabdominal Aortic Aneurysm**; **YQ03A Open Repair of Abdominal Aortic Aneurysm with CC Score 6+** and **YQ03B Open Repair of Abdominal Aortic Aneurysm with CC Score 0-5**), which have been replaced by 8 new HRGs.

The new HRGs are:

YQ06Z Open Repair of Thoracoabdominal Aortic Aneurysm

YQ07A Open Repair of Suprarenal Aortic Aneurysm, with CC Score 7+

YQ07B Open Repair of Suprarenal Aortic Aneurysm, with CC Score 0-6

YQ08A Complex Open Repair of Abdominal Aortic Aneurysm with CC Score 7+

YQ08B Complex Open Repair of Abdominal Aortic Aneurysm with CC Score 0-6

YQ09A Standard Open Repair of Abdominal Aortic Aneurysm with CC Score 7+

YQ09B Standard Open Repair of Abdominal Aortic Aneurysm with CC Score 4-6

YQ09C Standard Open Repair of Abdominal Aortic Aneurysm with CC Score 0-3

These HRGs better differentiate between the type of aortic aneurysm being repaired – abdominal aortic aneurysm, suprarenal aortic aneurysm or thoracoabdominal aortic aneurysm – as the repair of the different types of aneurysms differs significantly both clinically and in terms of expected resource use.

YQ43Z Biopsy of Temporal Artery has been created to specifically identify this common vascular procedure.

Changes to HRG labels

The label of HRG root **YQ20 Multiple Limb Amputation Procedures** and that of its associated HRGs have been amended to ensure the labels reflect all types of activity that group to HRGs within this HRG root, including where the same limb has been re-amputated at a higher level during the same admission.

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The new HRG labels are:

YQ20A Multiple Limb Amputation Procedures with CC Score 10+

YQ20B Multiple Limb Amputation Procedures with CC Score 0-9

Changes to logic

To support the redesign and the creation of the new open aortic aneurysm repair HRGs, logic has been added to escalate activity from the standard HRGs to the complex HRGs when the following are recorded in addition to the dominant procedure:

- a subsidiary OPCS-4 code indicating revisional operation, or
- a diagnosis code indicating cardiovascular infection in any position, or
- a diagnosis code of aortic dissection in any position, or
- a procedure indicating bypass of iliac or femoral artery or replantation of renal or visceral arteries.

In addition, in order to generate **YQ06Z Open Repair of Thoracoabdominal Aortic Aneurysm**, logic has been applied to the open repair of suprarenal aortic aneurysm procedure codes to escalate activity to this HRG when an additional open repair of thoracic aortic aneurysm procedure is recorded. Likewise, logic on the open repair of thoracic aortic aneurysm procedures, which each map to base HRGs within Subchapter **ED Open Cardiac Procedures for Acquired Conditions**, triggers escalation to **YQ06Z Open Repair of Thoracoabdominal Aortic Aneurysm** when an additional open repair of abdominal aortic aneurysm procedure is recorded.

This logic replaces the now-redundant logic used to generate the now-deleted open repair of abdominal aneurysm HRGs, which required a primary diagnosis code indicating the type of aneurysm being operated on.

Remapping / Creation of combination codes

As part of the review and redesign of the open repair of aortic aneurysm procedures, the aortic aneurysm repair procedure codes that do not specify the segment of aorta operated on have been remapped such that they map to the open repair of abdominal aortic aneurysm base HRG roots within this subchapter rather than to the open repair of thoracic aortic aneurysm HRGs within Subchapter **ED Open Cardiac Procedures for Acquired Conditions**. This reflects the fact that, although not specified, these procedures are more likely to involve the abdominal, rather than the thoracic, aorta.

OPCS-4 code ***L91.1 Open insertion of central venous catheter*** has been remapped from base HRG root **YR40 Insertion of Non-Tunnelled Central Venous Catheter** to **YQ41 Open Operations, on Other or Unspecified Blood Vessels** because the procedures classified by this code are not imaging interventions.

As a result of a review of abdominal and pelvic lymph node procedures, OPCS-4 code ***T85.4 Block dissection of para-aortic lymph nodes*** has been remapped from base HRG root **YQ05 Single Open Procedure, on Aorta or Abdominal Blood Vessel** to **FF50 Complex General Abdominal Procedures**.

Following amendments made to procedure hierarchy values as part of the global review, procedure combination code ***L678+Y06 Excision of lesion of other artery***, which mapped to base HRG root **YQ41 Open Operations, on Other or Unspecified Blood Vessels**, has been deleted, as it is now redundant.

Procedure combination code ***L671+NECK Biopsy of artery NEC of neck*** has been deleted and replaced with new procedure combination code ***L671+O121 Biopsy of superficial***

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temporal artery, which has been mapped to **YQ43Z Biopsy of Temporal Artery**. This will result in a shift of activity from HRG root **CA05 Minor Head and Neck Procedures** to this new HRG.

New procedure combination code ***A792+Y742 Thoracoscopic destruction of thoracic sympathetic nerve NEC*** has been created and mapped to **YQ40Z Sympathectomy** following an update to clinical coding guidance for endoscopic thoracic sympathectomy.

To support the identification of post-partum interventions, a new procedure combination code ***L703+Z382 Ligation of internal iliac artery*** has been created and mapped to base HRG root **YQ12 Single Open Procedure on Blood Vessel of Lower Limb**.

Changes to list membership

The membership and of the various procedure lists used in multiple-procedure escalation logic employed within this subchapter have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design and to remove redundant procedure codes from escalation lists.

The global review and amendment of both procedure hierarchy (PH) values and diagnosis hierarchy (DH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **YAYQYR_CC**.

CC list **YAYQYR_CC** has been updated to include paediatric-specific CCs such as disorders of prematurity and autistic spectrum disorders to reflect the additional resource usage associated with treating patients with these underlying conditions.

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Subchapter YR – Vascular Imaging Interventions

Subchapter **YR Vascular Imaging Interventions** covers vascular imaging interventions for patients of all ages. It includes activity undertaken in inpatient, day case and non-admitted care settings.

This activity is separate from the open vascular procedures and non-vascular imaging interventions found in the other subchapters within Chapter **Y Vascular Procedures and Disorders and Imaging Interventions**.

This HRGs within this subchapter are procedure-specific and are separated into the following types of interventions:

Composition and Concepts		
	LP22/23	LP21/22
Total HRGs	**75**	**75**
Total HRG Roots	**43**	**43**
Procedure-driven HRGs	75	75
Diagnosis-driven HRGs	0	0
Age Splits	Yes	Yes
Complications and Comorbidities Splits	Yes	Yes
Intervention Splits	No	No
Multiple Procedures	Yes	Yes
Procedure Combination Codes	Yes	Yes
Diagnosis-qualified	Yes	Yes
Subsidiary Procedure-qualified	Yes	Yes
Length of Stay-qualified	Yes	Yes

YR1* Percutaneous angioplasty and insertion of stent / shunt procedures
YR2* Diagnostic and other vascular imaging interventions
YR3* Percutaneous varicose vein procedures
YR4* Vascular access procedures
YR5* Percutaneous embolisation procedures
YR6* Endovascular aortic repair (EVAR) procedures

The (**YR1***) angioplasty of peripheral blood vessel HRGs are differentiated by with/without insertion of stents as classified by the OPCS-4 codes, and also by type of stent or stent graft, and multiple stents. Subsidiary OPCS-4 codes are used to differentiate both the type and number of stents. In addition, the multiple stent HRGs can be reached where an additional insertion of stent procedure is recorded, or where there is a subsidiary OPCS-4 code indicating a bilateral operation.

The (**YR3***) percutaneous varicose vein procedure HRGs are differentiated by type - laser or radiofrequency ablation, or sclerotherapy - and into unilateral and bilateral HRGs. The latter can include either the identical procedure performed on both legs i.e., sclerotherapy of varicose veins with a subsidiary OPCS-4 code indicating a bilateral operation; or where different varicose vein procedures are performed on each leg i.e. injection of glue into varicose veins with a subsidiary OPCS-4 code indicating a left-sided operation, and foam sclerotherapy of varicose veins with a subsidiary OPCS-4 code indicating a right-sided operation.

The (**YR5***) embolisation of peripheral blood vessel HRGs are differentiated by the disorder treated, with HRGs specific to the treatment of aneurysms, arteriovenous malformations, and other disorders.

The embolisation of aneurysm of peripheral blood vessel HRGs can be reached directly where certain OPCS-4 codes recorded are specific to the treatment of aneurysms, or where an embolisation procedure code is recorded with a primary diagnosis of aneurysm. They are differentiated based on the size of aneurysms treated (small or medium, large, and giant), and/or by the number of aneurysms treated (single, 2, or 3 or more aneurysms), and are defined as per the OPCS-4 classification. In addition, there is escalation logic to map to the

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appropriate HRG where procedure codes indicating multiple aneurysms of different peripheral blood vessels are operated on.

To reflect the complex nature of the procedures, flow diverting stent assisted coil embolisation and stent assisted liquid polymer embolisation of aneurysm procedures map directly to **YR50Z Percutaneous Transluminal Embolisation of, Single Giant or 3 or more Other, Peripheral Aneurysms** irrespective of the size or number of aneurysms treated.

The embolisation of peripheral arteriovenous malformation (AVM) HRGs can be reached directly where OPCS-4 codes specific to the treatment of AVM are recorded, or where an embolisation procedure code and a primary diagnosis of AVM is recorded.

There are also HRGs specific to varicocele embolisation, uterine artery embolisation and prostate artery embolisation, with the latter 2 HRGs being reached via procedure combination codes that include the relevant subsidiary OPCS-4 site codes.

The (**YR6***) EVAR HRGs are differentiated based on the site of the aortic aneurysm (abdominal, thoracic, thoracoabdominal), and by the type of stent graft inserted, as identified using procedure combination codes. These use subsidiary OPCS-4 codes identifying stent graft type, and in some cases, aortic site codes. This enables direct mapping of these procedure combination codes to the appropriate procedure-specific EVAR HRGs.

The EVAR HRGs are also separated based on the expected complexity of the procedures, to differentiate between Standard and Complex HRGs. Some procedures, such as those explicitly for aortic dissection, map directly to the Complex HRGs to reflect the inherent complexity of such procedures. However, escalation from the Standard to Complex HRGs can also occur where an additional bypass, embolisation, or stent procedure is recorded.

Some activity with a dominant procedure mapped to an HRG in another subchapter maps to an HRG in this subchapter in certain scenarios.

- For example, where an intervention on an arteriovenous shunt or fistula is performed under image control, activity maps to an HRG in this subchapter (from Subchapter **YQ Vascular Open Procedures and Disorders**).

Age splits are employed in several of the vascular access HRGs: there are specific HRGs for adult activity (19 years and over) and others for paediatric activity (18 years and under). There are also HRGs specific to the treatment of young children (0 to 5 years of age) and those for the treatment of older children (6 to 18 years).

The minor procedure HRGs, e.g., varicose vein interventions, vascular access procedures and diagnostic imaging interventions, have maximum length of stay logic to ensure that minor procedures such as CV catheter insertion are not used to determine the HRG for a long stay medical patient, e.g., a person who is receiving treatment for cancer.

Interactive CC splits are employed within several of the therapeutic vascular imaging intervention HRG roots – up to a maximum of 4 levels – to more appropriately differentiate expected resource usage between routine and complex patients. These use list **YAYQYR_CC**.

Differences from the HRG4+ 2021/22 Local Payment Grouper

New HRGs have been created / Existing HRGs deleted

A cross-chapter review of aortic aneurysm repair has led to the redesign of HRGs within Subchapters **ED Open Cardiac Procedures for Acquired Conditions**, **YQ Vascular Open Procedures and Disorders** and **YR Vascular Imaging Interventions**. Within this subchapter, this has led to the deletion of 4 HRGs (**YR01Z Complex Endovascular Repair**

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of, Thoracic or Thoracoabdominal Aortic Aneurysm; **YR02Z Endovascular Repair of, Thoracic or Thoracoabdominal Aortic Aneurysm**; **YR03Z Complex Endovascular Repair of Abdominal Aortic Aneurysm**; and **YR04Z Endovascular Repair of Abdominal Aortic Aneurysm**), which have been replaced by 14 new HRGs.

The new HRGs are:

YR60Z Complex Endovascular Repair of Thoracoabdominal Aortic Aneurysm using Branched Stent Graft

YR61Z Standard Endovascular Repair of Thoracoabdominal Aortic Aneurysm using Branched Stent Graft

YR62A Complex Endovascular Repair of Thoracoabdominal Aortic Aneurysm using Fenestrated Stent Graft, with CC Score 6+

YR62B Complex Endovascular Repair of Thoracoabdominal Aortic Aneurysm using Fenestrated Stent Graft, with CC Score 0-5

YR63A Standard Endovascular Repair of Thoracoabdominal Aortic Aneurysm using Fenestrated Stent Graft, with CC Score 6+

YR63B Standard Endovascular Repair of Thoracoabdominal Aortic Aneurysm using Fenestrated Stent Graft, with CC Score 0-5

YR64A Complex Endovascular Repair of Thoracic Aortic Aneurysm, with CC Score 6+

YR64B Complex Endovascular Repair of Thoracic Aortic Aneurysm, with CC Score 0-5

YR65A Standard Endovascular Repair of Thoracic Aortic Aneurysm, with CC Score 6+

YR65B Standard Endovascular Repair of Thoracic Aortic Aneurysm, with CC Score 0-5

YR66A Complex Endovascular Repair of Abdominal Aortic Aneurysm, with CC Score 6+

YR66B Complex Endovascular Repair of Abdominal Aortic Aneurysm, with CC Score 0-5

YR67A Standard Endovascular Repair of Abdominal Aortic Aneurysm, with CC Score 6+

YR67B Standard Endovascular Repair of Abdominal Aortic Aneurysm, with CC Score 0-5

These endovascular aortic repair (EVAR) of aneurysm HRGs better differentiate between the type of aortic aneurysm being repaired – thoracic aortic aneurysm, abdominal aortic aneurysm or thoracoabdominal aortic aneurysm – as the repair of the different types of aneurysms differs significantly both clinically and in terms of expected resource use. The HRGs also separate activity based on the type of stent graft used, i.e., standard, branched or fenestrated.

Paediatric age splits, including those for older and younger children, have been added to the vascular access HRGs within this subchapter to reflect the additional expected resource usage associated with treating children, in particular the general anaesthetic requirement often associated with undertaking these procedures on preschool age children. As a result, 5 HRGs have been deleted (**YR40B Insertion of Non-Tunnelled Central Venous Catheter,**

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18 years and under; **YR42B Peripheral Insertion of Central Venous Catheter, 18 years and under**; YR43B Attention to Central Venous Catheter, 18 years and under; **YR44B Removal of Central Venous Catheter, 18 years and under**; and **YR45Z Insertion of Subcutaneous Port**) and replaced by 10 new HRGs.

The new HRGs are:

YR40C Insertion of Non-Tunnelled Central Venous Catheter, between 6 and 18 years

YR40D Insertion of Non-Tunnelled Central Venous Catheter, 5 years and under

YR42C Peripheral Insertion of Central Venous Catheter, between 6 and 18 years

YR42D Peripheral Insertion of Central Venous Catheter, 5 years and under

YR43C Attention to Central Venous Catheter, between 6 and 18 years

YR43D Attention to Central Venous Catheter, 5 years and under

YR44C Removal of Central Venous Catheter, between 6 and 18 years

YR44D Removal of Central Venous Catheter, 5 years and under

YR45A Insertion of Subcutaneous Port, 19 years and over

YR45B Insertion of Subcutaneous Port, 18 years and under

HRG **YR58Z Injection Sclerotherapy of Peripheral Arteriovenous Malformation** has been created to specifically capture this percutaneous procedure.

HRG **YR59Z Prostate Artery Embolisation** has been created according to NICE guidance to identify prostate artery embolisation for lower urinary tract symptoms caused by benign prostatic hyperplasia.

Changes to HRG labels

The label of each of the insertion of stent into peripheral blood vessel HRGs has been amended to clarify that all stent procedures map to these HRGs, not just metal stent procedures.

The new HRG labels are:

YR14A Percutaneous Transluminal Angioplasty with Insertion of Multiple Stents into Peripheral Blood Vessels, with CC Score 3+

YR14B Percutaneous Transluminal Angioplasty with Insertion of Multiple Stents into Peripheral Blood Vessels, with CC Score 0-2

YR15A Percutaneous Transluminal Angioplasty with Insertion of Single Stent into Peripheral Blood Vessel, with CC Score 6+

YR15B Percutaneous Transluminal Angioplasty with Insertion of Single Stent into Peripheral Blood Vessel, with CC Score 3-5

YR15C Percutaneous Transluminal Angioplasty with Insertion of Single Stent into Peripheral Blood Vessel, with CC Score 0-2

Changes to logic

To support the redesign and creation of the new EVAR HRGs, logic has been added to escalate activity from the standard EVAR HRGs to the complex EVAR HRGs when an additional procedure code, classifying either arterial bypass surgery insertion of stent, embolisation of artery or endostapling, is recorded. This logic replaces the previous logic used in the generation of the now-deleted endovascular repair of aortic aneurysm HRGs.

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After clarifying clinical coding guidance relating to the recording of procedures involving the insertion of multiple stents, the logic applied to codes that map to base HRG **root YR15 Percutaneous Transluminal Angioplasty with Insertion of Single Stent into Peripheral Blood Vessel** has been modified so that a subsidiary procedure indicating the insertion of multiple stents into 1 blood vessel or a single stent into more than 1 blood vessel, including bilateral operations, appropriately escalates to **YR14 Percutaneous Transluminal Angioplasty with Insertion of Multiple Stents into Peripheral Blood Vessels**.

Remapping / Creation of combination codes

OPCS-4 code *L91.1 Open insertion of central venous catheter* has been remapped from HRG root YR40 Insertion of Non-Tunnelled Central Venous Catheter to YQ41 Open Operations, on Other or Unspecified Blood Vessels because the procedures classified by this code are not imaging interventions.

To support the redesign and creation of the new EVAR HRGs, 62 new procedure combination codes have been created to represent the location, type and/or number of stent grafts used, e.g., ***L273+O201 Endovascular insertion of branched stent graft for thoracic aortic aneurysm*** and ***L274+THOR Endovascular insertion of stent graft for dissection of thoracic aortic aneurysm***. This has resulted in the creation of new combination lists such as **CL_THOR**, which contains subsidiary thoracic aorta site codes.

In addition, some procedure codes have been remapped from the now deleted EVAR HRGs to other HRGs within this subchapter as these codes are not exclusive to the treatment of aortic aneurysms. ***L26.5 Percutaneous transluminal insertion of stent into aorta*** and ***L268+Y152 Transluminal renewal of stent into aorta*** have been remapped to base HRG root **YR15 Percutaneous Transluminal Angioplasty with Insertion of Single Stent into Peripheral Blood Vessel**, and ***L26.6 Transluminal aortic stent graft with fenestration NEC*** and ***L26.7 Transluminal aortic branched stent graft NEC*** have been remapped to **YR12Z Percutaneous Transluminal Angioplasty with Insertion of Stent Graft into Peripheral Blood Vessel**.

New procedure combination code ***L758+SCLR Sclerotherapy to arteriovenous malformation*** has been created using new combination list **CL_Sclr**, which consists of subsidiary sclerotherapy of organ OPCS-4 codes. This new combination code has been mapped to new HRG **YR58Z Injection Sclerotherapy of Peripheral Arteriovenous Malformation**.

New procedure combination ***code L713+Z387 Percutaneous transluminal embolisation of prostate artery*** has been created and mapped to **YR59Z Prostate Artery Embolisation**.

To support the identification of the treatment of post-partum haemorrhage, procedure combination code ***L713+Z382 Percutaneous transluminal embolisation of internal iliac artery*** has been created and mapped to base HRG root **YR54 Percutaneous Transluminal Embolisation of Peripheral Blood Vessel**.

Changes to list membership

The membership and of the various procedure lists used in multiple-procedure escalation logic employed within this subchapter have been updated as part of a global list membership review undertaken to ensure consistency across the HRG design and to remove redundant procedure codes from escalation lists.

The global review and amendment of procedure hierarchy (PH) values may have an impact across this subchapter.

As part of a global review of updated coding guidance, ICD-10 diagnosis codes for septic shock and systemic inflammatory response syndrome with organ failure have been added to the CC list for this subchapter, **YAYQYR_CC**.

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CC list **YAYQYR_CC** has been updated to include paediatric-specific CCs such as disorders of prematurity and autistic spectrum disorders to reflect the additional resource usage associated with treating patients with these underlying conditions.

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