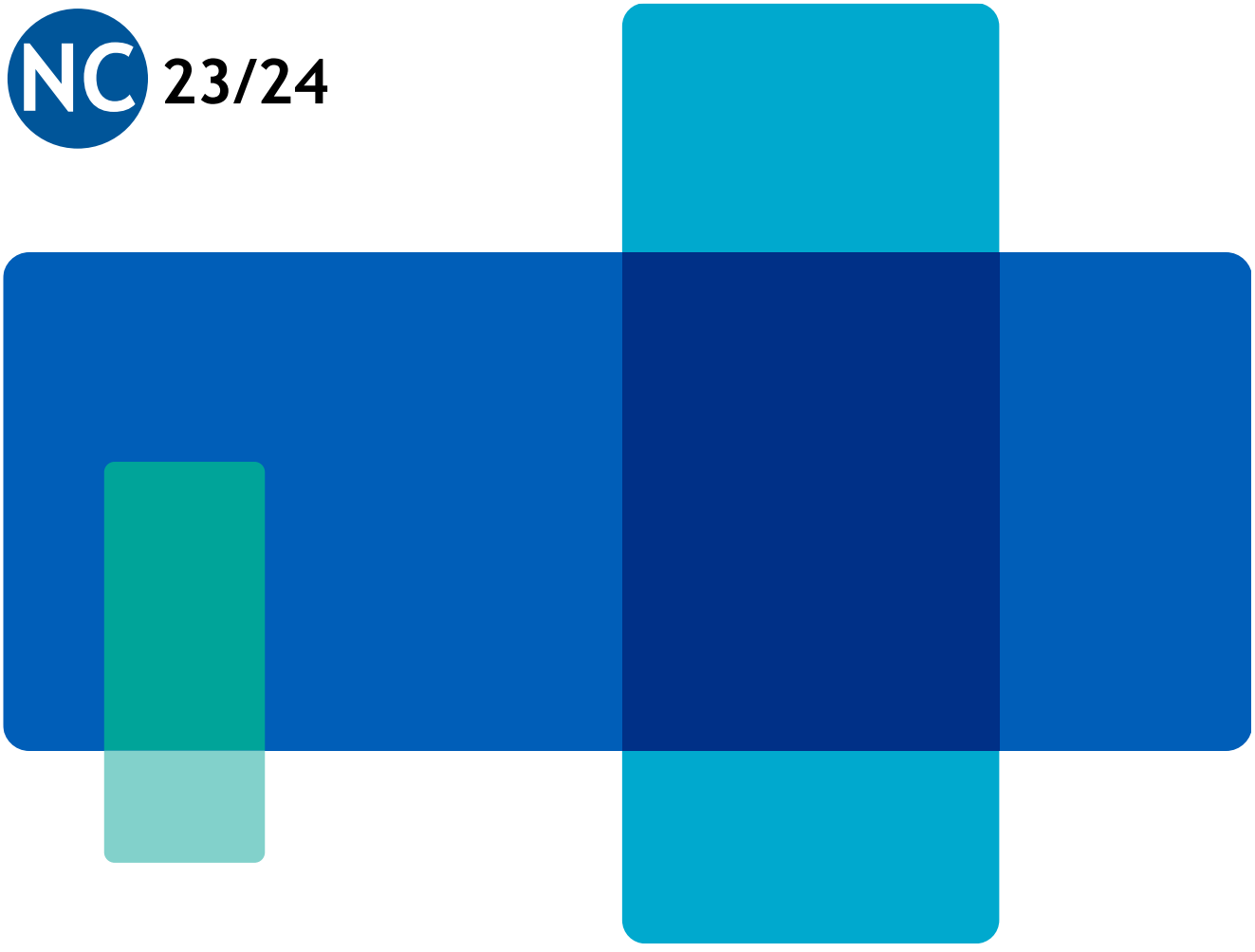
National Casemix Office

NHS England

Chapter Summaries

HRG4+ 2023/24 National Costs Grouper



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Contents

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+ National Costs 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+ 2023/24 National Costs Grouper and the previous HRG4+ 2022/23 National Costs Grouper.

As well as changes highlighted in each subchapter, there are cross-chapter changes implemented in the HRG4+ 2023/24 National Costs 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.

Accommodation of OPCS-4.10

The HRG design has been updated to accommodate the release of the OPCS-4.10 update, which came into effect in April 2023.

In addition to amending the OPCS-4 code set, the Clinical Classifications Service has made changes to the OPCS-4 National Clinical Coding Standards and have issued updated clinical coding guidance to reflect both the addition of new OPCS-4.10 codes and changes to existing OPCS-4 codes. Index entries have been added for new and existing 3- and 4-character OPCS-4 codes, and some index entries for existing codes have been amended or deleted. Alongside changes to index entries, related changes to includes, excludes and usage notes have been made.

Further information can be found on this web page:
DAPB0084: OPCS Classification of Interventions and Procedures - NHS Digital

Including a final summary of changes:
https://nhs-prod.global.ssl.fastly.net/binaries/content/assets/website-assets/isce/0084/0084362022changesummary.pdf

As necessary, the HRG design has therefore been amended to ensure the design complies with the latest clinical coding standards and guidance.

There are 236 new codes authored as part of the OPCS-4.10 update. Where a new code has been added to the OPCS-4 classification, the appropriate accommodation of each code has been considered alongside the Clinical Classifications Service (CCS) Table of Coding Equivalences (TOCE) – essentially a guide to the most likely OPCS-4.9 code(s) the activity would have historically been recorded against – with clinical input from the National Casemix Office Expert Working Groups (EWG).

There are 2 OPCS-4.9 codes that have also been retired in the OPCS-4.10 update, and their descriptions changed to *Code retired - refer to introduction.* Both codes have therefore been remapped to HRG **UZ01Z Data Invalid for Grouping** as they are no longer valid for use.

These codes are:

- ***G80.2 Code retired - refer to introduction*** (formerly Wireless capsule endoscopy)

- ***P15.3 Code retired - refer to introduction*** (formerly Repair of hymen)

The following new OPCS-4.10 codes have been ignored for Casemix grouping purposes, meaning that they are not included in any grouping logic nor included on lists, with the exception of the Procedure Hierarchy (PH) list where these codes have been included with a PH value of 1. This is as a result of either the codes being too generic for appropriate HRG derivation, or where new codes do not fit within the current HRG design structure.

- For example, codes which are not recorded with an appropriate site code (enabling the generation of a combination code, to derive a site-specific orthopaedic HRG) will default to being Ignored for Grouping.

OPCS-4.10 code	Description
O41.8	***Other specified operations on cartilage of joint***
O41.9	***Unspecified operations on cartilage of joint***
O49.1	***Removal of intramedullary fixation from bone***
W27.6	***Attention to fixation of epiphysis***
W27.7	***Removal of fixation from epiphysis NEC***
W28.5	***Insertion of telescopic intramedullary fixation of bone***
W28.6	***Insertion of intramedullary fixation of bone NEC***
W28.7	***Attention to intramedullary fixation of bone NEC***

As these new OPCS-4.10 codes are Ignored for Grouping purposes, when any of these codes are not recorded with an appropriate site enabling a combination code to be formed, or where they are not recorded with other significant procedure(s) (i.e. those with a PH value of 5 or more) a WF Outpatient Attendance HRG will be generated in an outpatient setting. In admitted patient care, where any of these codes are not recorded with an appropriate site enabling a combination code to be formed, or without any other significant procedure (i.e. those with a PH value of 5 or more), the episode/spell will generate a diagnosis-driven HRG based on the clinically determined primary diagnosis.

Code descriptions have been updated for 44 OPCS-4 codes. However, changes to code and combination code descriptions are cosmetic and will have no impact on HRG derivation.

As well as directly accommodating new OPCS-4.10 codes, there are other changes in the HRG design. For example, these include:

- The creation of 264 new combination codes formed using new OPCS-4.10 codes, and 61 new combination codes formed using existing OPCS-4 codes
- The creation or amendment of grouping logic on 334 existing OPCS-4 codes to appropriately accommodate the new OPCS-4.10 codes into the design (including changes to list membership)
- The deletion of 81 (now redundant) combination codes, which were used to capture activity that now has its own specific OPCS-4.10 code, or where the codes are no longer required due to changes in coding guidance
- The remapping of 145 existing OPCS-4 codes to a more appropriate HRG, where changes due to updated coding standards have meant that the existing codes now classify different healthcare activity than previously.

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		
	NC23/24	NC22/23
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 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 indicating 1 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 Treatment Function Code (TFC)

191 Pain Management Service or **241 Paediatric Pain Management Service** is recorded, or where the primary diagnosis indicates that the patient is undergoing treatment as part of a Pain Management Programme.

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 activity 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 activity to the Complex HRGs, this activity escalates up 2 levels.

In general, procedures 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.

The multiple-procedure and other (revisional, advanced monitoring) 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.

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.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS-4 codes are required to identify a single procedure. In this subchapter they tend to be used to identify subsidiary sites of the interbrain or midbrain, or 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).

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.

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 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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

The introduction of new OPCS-4.10 site codes ***O46.1 Interbrain*** and ***O46.2 Midbrain*** has enabled the creation of 19 new combination codes created to capture operations on these parts of the brain, which are not easily accessible and are therefore associated with an increase in clinical complexity.

These new combination codes replace the need for proxy “midbrain logic” (including where it was used in combination with revisional and/or multiple procedures) that was applied to several procedure codes within this subchapter. The proxy midbrain logic, which required a primary diagnosis of certain tumours most likely to occur in the middle parts of the brain, has therefore been removed in favour of the more accurate site-related combination codes.

- New combination codes ***A018+O461 Other specified major excision of tissue of interbrain***, ***A018+O462 Other specified major excision of tissue of midbrain***, ***A028+O461 Other specified excision of lesion of tissue of interbrain***, ***A028+O462 Other specified excision of lesion of tissue of midbrain***, ***A058+O461 Other specified drainage of lesion of tissue of interbrain***, ***A058+O462 Other specified drainage of lesion of tissue of midbrain***, ***A104+O461 Aspiration of lesion of tissue of interbrain NEC*** and ***A104+O462 Aspiration of lesion of tissue of midbrain NEC*** have been mapped to base HRG root **AA51 Complex Intracranial Procedures** to reflect that these procedures are as complex as equivalent operations on the brain stem.
- New combination codes ***A048+O461 Other specified open biopsy of lesion of tissue of interbrain***, ***A048+O462 Other specified open biopsy of lesion of tissue of midbrain***, ***A071+O461 Open division of tissue of interbrain***, ***A071+O462 Open division of tissue of midbrain***, ***A078+O461 Other specified other open operations on tissue of interbrain***, ***A078+O462 Other specified other open operations on tissue of midbrain***, ***A088+O461 Other specified other biopsy of lesion of tissue of interbrain***, ***A088+O462 Other specified other biopsy of lesion of tissue of midbrain***, ***A108+O461 Other specified other operations on tissue of interbrain***, ***A108+O462 Other specified other operations on tissue of midbrain*** and ***A178+O462 Other specified therapeutic endoscopic operations on ventricle***

of midbrain have been mapped to base HRG root **AA52 Very Major Intracranial Procedures** to reflect that these procedures are as complex as equivalent operations on the brain stem, with the latter representing endoscopic aqueductal stenting.

2 existing OPCS-4 codes have been remapped to ensure that all procedures on hard-to-reach parts of the brain map to the same HRG roots. ***B06.1 Excision of pineal gland*** has been remapped to base HRG root **AA51 Complex Intracranial Procedures** and ***B06.8 Other specified operations on pineal gland*** (which is used to record a biopsy of the pineal gland) has been remapped to base HRG root **AA52 Very Major Intracranial Procedures**.

Changes related to other OPCS-4.10 updates and amendments

The coding of extracranial to intracranial (EC-IC) bypass has been clarified and as a result, 2 existing OPCS-4 codes have been remapped. ***L29.6 High-flow interposition extracranial to intracranial bypass from external carotid artery to middle cerebral artery*** and ***L29.7 Bypass of carotid artery by anastomosis of superficial temporal artery to middle cerebral artery*** have been remapped to HRG root **AA50 Very Complex Intracranial Procedures** to reflect the complexity of these procedures.

The following 3 existing OPCS-4 codes have been removed from combination list **CL_Neuro** as they are ***.8 Other specified*** or ***.9 Unspecified*** codes of extended code categories, which according to coding standards should never be used:

- ***O28.8 Specified other cerebral artery NEC***
- ***O28.9 Other cerebral artery NEC***
- ***Z95.8 Specified other branch of thoracic aorta NEC***

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.

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.

Composition and Concepts		
	NC23/24	NC22/23
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

- 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 the ***+IMAGE*** combination codes, constructed using a subsidiary OPCS-4 code indicating “under image control”.

While 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 that 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 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.

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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

The introduction of new OPCS-4.10 site codes ***O42.1 Medial branch of cervical spinal nerve***, ***O42.2 Medial branch of thoracic spinal nerve***, ***O42.3 Medial branch of lumbosacral spinal nerve***, ***O42.8 Specified medial branch of spinal nerve NEC*** and ***O42.9 Unspecified medial branch of spinal nerve NEC*** has enabled the creation of 5 new combination codes created to capture medial branch block injections.

- New combination codes ***A735+O421 Injection of therapeutic substance around medial branch of cervical spinal nerve***, ***A735+O422 Injection of therapeutic substance around medial branch of thoracic spinal nerve***, ***A735+O423 Injection of therapeutic substance around medial branch of lumbosacral spinal nerve***, ***A735+O428 Injection of therapeutic substance around specified medial branch of spinal nerve*** and ***A735+O429 Injection of therapeutic substance around unspecified medial branch of spinal nerve*** have been mapped to HRG **AB16Z Denervation or Injection around Spinal Facet, for Pain Management** where the episode or spell has a length of stay of zero days, and either the primary diagnosis indicates a pain disorder, or a TFC of **191 Pain Management Service** or **241 Paediatric Pain Management Service** is recorded.

Changes related to other OPCS-4.10 updates and amendments

The CCS have confirmed that the codes within OPCS-4 code category ***A68.- Other release of peripheral nerve*** are expected to be used for surgical procedures rather than neurolytic blocks for pain management.

It is therefore appropriate to remove the pain management logic from the 7 existing OPCS-4 codes (and their associated 42 orthopaedic site combination codes, e.g. ***A681+ELBOW Primary neurolysis of peripheral nerve and transposition of peripheral nerve of elbow***) so that they no longer generate **AB26Z Nerve Block or Destruction of Nerve, for Pain Management** when recorded with a length of stay of zero days, and either a primary diagnosis indicating a pain disorder or a TFC of **191 Pain Management Service** or **241 Paediatric Pain Management Service**.

In addition, the 49 associated ***+IMAGE*** combination codes which were specifically created to drive grouping to **AB25Z Nerve Block or Destruction of Nerve, Under Image Control, for Pain Management** have been deleted as the codes are no longer required.

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.

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

BZ3* Cataract and lens procedures
BZ4* Oculoplastic procedures
BZ5* Orbit and lacrimal procedures
BZ6* Cornea and sclera procedures
BZ7* Ocular motility procedures
BZ8* Vitreous retinal procedures
BZ9* Glaucoma procedures

Composition and Concepts		
	NC23/24	NC22/23
Total HRGs	95	95
Total HRG Roots	49	49
Procedure-driven HRGs	91	91
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 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 several 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 activity 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 activity to the Complex HRGs, this activity escalates up 2 levels.

Escalation up 1 level also occurs when procedures are undertaken under general anaesthetic (GA), but only where the expectation is that the procedure(s) 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, for which there is an expectation that most 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 cataract surgery 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 activity up to 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-4 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 oculoplastic, 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 for this subchapter (**BZ_CC**) contains secondary diagnoses that predominantly impact theatre time and nursing resources. This includes mental health disorders such as dementia and autism, underlying 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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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**.

Composition and Concepts		
	NC23/24	NC22/23
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 generally differentiated based on the site of surgery – e.g. neck, ear, nose or mouth – 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.

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 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.

- 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 activity 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 activity to the Complex Ear HRGs, this activity escalates up 2 levels.

There is logic on some examination procedure codes to escalate activity to an HRG with a higher expected resource usage where a subsidiary OPCS-4 code indicating that the examination was under 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-4 codes are required to identify a single procedure. In this subchapter they tend to be used to identify a 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) from school-aged children (5 to 18 years), whereas the tonsillectomy HRGs differentiate between children 0–3 years of 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.

Differences from the HRG4+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 codes ***E32.1 Endoscopic cricoid split*** and ***E33.7 Cricoid split*** have been mapped to base HRG roots **CA67 Complex Therapeutic Endoscopic, Larynx or Pharynx Procedures** and **CA82 Very Major, Mouth or Throat Procedures**, respectively.

New OPCS-4.10 code ***F11.7 Endosseous implantation into zygoma*** has been mapped to base HRG root **CA93 Major Maxillofacial Procedures**.

New OPCS-4.10 code ***F32.7 Surgically assisted expansion of palate using orthodontic appliance*** has been mapped to base HRG root **CA92 Very Major Maxillofacial Procedures**.

New OPCS-4.10 codes ***F35.1 Bilateral intracapsular tonsillectomy NEC***, ***F35.2 Bilateral intracapsular coblation tonsillectomy***, ***F35.8 Other specified intracapsular excision of tonsil*** and ***F35.9 Unspecified intracapsular excision of tonsil*** have been mapped to base HRG root **CA60 Tonsillectomy**. In addition, related combination code ***F341+Y115 Bilateral ultrasonic destruction of tonsils*** has been deleted as all tonsillectomies, irrespective of approach, map to the same base HRG root, **CA60 Tonsillectomy**.

Changes related to other OPCS-4.10 updates and amendments

The following 2 existing OPCS-4 codes have been removed from combination list **CL_DES** as they are ***.8 Other specified*** or ***.9 Unspecified*** codes of extended code categories, which according to coding standards should never be used:

- ***Y10.8 Other specified destruction of organ NOC***
- ***Y10.9 Unspecified destruction of organ NOC***

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		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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		
	NC23/24	NC22/23
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 procedure HRGs are further separated based on the expected complexity of the procedures into a maximum of 3 levels (minor, intermediate and major).

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

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS-4 codes are required to identify a single procedure. In this subchapter they are used to differentiate renewal of dental devices 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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 code ***F19.2 Preservation of alveolar ridge using graft*** has been mapped to HRG root **CD01 Major Dental Procedures**.

New OPCS-4.10 codes ***F64.4 Repair of obturator***, ***F65.5 Removal of fixed functional orthodontic brace or appliance*** and ***F66.5 Removal of fixed orthodontic retainer*** have been mapped to HRG root **CD02 Intermediate Dental Procedures**.

In addition, existing OPCS-4 codes representing the removal or repair of orthodontic devices have been remapped to ensure that all such procedures map to the same HRG root, **CD02 Intermediate Dental Procedures**, alongside the equivalent new OPCS-4.10 codes.

- ***F14.7 Removal of orthodontic anchorage*** has been remapped from HRG root **CD11 Dental Fitting or Insertion Procedures**.
- ***F15.6 Repair of orthodontic appliance***, ***F15.7 Debonding of orthodontic bracket***, ***F17.5 Removal of dental crown from tooth***, ***F63.4 Repair of denture*** and ***F63.5 Splinting of teeth*** have been remapped from HRG root **CD03 Minor Dental Procedures**.

New OPCS-4.10 codes ***F64.8 Other specified insertion of oral prosthesis***, ***F64.9 Unspecified insertion of oral prosthesis***, ***F65.8 Other specified functional orthodontic operations***, ***F65.9 Unspecified functional orthodontic operations***, ***F66.8 Other specified post-orthodontic operations***, ***F66.9 Unspecified post-orthodontic operations***, ***F67.8 Other specified insertion of intraoral appliance*** and ***F67.9 Unspecified insertion of intraoral appliance*** have been mapped to HRG root **CD03 Minor Dental Procedures**.

In addition, existing OPCS-4 codes for non-specific procedures have been remapped to HRG root **CD03 Minor Dental Procedure** to ensure that all such ***.8 Other specified*** and ***.9 Unspecified*** codes map to the lowest expected resource HRG root alongside the equivalent new OPCS-4.10 codes.

- ***F17.8 Other specified operations on teeth using dental crown or bridge*** and ***F20.8 Other specified operations on gingiva*** have been remapped from HRG root **CD02 Intermediate Dental Procedures**.
- ***F63.8 Other specified insertion of dental prosthesis*** and ***F63.9 Unspecified insertion of dental prosthesis*** have been remapped from HRG root **CD11 Dental Fitting or Insertion Procedures**.

New OPCS-4.10 code ***F19.1 Removal of dental implant*** has been mapped to HRG root **CD04 Major Surgical Removal of Tooth**. In addition, existing OPCS-4 codes ***F09.1 Surgical removal of impacted wisdom tooth*** and ***F09.6 Coronectomy NEC*** have been remapped from HRG root **CD01 Major Dental Procedures** to **CD04 Major Surgical Removal of Tooth** to ensure all surgical removal of tooth procedures map to appropriate procedure-specific HRGs.

New OPCS-4.10 codes ***F12.3 Closure of apex of tooth***, ***F21.1 Debridement of root of tooth*** and ***F21.2 Application of topical silver diamine fluoride*** have been mapped to relabelled HRG root **CD09 Dental Restoration Procedures**.

In addition, existing OPCS-4 codes representing dental restoration procedures have been remapped to ensure that all such procedures map to the appropriate procedure-specific HRG root, **CD09 Dental Restoration Procedures**.

- ***F12.9 Unspecified surgery on apex of tooth***, ***F17.1 Preparation of tooth for dental crown*** and ***F17.6 Preparation of teeth for bridge*** have been remapped from HRG root **CD02 Intermediate Dental Procedures**.
- ***F12.1 Apicectomy of tooth*** and ***F12.8 Other specified surgery on apex of tooth*** have been remapped from HRG root **CD05 Surgical Removal of Tooth**.

- ***F12.2 Root canal therapy to tooth*** and ***F13.2 Partial restoration of crown of tooth*** have been remapped from **CD03 Minor Dental Procedures**.

New OPCS-4.10 codes ***F64.1 Creation of impression for obturator*** and ***F67.1 Creation of impression for intraoral appliance*** have been mapped to HRG root **CD10 Creation of Dental Impression**.

New OPCS-4.10 codes ***F64.2 Fitting of obturator***, ***F65.1 Fitting of fixed functional orthodontic brace or appliance***, ***F65.2 Fitting of movable functional orthodontic brace or appliance***, ***F66.1 Fitting of movable orthodontic retainer***, ***F66.2 Fitting of fixed orthodontic retainer*** and ***F67.2 Fitting of intraoral appliance*** have been mapped to HRG root **CD11 Dental Fitting or Insertion Procedures**.

New combination codes ***F155+Y032 Renewal of orthodontic device***, ***F174+Y032 Renewal of dental crown on tooth***, ***F178+Y032 Renewal of dental crown or bridge***, ***F633+Y032 Renewal of denture***, ***F643+Y032 Renewal of obturator***, ***F648+Y032 Renewal of oral prosthesis***, ***F653+Y032 Renewal of movable functional orthodontic brace or appliance***, ***F654+Y032 Renewal of fixed functional orthodontic brace or appliance***, ***F658+Y032 Renewal of functional orthodontic brace or appliance***, ***F663+Y032 Renewal of movable orthodontic retainer***, ***F664+Y032 Renewal of fixed orthodontic retainer***, ***F668+Y032 Renewal of orthodontic retainer NEC***, ***F673+Y032 Renewal of intraoral appliance*** and ***F678+Y032 Renewal of intraoral appliance*** have been created to ensure that renewal of the various dental devices also map to HRG root **CD11 Dental Fitting or Insertion Procedures**.

In addition, existing OPCS-4 code ***F14.1 Insertion of fixed orthodontic appliance*** has been remapped from HRG root **CD02 Intermediate Dental Procedures** to **CD11 Dental Fitting or Insertion Procedures** to ensure all insertion of dental devices map to the same appropriate procedure-specific HRGs.

New OPCS-4.10 codes ***F64.3 Adjustment of obturator***, ***F65.3 Adjustment of movable functional orthodontic brace or appliance***, ***F65.4 Adjustment of fixed functional orthodontic brace or appliance***, ***F66.3 Adjustment of movable orthodontic retainer***, ***F66.4 Adjustment of fixed orthodontic retainer*** and ***F67.3 Adjustment of intraoral appliance*** have been mapped to HRG root **CD12 Adjustment of Dental Device**. In addition, existing OPCS-4 codes ***F17.4 Adjustment of dental crown on tooth*** and ***F63.3 Adjustment of denture*** have been remapped from HRG root **CD03 Minor Dental Procedure** to **CD12 Adjustment of Dental Device** to ensure all adjustment of dental device procedures map to the same appropriate procedure-specific HRGs.

As a result of the significant increase in the total volume of procedure codes mapping to HRGs within this subchapter with the introduction of OPCS-4.10, the procedure hierarchy values of some codes mapped to this subchapter have been updated, and maximum length of stay logic applied to procedures that map to certain HRG roots. This ensures that where multiple procedures are recorded, the appropriate HRG will be derived based on the expected resource usage associated with the various dental HRGs.

The maximum length of stay logic on the procedure codes that map to HRG root **CD05 Surgical Removal of Tooth** has been updated to 2 days or less (from 1 day or less), on clinical advice.

The maximum length of stay logic on the procedure codes that map to HRG roots **CD07 Simple Extraction of Tooth**, **CD09 Dental Restoration Procedures** and **CD11 Dental Fitting or Insertion Procedures** has been updated to 1 day or less (from zero days), on clinical advice.

In order to clarify the content of the dental HRGs, the labels of some HRG roots and their associated HRGs have been updated, as follows:

- **CD07 Minor Extraction of Tooth** updated to **CD07 Simple Extraction of Tooth**
- **CD08Z Minor Dental Biopsy** updated to **CD08Z Biopsy of Gingiva**
- **CD09 Minor Dental Restoration Procedures** updated to **CD09 Dental Restoration Procedures**

Subchapter DX – COVID-19 Infection

Subchapter **DX COVID-19 Infection** 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 2 COVID-19 ICD-10 codes are effectively identifying a cohort of patients with the same disease and treatment pathway.

Composition and Concepts		
	NC23/24	NC22/23
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 is used for cases of COVID-19 which are confirmed by a positive diagnostic test result.

U07.2 COVID-19, virus not identified is used when diagnostic testing for COVID-19 is reported as inconclusive, or when testing has not been carried out, but the responsible consultant confirms a diagnosis.

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 2 lists, effectively escalating activity from base HRG root **DX21 COVID-19 Infection** 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 1 of the 125 ICD-10 diagnosis codes on the “Major Manifestation” list **DX_Major**, see below), escalation to HRG root **DX01 COVID-19 Infection, with Major Manifestations** will occur.

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***, escalation to HRG root **DX11 COVID-19 Infection, with Pneumonia** will occur. 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 HRG root **DX01 COVID-19 Infection, with Major Manifestations** will be generated.

- 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 **DX21 COVID-19 Infection** will be generated.

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 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, 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.
    - 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 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*** nor ***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 from code category ***Z53.- Persons encountering health services for specific procedures*** are recorded, the HRG root **WH50 Procedure Not Carried Out** will be derived, for patients of all ages.

- **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 1 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

ICD-10 Code	Code Description
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]
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

ICD-10 Code	Code Description
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
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

ICD-10 Code	Code Description
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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.

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.

Composition and Concepts		
	NC23/24	NC22/23
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

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 where 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 where 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**.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS-4 codes are required to identify a single procedure. In this subchapter they tend to be used to identify the subsidiary site of rib, intercostal muscles or nerves for rib and associated chest wall 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 the 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, and respiratory neoplasms.

- **DZ51Z Complex Tuberculosis with length of stay 29 days or more** is generated for adult patients with a primary 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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 code ***X52.2 High flow nasal oxygen therapy*** has been mapped to HRG root **DZ37 Non-Invasive Ventilation Support Assessment**. As a result of the creation of this new OPCS-4.10 code, the existing OPCS-4 code that was previously used to capture high flow nasal oxygen as per national coding standards, ***X52.8 Other specified oxygen therapy***, has been remapped. ***X52.8 Other specified oxygen therapy*** is now Ignored for Grouping purposes as it is no longer likely to be used for non-invasive ventilation support, but rather for other types of oxygen therapy. As ***X52.8 Other specified oxygen therapy*** is now Ignored for Grouping purposes, where this code is not recorded with other significant procedure(s) (i.e. those with a PH value of 5 or more), a WF Outpatient Attendance HRG will be generated in an outpatient setting. In admitted patient care, where this code is recorded without any other significant procedure (i.e. those with a PH value of 5 or more), the episode

or spell will generate a diagnosis-driven HRG based on the clinically determined primary diagnosis.

New OPCS-4.10 code ***T05.5 Open biopsy of lesion of chest wall*** has been mapped to base HRG root **DZ64 Intermediate Thoracic Procedures**. In addition, to ensure that open excisions of chest wall lesions map to a higher expected resource HRG than simpler open biopsy procedures, existing OPCS-4 code ***T01.3 Excision of lesion of chest wall*** has been remapped from **DZ71Z Minor Thoracic Procedures** to base HRG root **DZ63 Major Thoracic Procedures**.

The introduction of new OPCS-4.10 site code ***O52.1 Intercostal nerve*** has enabled the creation of 6 new combination codes created to capture operations on the intercostal nerves. These new combination codes replace 3 existing ***A61.- Extirpation of lesion of peripheral nerve +RIB*** combination codes, which are now redundant.

- New combination codes ***A611+O521 Excision of lesion of intercostal nerve***, ***A614+O521 Destruction of lesion of intercostal nerve NEC***, ***A618+O521 Other specified extirpation of lesion of intercostal nerve***, ***A591+O521 Total sacrifice of intercostal nerve*** and ***A592+O521 Partial sacrifice of intercostal nerve*** have been mapped to base HRG root **DZ63 Major Thoracic Procedures**.
- New combination code ***A731+O521 Biopsy of lesion of intercostal nerve*** has been mapped to base HRG root **DZ64 Intermediate Thoracic Procedures**.

The introduction of new OPCS-4.10 codes for various orthopaedic operations has led to the creation of 8 new ***+RIB*** combination codes created to capture these operations when undertaken on rib joints or intercostal cartilage.

- New combination codes ***O418+RIB Other specified operations on cartilage of joint of rib***, ***O419+RIB Unspecified operations on cartilage of joint of rib***, ***W287+RIB Adjustment to intramedullary fixation of bone NEC of rib*** and ***O491+RIB Removal of intramedullary fixation of bone of rib*** have been mapped to base HRG root **DZ64 Intermediate Thoracic Procedures**.
- New combination codes ***W285+RIB Insertion of telescopic intramedullary fixation of bone of rib***, ***W286+RIB Insertion of intramedullary fixation of bone NEC of rib***, ***W287+Y032+RIB Renewal of intramedullary fixation of bone NEC of rib*** and ***W282+Y032+RIB Renewal of internal fixation of bone NEC of rib*** have been mapped to base HRG root **DZ02 Complex Thoracic Procedures**.

Changes related to other OPCS-4.10 updates and amendments

The CCS have clarified how to code operations on the soft tissue of the chest using OPCS-4 code category ***T96.- Other operations on soft tissue***. These procedures should not be recorded using any site codes from combination list **CL_Rib** but should instead use site code ***Z92.4 Chest NEC***. This has resulted in the deletion of 7, now redundant, ***+RIB*** combination codes, which have been replaced with 7 new combination codes which use the specific site code ***Z92.4 Chest NEC***.

- New combination codes ***T962+Z924 Excision of lesion of soft tissue NEC of chest***, ***T963+Z924 Debridement of soft tissue NEC of chest***, ***T964+Z924 Evacuation of seroma from soft tissue of chest*** and ***T968+Z924 Other specified other operations on soft tissue of chest*** have been mapped to base HRG root **DZ63 Major Thoracic Procedures** as this is where the (now redundant) ***+RIB*** combination codes previously mapped.

- New combination codes ***T965+Z924 Aspiration of soft tissue of chest*** and ***T967+Z924 Injection into soft tissue of chest*** have been mapped to **DZ71Z Minor Thoracic Procedures** as this is where the (now redundant) ***+RIB*** combination codes previously mapped.
- Although the previous equivalent ***+RIB*** combination code mapped to **DZ71Z Minor Thoracic Procedures**, new combination code ***T966+Z924 Biopsy of soft tissue of chest*** has been mapped outside of this subchapter to relabelled HRG **YD02Z Percutaneous Biopsy of Lesion of, Pleura or Chest Wall** to reflect that this is expected to be a percutaneous, rather than open, procedure.

The CCS have confirmed the appropriate codes for recording operations on intercostal muscles. As a result, to appropriately capture this activity and ensure it maps to HRGs within this subchapter rather than defaulting to the generic HRG **HN93Z Other Muscle, Tendon, Fascia or Ligament Procedures**, 21 new combination codes have been created using site code ***Z60.5 Muscle of chest***.

- New combination codes ***T761+Z605 Microvascular free tissue transfer of flap of muscle of chest***, ***T762+Z605 Transfer of flap of muscle NEC of chest***, ***T768+Z605 Other specified transplantation of muscle of chest***, ***T769+Z605 Unspecified transplantation of muscle of chest*** and ***T772+Z605 Wide excision of muscle of chest*** have been mapped to base HRG root **DZ63 Major Thoracic Procedures**.
- New combination codes ***T773+Z605 Partial excision of muscle NEC of chest***, ***T774+Z605 Debridement of muscle NEC of chest***, ***T778+Z605 Other specified excision of muscle of chest***, ***T779+Z605 Unspecified excision of muscle of chest***, ***T798+Z605 Other specified repair of muscle of chest***, ***T799+Z605 Unspecified repair of muscle of chest***, ***T808+Z605 Other specified release of contracture of muscle of chest***, ***T809+Z605 Unspecified release of contracture of muscle of chest***, ***T812+Z605 Biopsy of neuromuscular junction of chest***, ***T813+Z605 Biopsy of lesion of muscle NEC of chest***, ***T818+Z605 Other specified biopsy of muscle of chest*** and ***T819+Z605 Unspecified biopsy of muscle of chest*** have been mapped to base HRG root **DZ64 Intermediate Thoracic Procedures**.
- New combination codes ***T831+Z605 Destruction of lesion of muscle of chest***, ***T832+Z605 Division of muscle of chest***, ***T834+Z605 Exploration of muscle of chest*** and ***T838+Z605 Other specified other operations on muscle of chest*** have been mapped to HRG **DZ71Z Minor Thoracic Procedures**.

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		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

Subchapter EC – Open and Interventional Procedures for Congenital Heart Disease

Composition and Concepts		
	NC23/24	NC22/23
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

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 diagnosis.

The majority of procedures only map to HRGs within this subchapter where the patient is a child, or where an adult patient has a 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 an outpatient setting. The congenital heart disease logic for adult patients cannot be triggered in non-admitted care settings.

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 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 activity 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 activity 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 GA is recorded, where the expectation is that the procedure(s) 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.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS-4 codes are required to identify a single procedure. In this subchapter they tend to be used to differentiate the renewal of various devices, or transcatheter procedures.

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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 code ***K62.6 Percutaneous transluminal intermittent occlusion of coronary sinus*** has been mapped to base HRG root **EC15 Minor Procedures for Congenital Heart Disease** when the patient has a congenital heart disease diagnosis (in any position from list **E_Congenital**) or is 18 years and under.

Changes related to other OPCS-4.10 updates and amendments

New combination code ***K388+Y022+TRNSCATH Percutaneous transcatheter insertion of prosthesis into structure adjacent to valve of heart*** has been created to capture the procedure described in *NICE IPG700 Percutaneous insertion of a closure device to repair a paravalvular leak around a replaced mitral or aortic valve*. This has been mapped to base HRG root **EC13 Major Procedures for Congenital Heart Disease** when the patient has a congenital heart disease diagnosis (in any position from list **E_Congenital**) or is 18 years and under.

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		
	NC23/24	NC22/23
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 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 on specific lists are recorded alongside the dominant procedure.

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.

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 procedures, 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.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS-4 codes are required to identify a single procedure. In this subchapter they tend to be used to differentiate procedures on the aortic arch.

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.

Differences from the HRG4+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

Subchapter EY – Interventional Cardiology for Acquired Conditions

Composition and Concepts		
	NC23/24	NC22/23
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

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**.

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, activity is 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 on specific lists are recorded alongside the dominant procedure.

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, or

- a subsidiary OPCS-4 code indicating that the procedure was performed under GA.

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 1 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. Subsidiary OPCS-4 site codes indicating the site are used to form the combination codes that map TAVI activity 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 activity 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 is 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.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS-4 codes are required to identify a single procedure. In this subchapter they tend to be used to differentiate the renewal of various devices or transcatheter procedures.

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.

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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 code ***K62.6 Percutaneous transluminal intermittent occlusion of coronary sinus*** has been mapped to base HRG root **EY23 Standard Other Percutaneous Transluminal Repair of Acquired Defect of Heart**.

Changes related to other OPCS-4.10 updates and amendments

New combination code ***K388+Y022+TRNSCATH Percutaneous transcatheter insertion of prosthesis into structure adjacent to valve of heart*** has been created to capture the procedure described in *NICE IPG700 Percutaneous insertion of a closure device to repair a paravalvular leak around a replaced mitral or aortic valve*. This has been mapped to HRG root **EY22 Complex Other Percutaneous Transluminal Repair of Acquired Defect of Heart**.

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		
	NC23/24	NC22/23
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 1 of these diagnosis codes is recorded as the primary diagnosis, any complication inherent in the primary diagnosis 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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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		
	NC23/24	**NC22/23**
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* Diagnostic and minor therapeutic 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 a base HRG root of **FE03 Intermediate Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures** can also escalate to HRG root **FE02 Major 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 HRG **FE13Z Endoscopic Insertion of, Gastrojejunostomy or Jejunostomy Tube**, there is also logic on some of the insertion of gastrostomy tube procedure codes to escalate activity 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-4 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 HRG 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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 codes ***G20.2 Fibreoptic endoscopic coagulation of bleeding lesion of oesophagus using haemostatic spray*** and ***G46.3 Fibreoptic endoscopic coagulation of***

bleeding lesion of upper gastrointestinal tract using haemostatic spray have been mapped to base HRG root **FE03 Intermediate Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures**. As a result, the now redundant, combination code ***G448+Y378 Fibreoptic endoscopic introduction of substance into upper gastrointestinal tract***, which was previously used to describe the application of haemolytic powder, has been deleted.

New OPCS-4.10 code ***G21.6 Cytology of oesophagus using ingestible sponge*** has been mapped to HRG root **FE23 Endoscopic or Intermediate, Upper Gastrointestinal Tract Procedures, 18 years and under** for child patients.

New OPCS-4.10 code ***H21.6 Fibreoptic endoscopic insertion of tubal prosthesis into colon*** has been mapped to base HRG roots **FE30 Therapeutic Colonoscopy, 19 years and over** for adult patients and **FE37 Endoscopic or Intermediate, Lower Gastrointestinal Tract Procedures, 18 years and under** for child patients.

- In addition, a new combination code has been created using this new OPCS-4.10 code to represent the endoscopic insertion of colonic stents. ***H216+Y14 Fibreoptic endoscopic insertion of stent into colon*** has been mapped to base HRG root **FE10 Endoscopic Insertion of Luminal Stent into Gastrointestinal Tract**.

New OPCS-4.10 code ***H38.1 Fibreoptic endoscopic cryotherapy to lesion of colon*** has been mapped to HRG **FE01Z Complex Therapeutic Endoscopic, Upper or Lower Gastrointestinal Tract Procedures**. As a result, the now redundant, combination code ***H204+CRY Fibreoptic endoscopic cryotherapy to lesion of colon*** has been deleted.

New OPCS-4.10 code ***U17.7 Wireless capsule endoscopy of digestive tract*** has been mapped to HRG root **FE50 Wireless Capsule Endoscopy**.

Changes related to OPCS-4.10 code retirements

OPCS-4.9 code ***G80.2 Wireless capsule endoscopy*** has been retired in OPCS-4.10 and its description updated to ***Code retired - refer to introduction*** as this code is exclusive to wireless capsule endoscopy of the upper gastrointestinal tract due to the code category in which it is found.

G80.2 Code retired - refer to introduction has therefore been remapped to HRG **UZ01Z Data Invalid for Grouping** and will generate error category **UZ06 Poorly coded procedure for Casemix grouping purposes** if recorded.

OPCS-4.9 code ***G80.2 Code retired - refer to introduction*** has been replaced by a new OPCS-4.10 code, ***U17.7 Wireless capsule endoscopy of digestive tract***, which can be used to code any type of wireless capsule endoscopy using appropriate site codes, as per national coding standards.

Subchapter FF – Digestive System Open and Laparoscopic Procedures

Composition and Concepts		
	NC23/24	NC22/23
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

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.

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 open and laparoscopic surgical areas:
FF0* Upper gastrointestinal tract procedures
FF1* 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 several 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.

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, peritoneum, omentum and abdominopelvic lymph node 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 activity to an HRG 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.

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 HRG **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 a diagnostic high resolution anoscopy procedure is performed alongside a colposcopy procedure, 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 when undertaken on paediatric patients these same procedures 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-4 codes are required to identify a single procedure. Several 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 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 HRG 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 Procedures** ensures that where 1 of these diagnosis codes is recorded as the primary diagnosis, any complication inherent in the primary diagnosis 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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 code ***G21.6 Cytology of oesophagus using ingestible sponge*** has been mapped to HRG root **FF05 Intermediate Upper Gastrointestinal Tract Procedures, 19 years and over** for adult patients and **FE23 Endoscopic or Intermediate, Upper Gastrointestinal Tract Procedures, 18 years and under** for child patients.

New OPCS-4.10 code ***H50.5 Reanastomosis of rectum to anal canal and creation of anal sphincter*** has been mapped to base HRG root **FF30 Very Complex Large Intestine Procedures**.

New OPCS-4.10 codes ***H72.1 Excision of lesion of anus using high resolution anoscope***, ***H72.2 Destruction of lesion of anus using high resolution anoscope***, ***H72.8 Other specified therapeutic operations on anus using high resolution anoscope*** and ***H72.9 Unspecified therapeutic operations on anus using high resolution anoscope*** have been mapped to base HRG root **FF41 Intermediate Anal Procedures**.

New OPCS-4.10 codes ***H73.1 Diagnostic examination of anus and biopsy of anus using high resolution anoscope***, ***H73.8 Other specified diagnostic operations on anus using high resolution anoscope*** and ***H73.9 Unspecified diagnostic operations on anus using high resolution anoscope*** have been mapped to a base HRG of **FF42Z Minor Anal Procedures**, with logic to map to **MA27Z Minor, Upper or Lower Genital Tract Procedures for Malignancy** where the length of stay is 1 day or less and an additional procedure code is recorded indicating diagnostic colposcopy. This ensures that where investigations for multizonal anogenital neoplasia are undertaken, they map to the appropriate gynaecological procedure HRG.

As a result of the authoring of these new OPCS-4 codes for high resolution anoscopy (HRA) procedures, existing OPCS-4 code ***H56.8 Other specified other operations on anus*** has been mapped from base HRG root **FF41 Intermediate Anal Procedures** to HRG **FF42Z Minor Anal Procedures**. This code was previously used to capture HRA, but as it is no longer likely to be used for these procedures, and it is a non-specific code, it is now appropriately mapped to a lower expected resource HRG.

Changes related to other OPCS-4.10 updates and amendments

In lieu of specific OPCS-4 codes, logic has been added to codes classifying general abdominal procedures. This is to ensure the appropriate accommodation of complex debulking and cytoreductive procedures, that are undertaken to treat cancers that typically impact multiple abdominal organs:

- Logic has been added to several peritoneum, omentum and abdominopelvic lymph node procedure codes so that where a subsidiary OPCS-4 code indicating a robotic approach is recorded, an episode or spell will escalate to HRG root **FF50 Complex General Abdominal Procedures**. This logic uses a list that now includes new OPCS-4.10 code ***Y72.1 Failed robotic minimal access approach converted to open*** and existing OPCS-4 code ***Y76.5 Robotic assisted minimal access approach to other body cavity***. The former is included to reflect that the clinical intent and therefore the resource usage of these procedures would be more similar to that of robotically assisted, rather than open, procedures. The latter has been included as operations on these complex cancers often involve a pelvic (not just abdominal) laparoscopic approach.

- Existing logic on the codes classifying the open freeing of adhesions of the peritoneum or omentum has been amended so that escalation to HRG root **FF50 Complex General Abdominal Procedures** occurs ahead of escalation to HRG **MA29Z Major Female Pelvic Peritoneum Adhesion Procedures**, as the former has a higher expected resource usage.

- Existing logic on the endoscopic peritoneum procedure codes has been amended so that escalation to HRG root **FF51 Major General Abdominal Procedures** occurs ahead of escalation to **MA30Z Intermediate Female Pelvic Peritoneum Adhesion Procedures**, as the former has a higher expected resource usage.

- To ensure a repair of a surgical tear of the colon does not take precedence over an abdominal or pelvic procedure during which a surgical tear may occur, such as a hysterectomy, the PH value of ***H19.8 Other specified other open operations on colon*** has been reduced (from 25 to 22).

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		
	NC23/24	NC22/23
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 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.

- 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 activity 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 **GA14Z 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-4 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 of 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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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		
	NC23/24	NC22/23
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 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 activity to an HRG with a higher expected resource usage where a primary diagnosis code indicating acute pancreatitis is recorded.

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 several 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-4 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 ERCP 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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

The introduction of new OPCS-4.10 approach code ***Y17.6 Electrohydraulic lithotripsy of lesion of organ NOC*** has enabled the creation of a new combination code, ***J413+Y176 Endoscopic retrograde electrohydraulic lithotripsy of calculus of bile duct***, to capture the procedure described in *NICE IPG698 Electrohydraulic lithotripsy for difficult-to-treat bile duct stones*. This new combination code has been mapped to HRG root **GB09 Complex Therapeutic Endoscopic Retrograde Cholangiopancreatography**.

Changes related to other OPCS-4.10 updates and amendments

New combination code ***J413+Y08 Endoscopic retrograde laser lithotripsy of calculus of bile duct*** has been created to capture the procedure described in *NICE IPG699 Laser lithotripsy for difficult-to-treat bile duct stones*. This new combination code has been mapped to HRG root **GB09 Complex Therapeutic Endoscopic Retrograde Cholangiopancreatography**.

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		
	NC23/24	NC22/23
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 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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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		
	NC23/24	NC22/23
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 where 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 code indicating the procedure is bilateral is recorded.

There is logic on certain procedures to escalate up 1 level, when an additional OPCS-4 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 an 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 the spinal reconstruction HRGs).

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-4 codes are required to identify a single procedure. In this subchapter they are mainly used to indicate a site of spine. There are also 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 a 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, and 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.

Differences from the HRG4+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 code ***V46.6 Fixation of fracture of spine using screw*** has been mapped to base HRG root **HC61 Complex Extradural Spinal Procedures**.

- In addition, 2 new combination codes have been created to ensure that when this procedure is undertaken on multiple levels of spine, it is appropriately mapped to take into account the additional resource usage. ***V466+V552 Fixation of fracture of spine using screw, with two levels of spine*** has been mapped to base HRG root **HC54 Major Spinal Reconstructive Procedures** and ***V466+V553 Fixation of fracture of spine using screw, with greater than two levels of spine*** has been mapped to base HRG root **HC53 Very Major Spinal Reconstructive Procedures**.

As a result of the introduction of new OPCS-4.10 codes for intramedullary fixation, a review of the mapping of the internal fixation of bone codes has been undertaken. This has resulted in the deletion of 2 combination codes, ***W282+SPINE Adjustment to internal fixation of bone NEC of spine*** and ***W283+SPINE Removal of internal fixation from bone NEC of spine***, as internal (including intramedullary) fixation is not undertaken on the spine, so these combination codes are therefore redundant.

New OPCS-4.10 site codes ***Z07.4 Spinal nerve root of sacral spine***, ***O42.1 Medial branch of cervical spinal nerve***, ***O42.2 Medial branch of thoracic spinal nerve***, ***O42.3 Medial branch of lumbosacral spinal nerve***, ***O42.8 Specified medial branch of spinal nerve NEC*** and ***O42.9 Unspecified medial branch of spinal nerve NEC*** have been added to the **CL_Spine** list, which is used to generate the ***+SPINE*** combination codes.

Changes related to other OPCS-4.10 updates and amendments

The CCS have confirmed that the appropriate codes for spinal casting procedures, which use OPCS-4 code category ***X48.- Immobilisation using plaster cast***, should be coded using site code ***Z92.7 Trunk NEC*** rather than any of the site codes on combination list **CL_SPINE**. This has resulted in the deletion of the 5 existing, now redundant, ***+SPINE*** combination codes, to be replaced with 5 new combination codes which use site code ***Z92.7 Trunk NEC***.

- New combination codes ***X481+Z927 Application of plaster cast to trunk***, ***X482+Z927 Change of plaster cast of trunk***, ***X483+Z927 Removal of plaster cast of trunk***, ***X488+Z927 Other specified immobilisation of trunk using plaster cast*** and ***X489+Z927 Unspecified immobilisation of trunk using plaster cast*** have been mapped to base HRG root **HC65 Minor Extradural Spinal Procedures** as this is where the now redundant ***+SPINE*** combination codes previously mapped.

To ensure that only procedures on the spine map to the spinal procedure HRGs, ***Z49.4 Skin of back***, ***Z60.4 Muscle of back*** and ***Z92.5 Back NEC*** have been removed from combination list **CL_Spine**, which is used to generate the ***+SPINE*** combination codes. Clarification from the CCS indicates that these site codes are unlikely to be used for operations on the spine.

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 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		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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		
	NC23/24	NC22/23
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 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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

Subchapter HN – Orthopaedic Non-Trauma Procedures

Composition and Concepts		
	NC23/24	NC22/23
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

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**.

Activity maps to HRGs within Subchapter **HT Orthopaedic Trauma Procedures** where a primary 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 diagnosis.

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 where 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 additional procedure codes from list **H_Int** 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 an Intermediate procedure, escalation to the related Very Major HRGs can occur where an additional 2 procedures from list **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 activity 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 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-4 codes are required to identify a single procedure. Although some orthopaedic OPCS-4 codes are site-specific the majority are not, therefore combination codes are used extensively in this subchapter to map activity to the appropriate site-specific HRGs. These combination codes are formed using subsidiary OPCS-4 site codes as follows:

- 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***.
- 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***.
- 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***.
- 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***.

- 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***.
- 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 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 combination code ***A592+ELBOW Partial sacrifice of peripheral nerve of elbow*** would be formed and would drive grouping.

In general, for OPCS-4 codes that specify operations expected to be performed on limbs, and where a subsidiary OPCS-4 site code (that would form 1 of the combination codes mentioned above) is not recorded, the OPCS-4 code(s) are Ignored for Grouping purposes.

Where an OPCS-4 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 1 of the combination codes mentioned above) is not recorded the OPCS-4 code maps to HRG **HN93Z Other Muscle, Tendon, Fascia or Ligament Procedures**.

This subchapter also contains ***+IMAGE*** combination codes that require a subsidiary OPCS-4 code indicating that the procedure is performed under image control. There are also 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 years 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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 codes ***O41.2 Repair of acetabular labrum***, ***O41.3 Debridement of acetabular labrum*** and ***X22.6 Closed reduction of congenital deformity of hip*** have been mapped to base HRG root **HN14 Intermediate Hip Procedures for Non-Trauma**.

New OPCS-4.10 codes ***O41.1 Reconstruction of acetabular labrum*** and ***W58.3 Osteochondroplasty of hip*** have been mapped to base HRG root **HN13 Major Hip Procedures for Non-Trauma**.

New OPCS-4.10 codes ***W93.4 Revision of one component of hybrid prosthetic replacement of hip joint using cemented acetabular component***, ***W94.4 Revision of one component of hybrid prosthetic replacement of hip joint using cemented femoral component*** and ***W95.5 Revision of one component of hybrid prosthetic replacement of hip joint using cement NEC*** have been mapped to base HRG root **HN81 Complex, Hip or Knee Procedures for Non-Trauma**.

New OPCS-4.10 codes ***W70.4 Open total replacement of meniscus of knee joint***, ***W70.5 Open partial replacement of meniscus of knee joint***, ***W82.4 Endoscopic total replacement of meniscus of knee joint*** and ***W82.5 Endoscopic partial replacement of meniscus of knee joint*** have been mapped to base HRG root **HN22 Very Major Knee Procedures for Non-Trauma**.

New OPCS-4.10 codes ***O18.5 Revision of cemented component of hybrid prosthetic replacement of knee joint*** and ***O18.6 Revision of uncemented component of hybrid prosthetic replacement of knee joint*** have been mapped to base HRG root **HN81 Complex, Hip or Knee Procedures for Non-Trauma**.

New OPCS-4.10 codes ***O51.4 Attention to total prosthetic replacement of wrist joint*** and ***O51.9 Unspecified prosthetic replacement of wrist joint*** have been mapped to base HRG root **HN43 Major Hand Procedures for Non-Trauma**.

New OPCS-4.10 codes ***O51.1 Primary total prosthetic replacement of wrist joint***, ***O51.5 Primary prosthetic replacement of articulation of bone of wrist*** and ***O51.8 Other specified prosthetic replacement of wrist joint*** have been mapped to base HRG root **HN42 Very Major Hand Procedures for Non-Trauma**.

New OPCS-4.10 codes ***O51.2 Conversion to total prosthetic replacement of wrist joint***, ***O51.3 Revision of total prosthetic replacement of wrist joint*** and ***O51.6 Revision of prosthetic replacement of articulation of bone of wrist*** have been mapped to base HRG root **HN86 Complex, Foot, Hand, Shoulder or Elbow Procedures for Non-Trauma**.

New OPCS-4.10 codes **O06.4 Revision of one component of hybrid prosthetic replacement of shoulder joint using cemented humeral component**, ***O07.4 Revision of one component of hybrid prosthetic replacement of shoulder joint using cemented glenoid component***, ***O08.5 Revision of one component of hybrid prosthetic replacement of shoulder joint using cement NEC***, ***O40.5 Revision of cemented component of hybrid reverse polarity prosthetic replacement of shoulder joint*** and ***O40.6 Revision of uncemented component of hybrid reverse polarity prosthetic replacement of shoulder joint*** have been mapped to base HRG root **HN86 Complex, Foot, Hand, Shoulder or Elbow Procedures for Non-Trauma**.

New OPCS-4.10 code ***A69.4 Revision of cubital tunnel release*** has been mapped to base HRG root **HN64 Intermediate Elbow Procedures for Non-Trauma**.

New OPCS-4.10 codes ***T66.1 Primary repair of multiple tendons HFQ***, ***T67.7 Primary repair of tendon to bone using fixation*** and ***T72.5 Insertion of spacer into sheath of tendon*** have been mapped to HRG **HN93Z Other Muscle, Tendon, Fascia or Ligament Procedures**.

- In addition, for each of these new OPCS-4.10 codes, new orthopaedic +SITE combination codes have been created, e.g. ***T661+FOOT Primary repair of multiple tendons HFQ of foot***. Each of these 18 new combination codes has been mapped to

the relevant **HN*4 Intermediate SITE Procedures for Non-Trauma** base HRG root, e.g. **HN34 Intermediate Foot Procedures for Non-Trauma**.

New OPCS-4.10 codes ***T68.7 Secondary repair of tendon to bone using fixation***, ***T73.1 Secondary repair of multiple tendons HFQ***, ***T75.1 Delayed primary repair of tendon using tendon transfer procedure***, ***T75.2 Delayed primary repair of tendon using lengthening procedure***, ***T75.3 Delayed primary repair of tendon using permanent prosthesis***, ***T75.4 Delayed primary repair of tendon using temporary prosthesis***, ***T75.5 Delayed primary repair of tendon using graft***, ***T75.6 Delayed primary simple repair of tendon***, ***T75.7 Delayed primary repair of tendon to bone using fixation***, ***T75.8 Other specified delayed primary repair of tendon***, ***T75.9 Unspecified delayed primary repair of tendon***, ***T78.1 Delayed primary repair of multiple tendons HFQ*** and ***T82.1 Revision of repair of tendon*** have been mapped to HRG **HN93Z Other Muscle, Tendon, Fascia or Ligament Procedures**.

- In addition, for each of these new OPCS-4.10 codes, new orthopaedic +SITE combination codes have been created, e.g. ***T687+HAND Secondary repair of tendon to bone of hand using fixation***. Each of these 78 new combination codes has been mapped to the relevant **HN*3 Major SITE Procedures for Non-Trauma** base HRG root, e.g. **HN43 Major Hand Procedures for Non-Trauma**.

New OPCS-4.10 codes ***O27.5 Intra-articular ligament reconstruction for stabilisation of joint***, ***W73.5 Primary prosthetic reinforcement of extra-articular ligament NEC***, ***W73.6 Prosthetic reinforcement of extra-articular ligament NEC*** and ***T76.2 Transfer of flap of muscle NEC*** have been mapped to HRG **HN93Z Other Muscle, Tendon, Fascia or Ligament Procedures**.

- In addition, for each of these new OPCS-4.10 codes, new orthopaedic +SITE combination codes have been created, e.g. ***O275+KNEE Intra-articular ligament reconstruction for stabilisation of joint of knee***. Each of these 24 new combination codes has been mapped to the relevant **HN*3 Major SITE Procedures for Non-Trauma** base HRG root, e.g. **HN23 Major Knee Procedures for Non-Trauma**.

New OPCS-4.10 codes ***A71.1 Primary microsurgical transfer of peripheral nerve***, ***A71.2 Secondary microsurgical transfer of peripheral nerve***, ***A71.3 Microsurgical transfer of multiple peripheral nerves*** and ***A71.4 Microsurgical transfer of peripheral nerve NEC*** have been mapped to HRG **HN93Z Other Muscle, Tendon, Fascia or Ligament Procedures**.

- In addition, for each of these new OPCS-4.10 codes, new orthopaedic +SITE combination codes have been created, e.g. ***A711+HIP Primary microsurgical transfer of peripheral nerve of hip***. Each of these 24 new combination codes has been mapped to the relevant **HN*3 Major SITE Procedures for Non-Trauma** base HRG root, e.g. **HN13 Major Hip Procedures for Non-Trauma**.

To ensure these new OPCS-4.10 codes are appropriately accommodated in terms of expected complexity and resource usage compared to other related repair of peripheral nerve procedures, the orthopaedic +SITE combination codes that use the existing OPCS-4 code category ***A62.- Microsurgical repair of peripheral nerve*** have been remapped to lower resource HRGs. These 54 existing combination codes, e.g. ***A621+ELBOW Primary microsurgical graft to peripheral nerve of elbow***, have been remapped from the relevant **HN*3 Major SITE Procedures for Non-Trauma** base HRG root, e.g. **HN63 Major Elbow Procedures for Non-Trauma** to the relevant **HN*4 Intermediate SITE Procedures for Non-Trauma** base HRG root, e.g. **HN64 Intermediate Elbow Procedures for Non-Trauma**.

6 new orthopaedic +SITE combination codes have been created using new OPCS-4.10 code ***W27.7 Removal of fixation from epiphysis NEC***, e.g. ***W277+KNEE Removal of fixation from epiphysis NEC of knee***, and another 6 created using new OPCS-4.10 code ***O41.9 Unspecified operations on cartilage of joint***, e.g. ***O419+HIP Unspecified operations on cartilage of joint of hip***. Each of these 12 new combination codes has been mapped to the relevant **HN*5 Minor SITE Procedures for Non-Trauma** base HRG root, e.g. **HN25 Minor Knee Procedures for Non-Trauma**.

6 new orthopaedic +SITE combination codes have been created using new OPCS-4.10 code ***O41.8 Other specified operations on cartilage of joint***, e.g. ***O418+HIP Other specified operations on cartilage of joint of hip***, and another 6 created using new OPCS-4.10 code ***O49.1 Removal of intramedullary fixation from bone***, e.g. ***O491+HIP Removal of intramedullary fixation from bone of hip***. Each of these 12 new combination codes has been mapped to the relevant **HN*4 Intermediate SITE Procedures for Non-Trauma** base HRG root, e.g. **HN14 Intermediate Hip Procedures for Non-Trauma**.

6 new orthopaedic +SITE combination codes have been created using new OPCS-4.10 code ***W27.6 Attention to fixation of epiphysis***, e.g. ***W276+HIP Attention to fixation of epiphysis of hip***. Each of these 6 new combination codes has been mapped to the relevant **HN*4 Intermediate SITE Procedures for Non-Trauma** base HRG root, e.g. **HN14 Intermediate Hip Procedures for Non-Trauma**. In addition, 6 new orthopaedic +SITE combination codes in the form of ***W276+Y032+SITE Renewal of fixation of epiphysis of SITE***, e.g. ***W276+Y032+HIP Renewal of fixation of epiphysis of hip***, have been created and mapped to the relevant **HN*3 Major SITE Procedures for Non-Trauma** base HRG root, e.g. **HN13 Major Hip Procedures for Non-Trauma**.

6 new orthopaedic +SITE combination codes have been created using new OPCS-4.10 code ***W28.5 Insertion of telescopic intramedullary fixation of bone***, e.g. ***W285+HIP Insertion of telescopic intramedullary fixation of bone of hip***, and another 6 created using new OPCS-4.10 code ***W28.6 Insertion of intramedullary fixation of bone NEC***, e.g. ***W286+HIP Insertion of intramedullary fixation of bone NEC of hip***. Each of these 12 new combination codes has been mapped to the relevant **HN*3 Major SITE Procedures for Non-Trauma** base HRG root, e.g. **HN13 Major Hip Procedures for Non-Trauma**.

6 new orthopaedic +SITE combination codes have been created using new OPCS-4.10 code ***W28.7 Attention to intramedullary fixation of bone NEC***, e.g. ***W287+HIP Attention to intramedullary fixation of bone of hip***. Each of these 6 new combination codes has been mapped to the relevant **HN*4 Intermediate SITE Procedures for Non-Trauma** base HRG root, e.g. **HN14 Intermediate Hip Procedures for Non-Trauma**. In addition, 6 new orthopaedic +SITE combination codes in the form of ***W287+Y032+SITE Renewal of intramedullary fixation of bone NEC of SITE***, e.g. ***W287+Y032+HIP Renewal of intramedullary fixation of bone of hip***, have been created and mapped to the relevant **HN*2 Very Major SITE Procedures for Non-Trauma** base HRG root, e.g. **HN12 Very Major Hip Procedures for Non-Trauma**.

To ensure the renewal of all types of internal bone fixation are appropriately captured and mapped, 6 new orthopaedic +SITE combination codes in the form of ***W282+Y032+SITE Renewal of internal fixation of bone NEC of SITE***, e.g. ***W282+Y032+HIP Renewal of internal fixation of bone NEC of HIP***, have been created using existing OPCS-4 codes and mapped to the relevant **HN*3 Major SITE Procedures for Non-Trauma** base HRG root, e.g. **HN13 Major Hip Procedures for Non-Trauma**.

New OPCS-4.10 site code ***Z77.6 Tuberosity of tibia*** has been added to the combination list **CL_Knee** so that it can be used to form the ***+KNEE*** orthopaedic combination codes.

New OPCS-4.10 site codes ***O47.1 Triangular fibrocartilage complex of wrist***, ***Z82.5 Scapholunate joint***, ***Z82.6 Lunotriquetral joint*** and ***Z82.7 Scaphotrapeziotrapezoidal joint*** have been added to combination list **CL_Hand** so that they can be used to form the ***+HAND*** orthopaedic combination codes.

New OPCS-4.10 site codes ***Z85.7 Naviculo-cuneiform joint***, ***Z86.7 Interphalangeal joint of great toe***, ***O50.1 Proximal interphalangeal joint of toe*** and ***O50.2 Distal interphalangeal joint of toe*** have been added to combination list **CL_Foot** so that they can be used to form the ***+FOOT*** orthopaedic combination codes.

Changes related to other OPCS-4.10 updates and amendments

The CCS have clarified the use of the term “secondary” across various orthopaedic procedures. As a result, the orthopaedic +SITE combination codes that use existing OPCS-4 codes ***W67.1 Secondary open reduction of fracture dislocation of joint and skeletal traction HFQ***, ***W67.2 Secondary open reduction of traumatic dislocation of joint and skeletal traction NEC***, ***W67.3 Secondary open reduction of fracture dislocation of joint NEC***, ***W67.4 Secondary open reduction of traumatic dislocation of joint NEC*** and ***W67.7 Secondary open reduction of fracture dislocation of joint and internal fixation NEC*** have been remapped. These 30 existing combination codes, e.g. ***W674+SHOULDER Secondary open reduction of traumatic dislocation of joint NEC of shoulder***, have been remapped from the relevant **HN*4 Intermediate SITE Procedures for Non-Trauma** base HRG root, e.g. **HN54 Intermediate Shoulder Procedures for Non-Trauma**, to the relevant **HN*3 Major SITE Procedures for Non-Trauma** base HRG root, e.g. **HN53 Major Shoulder Procedures for Non-Trauma**.

The CCS have clarified that ***W05.1 Articulated prosthetic replacement of bone*** should only be used for internal prosthesis, not external devices such as braces. As a result, the orthopaedic +SITE combination codes that use this existing OPCS-4 code have been remapped. These 6 existing combination codes, e.g. ***W051+ELBOW Articulated prosthetic replacement of bone of elbow***, have been remapped from the relevant **HN*5 Minor SITE Procedures for Non-Trauma** base HRG root, e.g. **HN65 Minor Elbow Procedures for Non-Trauma**, to the relevant **HN*2 Very Major SITE Procedures for Non-Trauma** base HRG root, e.g. **HN62 Very Major Elbow Procedures for Non-Trauma**.

To ensure that only procedures on the hip and associated musculoskeletal structures map to the hip procedure HRGs within this subchapter, existing OPCS-4 code ***O16.1 Pelvis NEC*** has been removed from combination list **CL_Hip**, which is used to generate the ***+HIP*** orthopaedic combination codes. After clarification from the CCS, this site code is unlikely to be used for operations involving the musculoskeletal structures of the pelvis but rather the soft tissue and internal organs, and thus such procedures would not be orthopaedic in nature.

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 trauma orthopaedic procedure 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		
	NC23/24	NC22/23
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 some 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 where 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 additional procedure codes from list **H_Int** 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 an Intermediate procedure, escalation to the related Very Major HRGs can occur where an additional 2 procedures from list **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-4 codes are required to identify a single procedure. Although some orthopaedic OPCS-4 codes are site-specific the majority are not, therefore combination codes are used extensively in this subchapter to map activity to the appropriate site-specific HRGs. These combination codes are formed using subsidiary OPCS-4 site codes as follows:

- 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***.
- 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***.
- 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***.
- 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***.
- 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***.
- 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 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 combination code ***A592+ELBOW Partial sacrifice of peripheral nerve of elbow*** would be formed and would drive grouping.

In general, for OPCS-4 codes that specify operations expected to be performed on limbs, and where a subsidiary OPCS-4 site code (that would form 1 of the combination codes mentioned above) is not recorded, the OPCS-4 code(s) are Ignored for Grouping purposes.

Where an OPCS-4 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 1 of the combination codes mentioned above) is not recorded the OPCS-4 code maps to HRG **HN93Z Other Muscle, Tendon, Fascia or Ligament Procedures**.

This subchapter also contains ***+IMAGE*** combination codes that require a subsidiary OPCS-4 code indicating that the procedure is performed under image control. There are also 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 years 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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 codes ***O41.2 Repair of acetabular labrum***, ***O41.3 Debridement of acetabular labrum*** and ***X22.6 Closed reduction of congenital deformity of hip*** have been mapped to base trauma HRG root **HT14 Intermediate Hip Procedures for Trauma** where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

New OPCS-4.10 codes ***O41.1 Reconstruction of acetabular labrum*** and ***W58.3 Osteochondroplasty of hip*** have been mapped to base trauma HRG root **HT13 Major Hip Procedures for Trauma** where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

New OPCS-4.10 codes ***W93.4 Revision of one component of hybrid prosthetic replacement of hip joint using cemented acetabular component***, ***W94.4 Revision of one component of hybrid prosthetic replacement of hip joint using cemented femoral component*** and ***W95.5 Revision of one component of hybrid prosthetic replacement of hip joint using cement NEC*** have been mapped to trauma HRG root **HT81 Complex, Hip or Knee Procedures for Trauma** where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

New OPCS-4.10 codes ***W70.4 Open total replacement of meniscus of knee joint***, ***W70.5 Open partial replacement of meniscus of knee joint***, ***W82.4 Endoscopic total***

replacement of meniscus of knee joint and ***W82.5 Endoscopic partial replacement of meniscus of knee joint*** have been mapped to base trauma HRG root **HT22 Very Major Knee Procedures for Trauma** where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

New OPCS-4.10 codes ***O18.5 Revision of cemented component of hybrid prosthetic replacement of knee joint*** and ***O18.6 Revision of uncemented component of hybrid prosthetic replacement of knee joint*** have been mapped to trauma HRG root **HT81 Complex, Hip or Knee Procedures for Trauma** where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

New OPCS-4.10 codes ***O51.4 Attention to total prosthetic replacement of wrist joint*** and ***O51.9 Unspecified prosthetic replacement of wrist joint*** have been mapped to base trauma HRG root **HT43 Major Hand Procedures for Trauma** where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

New OPCS-4.10 codes ***O51.1 Primary total prosthetic replacement of wrist joint***, ***O51.5 Primary prosthetic replacement of articulation of bone of wrist*** and ***O51.8 Other specified prosthetic replacement of wrist joint*** have been mapped to base trauma HRG root **HT42 Very Major Hand Procedures for Trauma** where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

New OPCS-4.10 codes ***O51.2 Conversion to total prosthetic replacement of wrist joint***, ***O51.3 Revision of total prosthetic replacement of wrist joint*** and ***O51.6 Revision of prosthetic replacement of articulation of bone of wrist*** have been mapped to trauma HRG root **HT86 Complex, Foot, Hand, Shoulder or Elbow Procedures for Trauma** where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

New OPCS-4.10 codes **O06.4 Revision of one component of hybrid prosthetic replacement of shoulder joint using cemented humeral component**, ***O07.4 Revision of one component of hybrid prosthetic replacement of shoulder joint using cemented glenoid component***, ***O08.5 Revision of one component of hybrid prosthetic replacement of shoulder joint using cement NEC***, ***O40.5 Revision of cemented component of hybrid reverse polarity prosthetic replacement of shoulder joint*** and ***O40.6 Revision of uncemented component of hybrid reverse polarity prosthetic replacement of shoulder joint*** have been mapped to trauma HRG root **HT86 Complex, Foot, Hand, Shoulder or Elbow Procedures for Trauma** where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

New OPCS-4.10 code ***A69.4 Revision of cubital tunnel release*** has been mapped to base trauma HRG root **HT64 Intermediate Elbow Procedures for Trauma** where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

New OPCS-4.10 codes ***T66.1 Primary repair of multiple tendons HFQ***, ***T67.7 Primary repair of tendon to bone using fixation*** and ***T72.5 Insertion of spacer into sheath of tendon*** have been mapped to HRG **HN93Z Other Muscle, Tendon, Fascia or Ligament Procedures**.

- In addition, for each of these new OPCS-4.10 codes, new orthopaedic +SITE combination codes have been created, e.g. ***T661+FOOT Primary repair of multiple tendons HFQ of foot***. Each of these 18 new combination codes has been mapped to the relevant trauma **HT*4 Intermediate SITE Procedures for Trauma** base HRG root, e.g. **HT34 Intermediate Foot Procedures for Trauma**, where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

New OPCS-4.10 codes ***T68.7 Secondary repair of tendon to bone using fixation***, ***T73.1 Secondary repair of multiple tendons HFQ***, ***T75.1 Delayed primary repair of tendon using tendon transfer procedure***, ***T75.2 Delayed primary repair of tendon using lengthening procedure***, ***T75.3 Delayed primary repair of tendon using permanent prosthesis***, ***T75.4 Delayed primary repair of tendon using temporary prosthesis***, ***T75.5 Delayed primary repair of tendon using graft***, ***T75.6 Delayed primary simple repair of tendon***, ***T75.7 Delayed primary repair of tendon to bone using fixation***, ***T75.8 Other specified delayed primary repair of tendon***, ***T75.9 Unspecified delayed primary repair of tendon***, ***T78.1 Delayed primary repair of multiple tendons HFQ*** and ***T82.1 Revision of repair of tendon*** have been mapped to HRG **HN93Z Other Muscle, Tendon, Fascia or Ligament Procedures**.

- In addition, for each of these new OPCS-4.10 codes, new orthopaedic +SITE combination codes have been created, e.g. ***T687+HAND Secondary repair of tendon to bone of hand using fixation***. Each of these 78 new combination codes has been mapped to the relevant trauma **HT*3 Major SITE Procedures for Trauma** base HRG root, e.g. **HT43 Major Hand Procedures for Trauma**, where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

New OPCS-4.10 codes ***O27.5 Intra-articular ligament reconstruction for stabilisation of joint***, ***W73.5 Primary prosthetic reinforcement of extra-articular ligament NEC***, ***W73.6 Prosthetic reinforcement of extra-articular ligament NEC*** and ***T76.2 Transfer of flap of muscle NEC*** have been mapped to HRG **HN93Z Other Muscle, Tendon, Fascia or Ligament Procedures**.

- In addition, for each of these new OPCS-4.10 codes, new orthopaedic +SITE combination codes have been created, e.g. ***O275+KNEE Intra-articular ligament reconstruction for stabilisation of joint of knee***. Each of these 24 new combination codes has been mapped to the relevant trauma **HT*3 Major SITE Procedures for Trauma** base HRG root, e.g. **HT23 Major Knee Procedures for Trauma**, where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

New OPCS-4.10 codes ***A71.1 Primary microsurgical transfer of peripheral nerve***, ***A71.2 Secondary microsurgical transfer of peripheral nerve***, ***A71.3 Microsurgical transfer of multiple peripheral nerves*** and ***A71.4 Microsurgical transfer of peripheral nerve NEC*** have been mapped to HRG **HN93Z Other Muscle, Tendon, Fascia or Ligament Procedures**.

- In addition, for each of these new OPCS-4.10 codes, new orthopaedic +SITE combination codes have been created, e.g. ***A711+HIP Primary microsurgical transfer of peripheral nerve of hip***. Each of these 24 new combination codes has been mapped to the relevant trauma **HT*3 Major SITE Procedures for Trauma** base HRG root, e.g. **HT13 Major Hip Procedures for Trauma**, where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

To ensure these new OPCS-4.10 codes can be appropriately accommodated in terms of expected complexity and resource usage compared to other related repair of peripheral nerve procedures, the orthopaedic +SITE combination codes that use the existing OPCS-4 code category ***A62.- Microsurgical repair of peripheral nerve*** have been remapped to lower resource HRGs. These 54 existing combination codes, e.g. ***A621+ELBOW Primary microsurgical graft to peripheral nerve of elbow***, have been remapped from the relevant trauma **HT*3 Major SITE Procedures for Trauma** base HRG root, e.g. **HT63 Major Elbow Procedures for Trauma**, to the relevant trauma **HT*4 Intermediate SITE Procedures for**

Trauma base HRG root, e.g. **HT64 Intermediate Elbow Procedures for Trauma**, where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

6 new orthopaedic +SITE combination codes have been created using new OPCS-4.10 code ***W27.7 Removal of fixation from epiphysis***, e.g. ***W277+KNEE Removal of fixation from epiphysis of knee***, and another 6 created using new OPCS-4.10 code ***O41.9 Unspecified operations on cartilage of joint***, e.g. ***O419+HIP Unspecified operations on cartilage of joint of hip***. Each of these 12 new combination codes has been mapped to the relevant trauma **HT*5 Minor SITE Procedures for Non-Trauma** base HRG root, e.g. **HT25 Minor Knee Procedures for Non-Trauma**, where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

6 new orthopaedic +SITE combination codes have been created using new OPCS-4.10 code ***O41.8 Other specified operations on cartilage of joint***, e.g. ***O418+HIP Other specified operations on cartilage of joint of hip***, and another 6 created using new OPCS-4.10 code ***O49.1 Removal of intramedullary fixation from bone***, e.g. ***O491+HIP Removal of intramedullary fixation from bone of hip***. Each of these 12 new combination codes has been mapped to the relevant trauma **HT*4 Intermediate SITE Procedures for Trauma** base HRG root, e.g. **HT14 Intermediate Hip Procedures for Trauma**, where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

6 new orthopaedic +SITE combination codes have been created using new OPCS-4.10 code ***W27.6 Attention to fixation of epiphysis***, e.g. ***W276+HIP Attention to fixation of epiphysis of hip***. Each of these 6 new combination codes has been mapped to the relevant trauma **HT*4 Intermediate SITE Procedures for Trauma** HRG root, e.g. **HT14 Intermediate Hip Procedures for Trauma**. In addition, 6 new orthopaedic +SITE combination codes in the form of ***W276+Y032+SITE Renewal of fixation of epiphysis of SITE***, e.g. ***W276+Y032+HIP Renewal of fixation of epiphysis of hip***, have been created and mapped to the relevant trauma **HT*3 Major SITE Procedures for Trauma** base HRG root, e.g. **HT13 Major Hip Procedures for Trauma**, where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

6 new orthopaedic +SITE combination codes have been created using new OPCS-4.10 code ***W28.5 Insertion of telescopic intramedullary fixation of bone***, e.g. ***W285+HIP Insertion of telescopic intramedullary fixation of bone of hip*** and another 6 created using new OPCS-4.10 code ***W28.6 Insertion of intramedullary fixation of bone NEC***, e.g. ***W286+HIP Insertion of intramedullary fixation of bone NEC of hip***. Each of these 12 new combination codes has been mapped to the relevant trauma **HT*3 Major SITE Procedures for Trauma** base HRG root, e.g. **HT13 Major Hip Procedures for Trauma**, where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

6 new orthopaedic +SITE combination codes have been created using new OPCS-4.10 code ***W28.7 Attention to intramedullary fixation of bone NEC***, e.g. ***W287+HIP Attention to intramedullary fixation of bone of hip***. Each of these 6 new combination codes has been mapped to the relevant trauma **HT*4 Intermediate SITE Procedures for Trauma** base HRG root, e.g. **HT14 Intermediate Hip Procedures for Trauma**. In addition, 6 new orthopaedic +SITE combination codes in the form of ***W287+Y032+SITE Renewal of intramedullary fixation of bone NEC of SITE***, e.g. ***W287+Y032+KNEE Renewal of intramedullary fixation of bone of knee***, have been created and mapped to the relevant trauma **HT*2 Very Major SITE Procedures for Trauma** base HRG root, e.g. **HT22 Very Major Knee Procedures for Trauma**, where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

To ensure the renewal of all types of internal bone fixation are appropriately captured and mapped, 6 new orthopaedic +SITE combination codes in the form of ***W282+Y032+SITE***

Renewal of internal fixation of bone NEC of SITE, e.g. ***W282+Y032+HIP Renewal of internal fixation of bone NEC of hip***, have been created using existing OPCS-4 codes and mapped to the relevant trauma **HT*3 Major SITE Procedures for Trauma** base HRG root, e.g. **HT13 Major Hip Procedures for Trauma**, where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

New OPCS-4.10 site code ***Z77.6 Tuberosity of tibia*** has been added to the combination list **CL_Knee** so that it can be used to for the ***+KNEE*** orthopaedic combination codes.

New OPCS-4.10 site codes ***O47.1 Triangular fibrocartilage complex of wrist***, ***Z82.5 Scapholunate joint***, ***Z82.6 Lunotriquetral joint*** and ***Z82.7 Scaphotrapeziotrapezoidal joint*** have been added to combination list **CL_Hand** so that they can be used to form the ***+HAND*** orthopaedic combination codes.

New OPCS-4.10 site codes ***Z85.7 Naviculo-cuneiform joint***, ***Z86.7 Interphalangeal joint of great toe***, ***O50.1 Proximal interphalangeal joint of toe*** and ***O50.2 Distal interphalangeal joint of toe*** have been added to combination list **CL_Foot** so that they can be used to form the ***+FOOT*** orthopaedic combination codes.

Changes related to other OPCS-4.10 updates and amendments

The CCS have clarified the use of the term “secondary” across various orthopaedic procedures. As a result, the orthopaedic +SITE combination codes that use existing OPCS-4 codes ***W67.1 Secondary open reduction of fracture dislocation of joint and skeletal traction HFQ***, ***W67.2 Secondary open reduction of traumatic dislocation of joint and skeletal traction NEC***, ***W67.3 Secondary open reduction of fracture dislocation of joint NEC***, ***W67.4 Secondary open reduction of traumatic dislocation of joint NEC*** and ***W67.7 Secondary open reduction of fracture dislocation of joint and internal fixation NEC*** have been remapped. These 30 existing combination codes, e.g. ***W674+SHOULDER Secondary open reduction of traumatic dislocation of joint NEC of shoulder***, have been remapped from the relevant trauma **HT*4 Intermediate SITE Procedures for Trauma** base HRG root, e.g. **HT54 Intermediate Shoulder Procedures for Trauma**, to the relevant trauma **HT*3 Major SITE Procedures for Trauma** base HRG root, e.g. **HT53 Major Shoulder Procedures for Trauma**.

The CCS have clarified that ***W05.1 Articulated prosthetic replacement of bone*** should only be used for internal prosthesis, not external devices, such as braces. As a result, the orthopaedic +SITE combination codes that use this existing OPCS-4 code have been remapped. These 6 existing orthopaedic +SITE combination codes, e.g. ***W051+ELBOW Articulated prosthetic replacement of bone of elbow***, have been remapped from the relevant trauma **HT*5 Minor SITE Procedures for Trauma** base HRG root, e.g. **HT65 Minor Elbow Procedures for Trauma**, to the relevant trauma **HT*2 Very Major SITE Procedures for Trauma** base HRG root, e.g. **HT62 Very Major Elbow Procedures for Trauma**, where the patient has a primary diagnosis code indicating trauma from list **HT_Trauma**.

To ensure that only procedures on the hip and associated musculoskeletal structures map to the hip procedure HRGs within this subchapter, existing OPCS-4 code ***O16.1 Pelvis NEC*** has been removed from combination list **CL_Hip**, which is used to generate the ***+HIP*** combination codes. After clarification from the CCS, this site code is unlikely to be used for operations involving the musculoskeletal structures of the pelvis but rather the soft tissue and internal organs, thus such procedures would not be orthopaedic in nature.

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 4 levels (minor, intermediate, major and very major).

Composition and Concepts		
	NC23/24	NC22/23
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	Yes	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 where 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 where 2 additional procedures from list **JA_Minor** are recorded.

The Very Major HRGs can be derived when a major breast excision or partial augmented reconstruction procedure is recorded alongside a breast implant or lymph node dissection procedure, or a breast implant procedure is recorded alongside a subsidiary OPCS-4 code indicating mesh or acellular dermal matrix is used.

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 Very Major Breast Procedures** can be reached when major breast procedures, such as mastectomy and block dissection of axillary lymph nodes 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 a uni- or bilateral operation is undertaken.

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

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 code indicating bilateral operation, or procedures of the equivalent resource usage being performed on both breasts, i.e. lumpectomy with the OPCS-4 code indicating left sided operation and mammoplasty (oncoplasty) with the OPCS-4 code indicating right-sided operation.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS-4 codes are required to identify a single procedure. In this subchapter they tend to be used to capture the aspiration of breast haematoma and renewal of breast expander procedures.

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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 code ***B30.7 Removal of breast prosthesis from pre-pectoral space*** has been mapped to base HRG root **JA43 Unilateral Intermediate Breast Procedures**.

New OPCS-4.10 codes ***B30.5 Insertion of breast prosthesis into pre-pectoral space*** and ***B30.6 Renewal of breast prosthesis in pre-pectoral space*** have been mapped to base HRG root **JA20 Unilateral Major Breast Procedures**. Alongside the standard bilateral and contralateral logic to map activity to the appropriate bilateral HRG, new logic has been added to escalate activity to the very major breast HRGs when a subsidiary OPCS-4 code indicating mesh or acellular dermal matrix has been used is recorded.

New OPCS-4.10 ***B44.1 Reconstruction of breast using pedicled intercostal artery perforator flap***, ***B44.2 Reconstruction of breast using pedicled thoracodorsal artery***

perforator flap, ***B44.3 Reconstruction of breast using pedicled thoracic artery perforator flap***, ***B44.8 Other specified reconstruction of breast using flap of chest wall***, ***B44.9 Unspecified reconstruction of breast using flap of chest wall***, ***B45.1 Replacement of sub-pectoral space prosthesis with pre-pectoral space prosthesis*** and ***B45.2 Replacement of pre-pectoral space prosthesis with sub-pectoral space prosthesis*** have been mapped to relabelled base HRG root **JA38 Unilateral Very Major Breast Procedures**.

To accommodate these new OPCS-4.10 codes for partial reconstruction procedures, which are more resource intensive than breast excision procedures but less so than full breast reconstruction procedures, the HRGs within HRG roots **JA38 Unilateral Major Breast Procedures with Lymph Node Clearance** and **JA39 Bilateral Major Breast Procedures with Lymph Node Clearance** have been relabelled to**:**

- **JA38A Unilateral Very Major Breast Procedures with CC Score 5+**
- **JA38B Unilateral Very Major Breast Procedures with CC Score 2-4**
- **JA38C Unilateral Very Major Breast Procedures with CC Score 0-1**
- **JA39Z Bilateral Very Major Breast Procedures**

Existing OPCS-4 codes ***B27.1 Total mastectomy and excision of both pectoral muscles and part of chest wall***, ***B27.2 Total mastectomy and excision of both pectoral muscles NEC***, ***B27.3 Total mastectomy and excision of pectoralis minor muscle***, ***B29.5 Revision of reconstruction of breast***, ***B29.6 Reconstruction of breast using glandular remodelling*** and ***B29.7 Reconstruction of breast using dermoglandular flap*** have also been remapped to relabelled base HRG root **JA38 Unilateral Very Major Breast Procedures**. This is to reflect that these radical mastectomy procedures and partial reconstruction procedures are similar in expected resource usage to the new OPCS-4.10 codes which have been mapped directly to these HRGs.

To ensure the appropriate activity escalates to the relabelled HRG roots **JA38 Unilateral Very Major Breast Procedures** and **JA39 Bilateral Very Major Breast Procedures**, the lymph node dissection escalation logic applied to procedure codes mapped to base HRG root **JA20 Unilateral Major Breast Procedures** has been updated as follows:

- For the majority of breast excision and augmentation mammoplasty procedures, activity escalates where either an additional lymph node dissection procedure or a breast implant procedure is recorded.
- For the breast implant procedures, activity escalates where a subsidiary OPCS-4 code indicating mesh or acellular dermal matrix has been used is recorded.
- For the other major breast procedures, e.g. ***B35.1 Transposition of nipple***, where lymph node dissection would not typically also be performed, this logic has been removed.

New OPCS-4.10 codes ***B39.6 Reconstruction of breast using free superficial inferior epigastric artery flap***, ***B39.7 Reconstruction of breast using bipedicled free deep inferior epigastric perforator flap***, ***B42.1 Reconstruction of breast using free myocutaneous gracilis flap***, ***B42.2 Reconstruction of breast using free profunda artery perforator flap***, ***B42.8 Other specified reconstruction of breast using flap of thigh***, ***B42.9 Unspecified reconstruction of breast using flap of thigh*** and ***B43.1 Reconstruction of breast using free lumbar artery perforator flap*** have been mapped to relabelled base HRG **JA34Z Unilateral Delayed Free Flap Breast Reconstruction**.

To ensure it is clear that these new free flap procedures map to the appropriately described HRG, the following HRG labels have been updated to remove the word “perforator”:

- **JA34Z Unilateral Delayed Free Flap Breast Reconstruction**
- **JA35Z Bilateral Delayed Free Flap Breast Reconstruction**
- **JA36Z Unilateral Excision of Breast with Immediate Free Flap Reconstruction**
- **JA37Z Bilateral Excision of Breast with Immediate Free Flap Reconstruction**

Changes related to other OPCS-4.10 updates and amendments

The CCS have confirmed the appropriate coding for the renewal of breast expanders and as such, 2 new combination codes, ***S491+Y032+BREAST Renewal of skin expander in subcutaneous tissue of breast*** and ***S498+Y032+BREAST Renewal of skin expander in subcutaneous tissue of breast***, have been created and mapped to base HRG root **JA20 Unilateral Major Breast Procedures**. Alongside the standard bilateral and contralateral logic to map activity to the appropriate bilateral HRG, new logic has been added to escalate activity to the very major breast HRGs when a subsidiary OPCS-4 code indicating mesh or acellular dermal matrix has been used is recorded.

The CCS have confirmed the appropriate coding for the aspiration of post-operative breast haematomas and as such, new combination code ***B331+Y221 Aspiration of haematoma of breast***, has been created and mapped to base HRG root **JA45 Unilateral Minor Breast Procedures**.

The logic on the procedure codes that map to base HRG root **JA43 Unilateral Intermediate Breast Procedures** has been updated to ensure that escalation to **JA42Z Bilateral Intermediate Breast Procedures** occurs when either a bilateral procedure code is recorded or an additional intermediate procedure with both right and left-sided operation codes, indicating a contralateral operation, is recorded. Also, escalation to HRG root **JA21 Bilateral Major Breast Procedures** occurs when either an additional intermediate procedure and bilateral operation code are recorded, or where an additional 3 intermediate procedures with both right and left-sided operation codes, indicating a contralateral operation, are recorded.

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 interventions 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		
	NC23/24	NC22/23
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 second or third degree burn recorded in any position, maps to a burns HRG, irrespective of the primary diagnosis code or any procedures recorded.

However, records with a primary diagnosis code of a first degree burn, unspecified degree burn, or burn of respiratory or genitourinary tract (which are classed as equivalent to a second / third 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.- Exploration of burnt skin of head or neck*** and ***S55.- Exploration of burnt skin of other site***) 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 HRG **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 second or third degree burns that are either transferred out from a provider (using discharge destination) or die (using 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 second and third degree burns, or via Core 1 (standard) logic for first 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 second or third 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.

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 ICD-10 burns 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, for this to be implemented in the design, each of these values has been multiplied by 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 maps 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
2nd/3rd degree 20–29%	7
2nd/3rd degree 30–39%	8

% TBSA / Degree of burn	Start Severity Score
2nd/3rd degree 40%+	9

Escalation to a higher severity category HRG – up to a maximum of 1 severity category for first degree burns (enabled via Core 1 standard grouping logic) and 3 severity categories for second / third 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 an electric burn or a 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 ICD-10 burns 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 triggers escalation, but for first degree burns the maximum escalation is up 1 severity category – from JB89 Severity Score 1 to JB90 Severity Score 2, via Core 1 standard grouping 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 second and third 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 1 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 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.

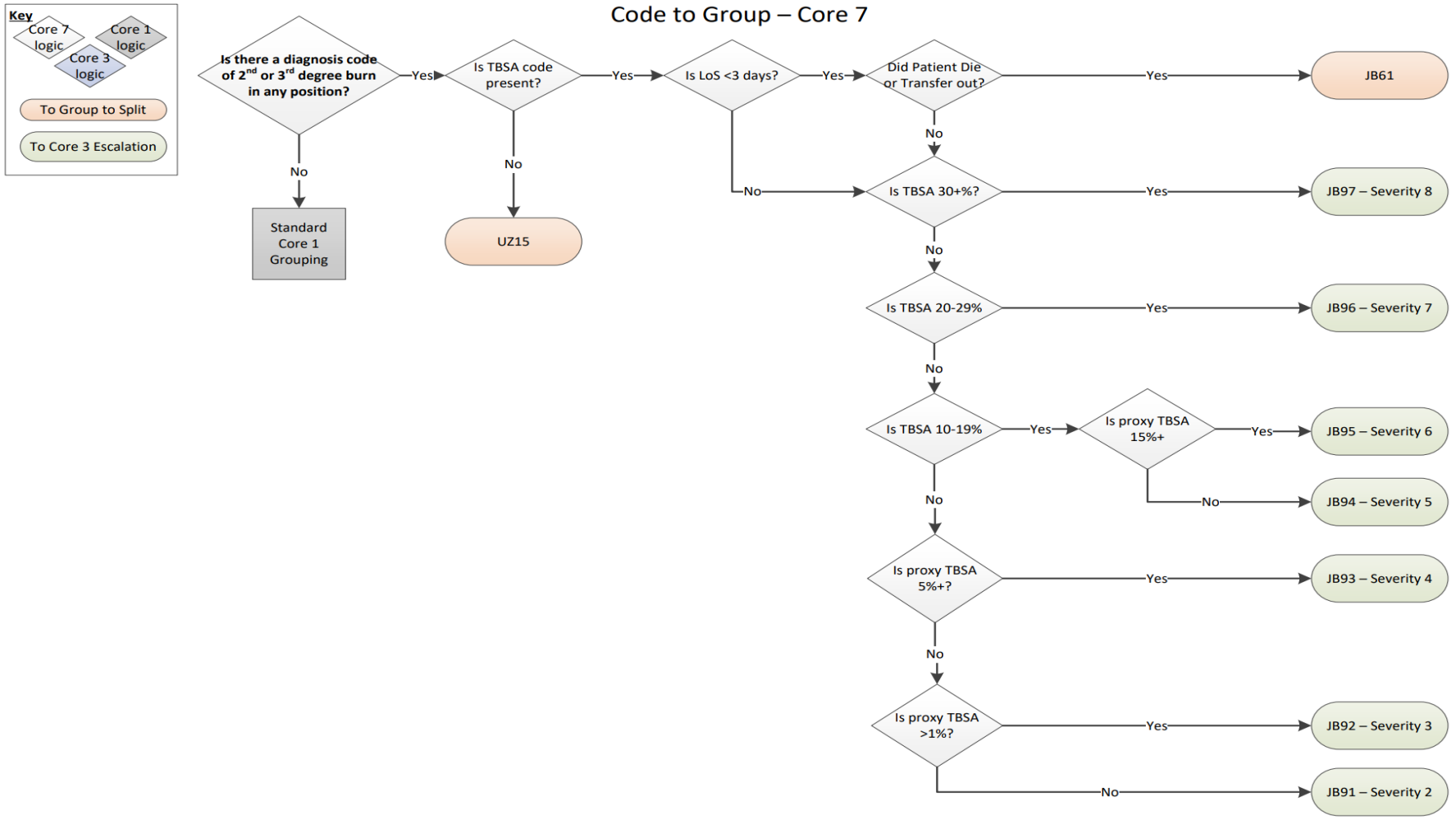
Interventions scores are either 0 – no significant burns-related intervention, 1 – a major burn intervention (e.g. skin graft) or 2 – a complex burn intervention (e.g. amputation of limb). An intervention score of 2 can be derived from 1 complex procedure or 2 major procedures.

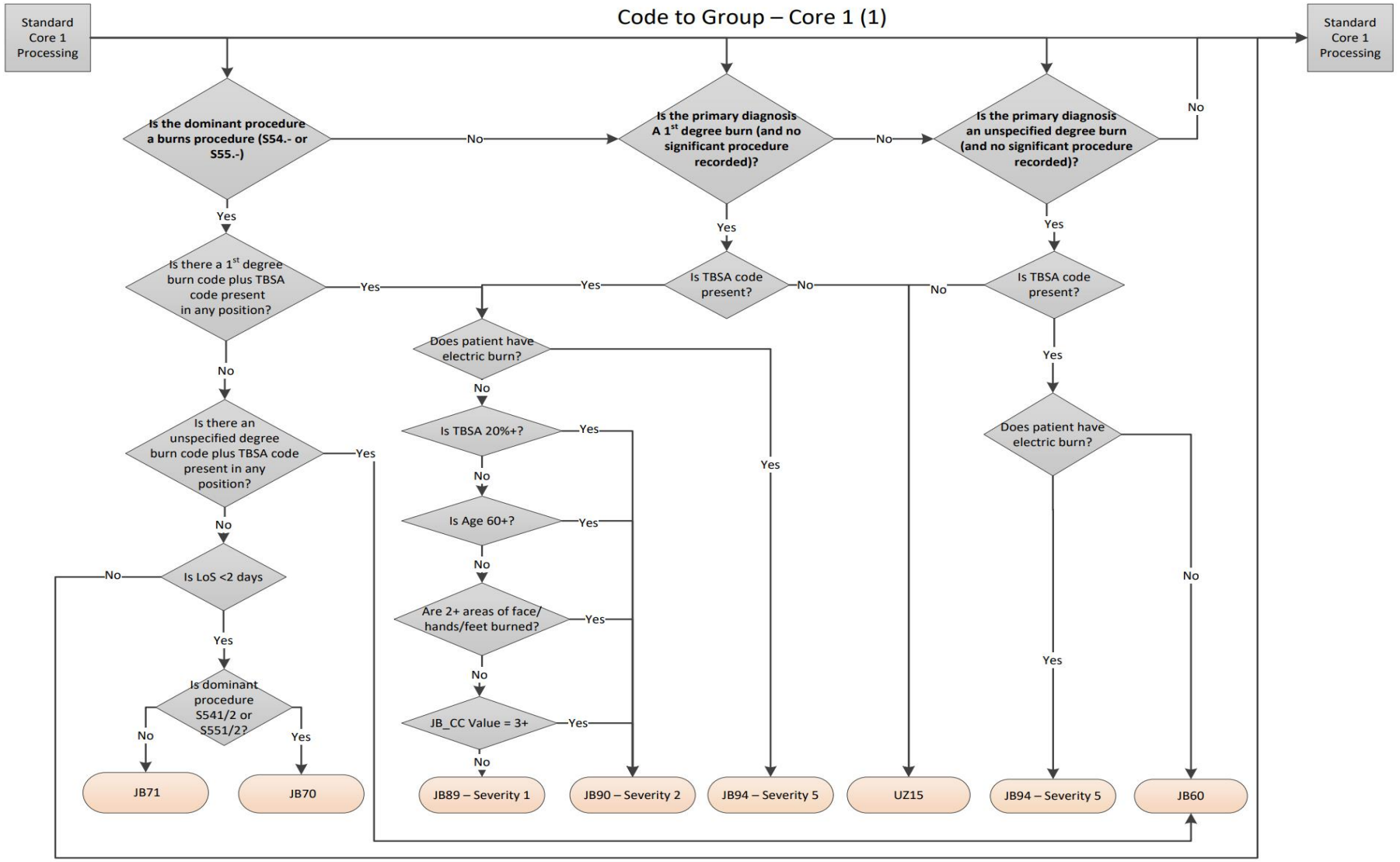
Below is a flow diagram that shows how the burns HRGs are generated, as explained above, either using Core 7 (Burns) logic or Core 1 (standard) logic to determine whether the activity should generate a burns HRG, and the specific HRG or base severity category dummy HRG based on degree of burn and TBSA.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

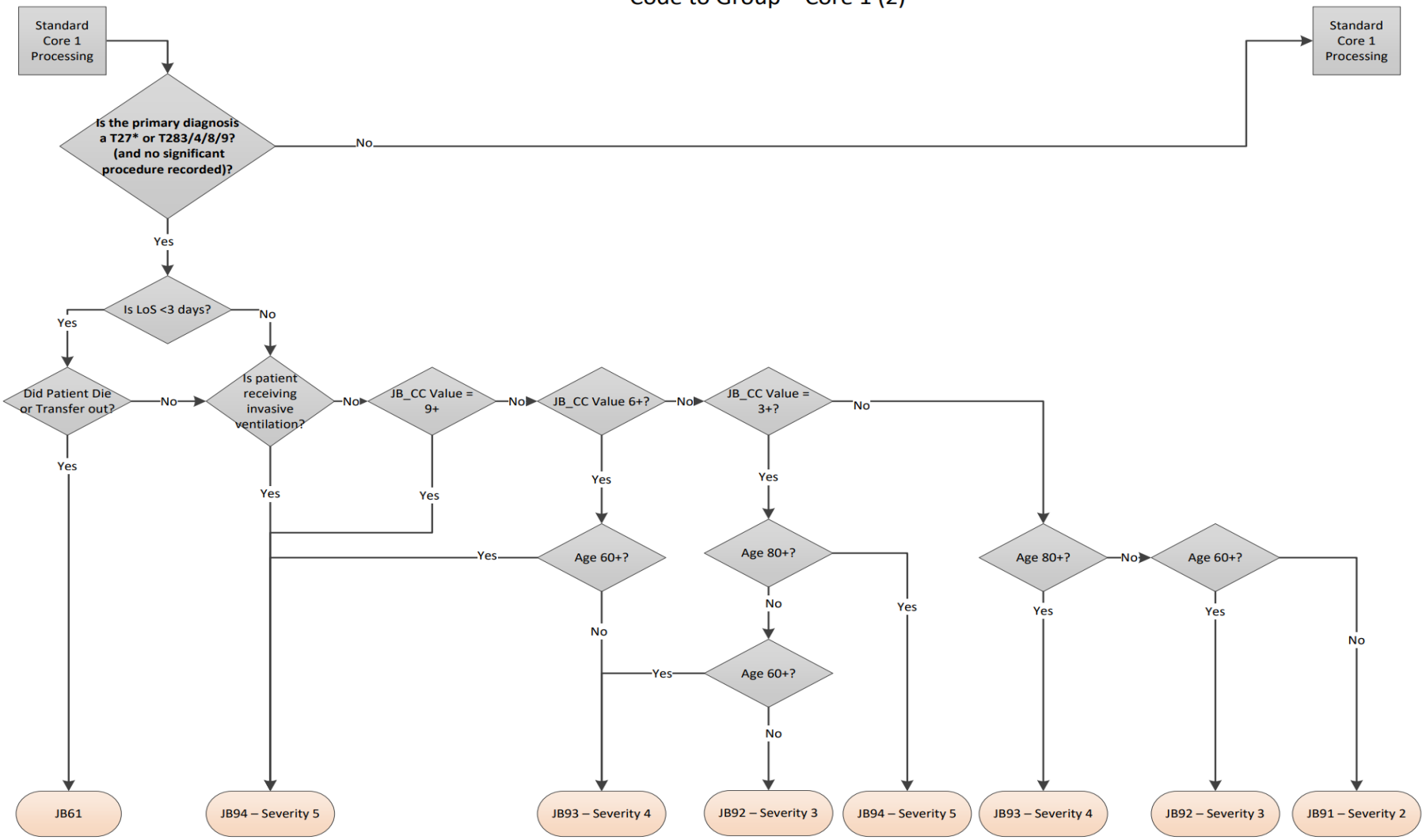
Differences from the HRG4+ 2022/23 National Costs Grouper

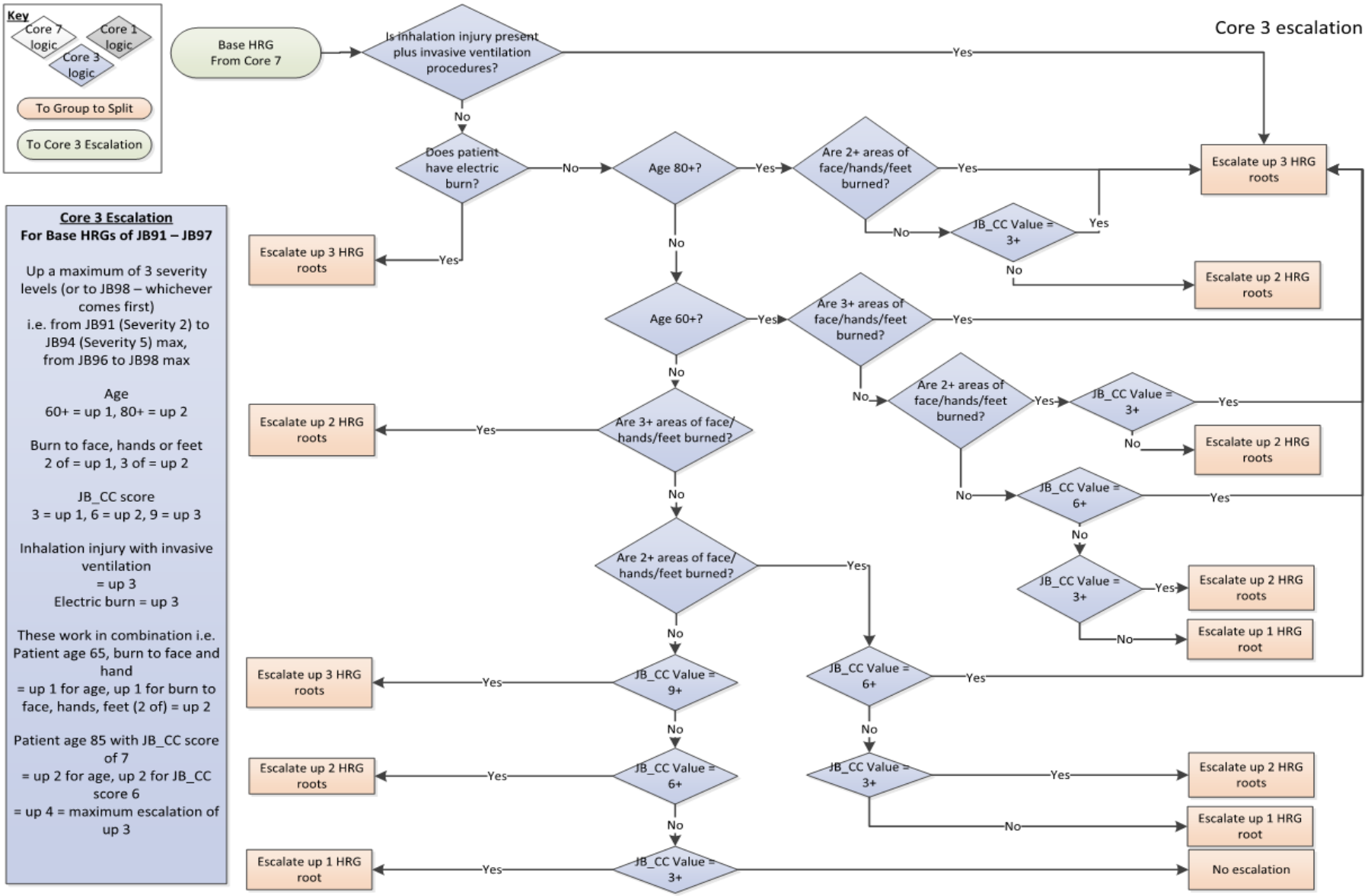
No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

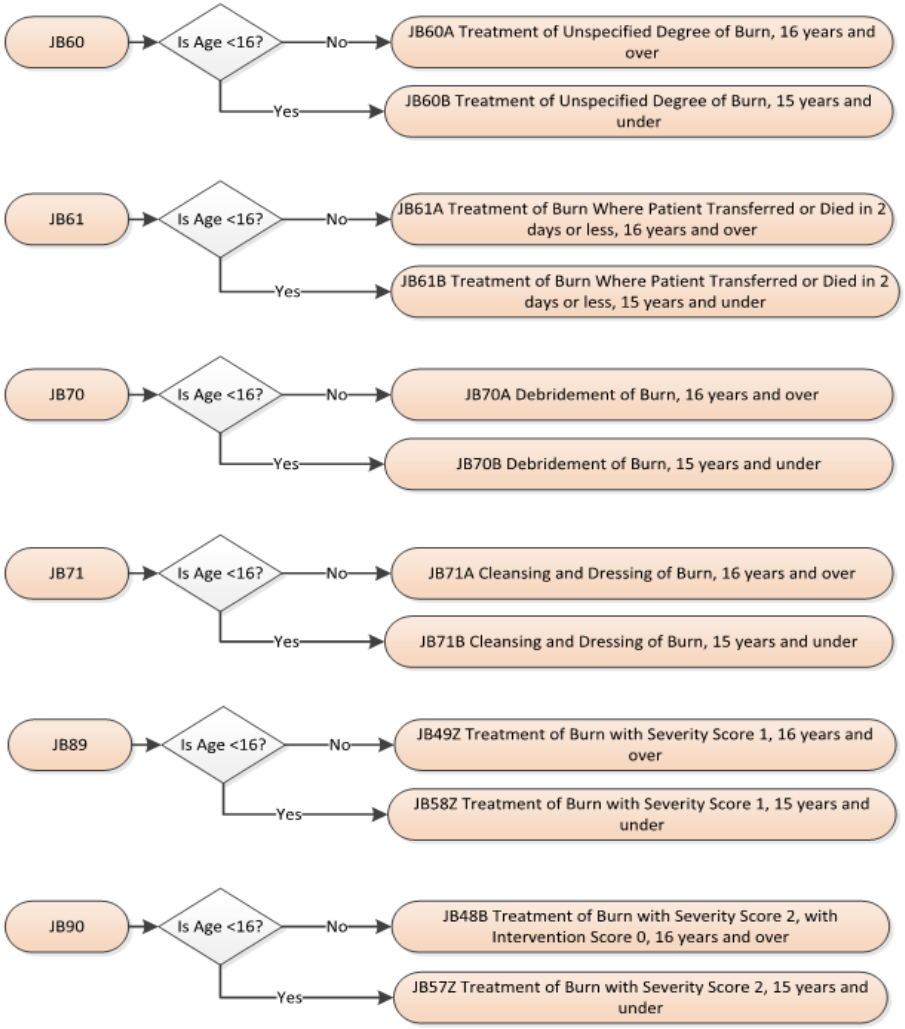


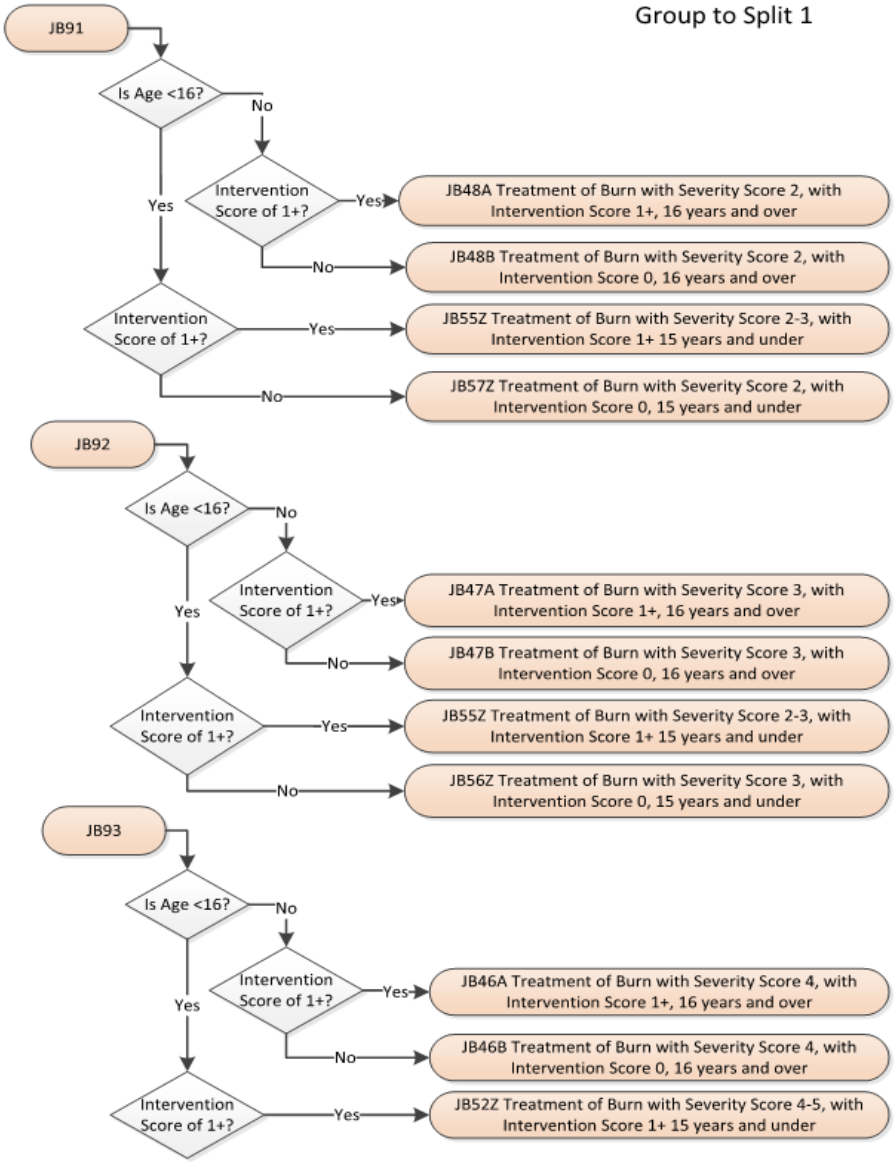


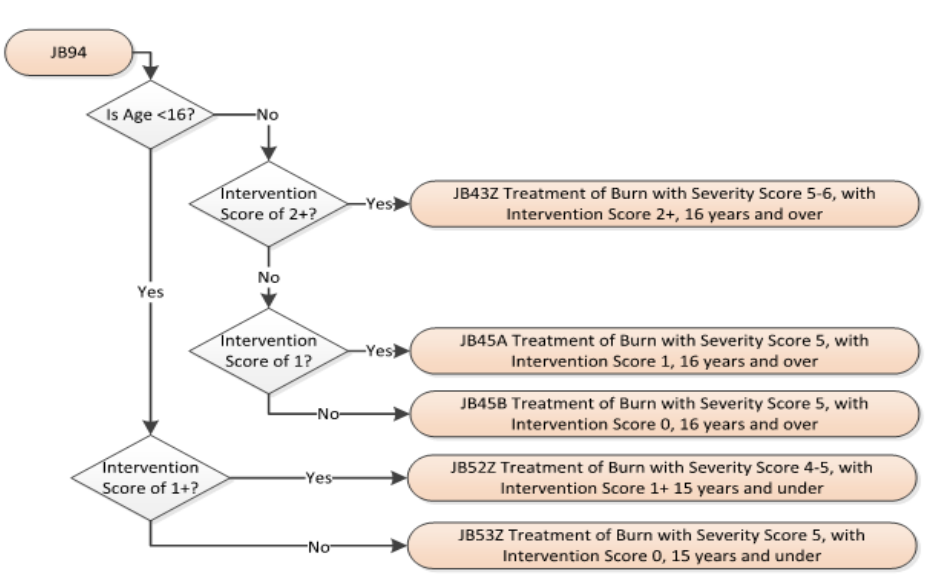
Code to Group – Core 1 (2)

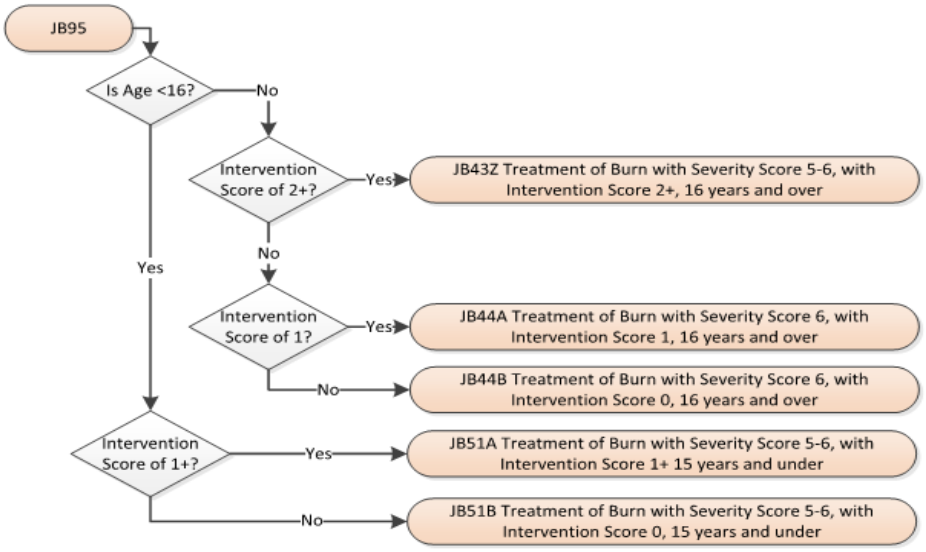




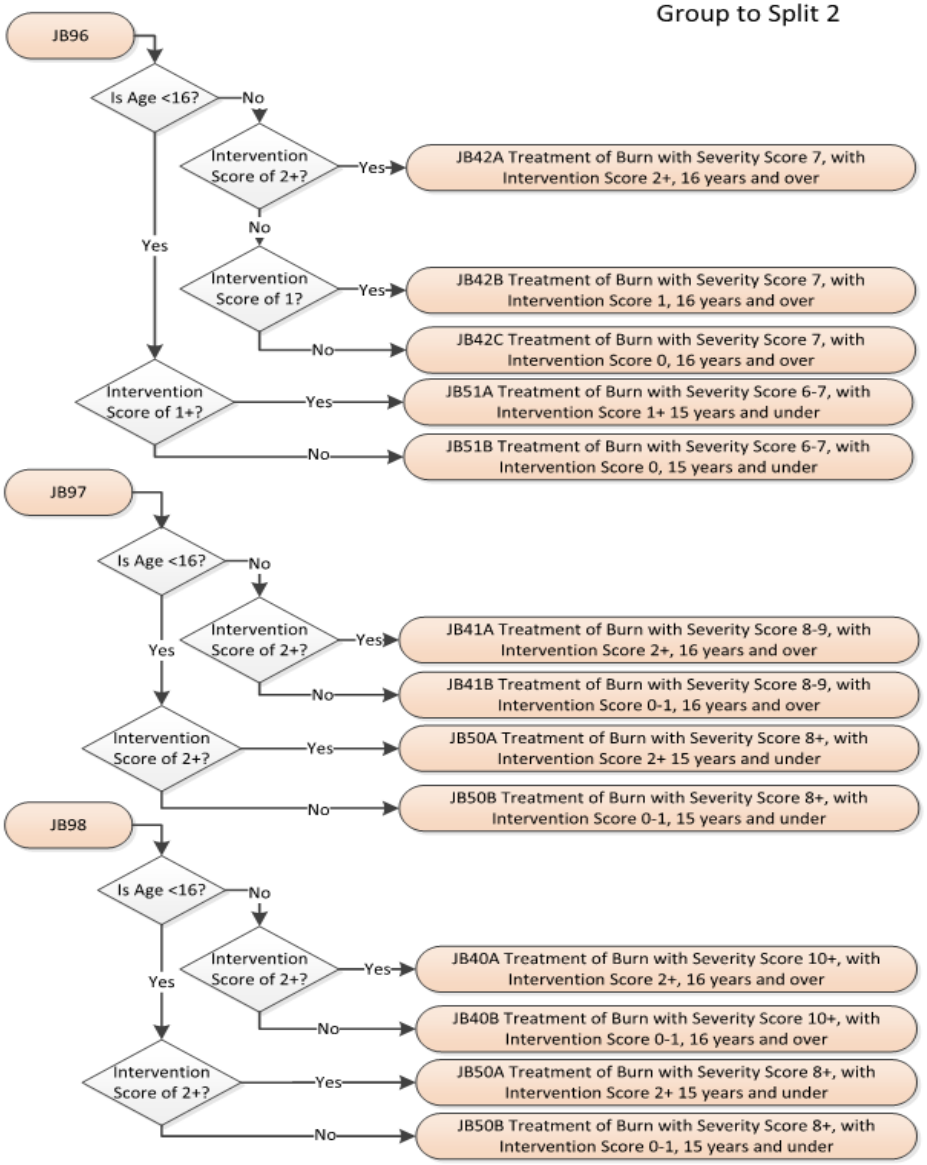








Group to Split 2



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 outside of this 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		
	NC23/24	NC22/23
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-4 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.

Differences from the HRG4+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

The introduction of new OPCS-4.10 approach code ***Y69.5 Harvest of buccal mucosa*** has enabled the creation of a new combination code, ***S388+Y695 Graft of buccal mucosa***. Although this combination code has been created to support escalation logic on the urethra HRGs within Subchapter **LB Urological and Male Reproductive System Procedures and Disorders**, it has been mapped to HRG root **JC43 Minor Skin Procedures** on clinical advice.

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.

Composition and Concepts		
	NC23/24	NC22/23
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

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.

Differences from the HRG4+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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 Subchapter **YC Head and Neck Imaging Interventions**.

The procedure-driven HRG roots within this subchapter are differentiated based on the site of surgery, with HRGs for thyroid, parathyroid and adrenal procedures.

Composition and Concepts		
	NC23/24	NC22/23
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

As the procedure-driven HRGs within this subchapter are procedure-specific, there is no multiple procedure logic within this subchapter.

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 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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

Subchapter KB – Diabetic Medicine

Composition and Concepts		
	NC23/24	NC22/23
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

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.

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 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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

Subchapter LA – Renal Procedures and Disorders

Composition and Concepts		
	NC23/24	NC22/23
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

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.

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.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS-4 codes are required to identify a single procedure. In this subchapter they tend to be used to differentiate the renewal of peritoneal dialysis catheter 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 of acute kidney injury or chronic kidney disease is recorded, respectively.

Intervention splits are also employed within all 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 all 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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

Subchapter LB – Urological and Male Reproductive System Procedures and Disorders

Composition and Concepts		
	NC23/24	NC22/23
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

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.

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 (including 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 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 areas 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 where 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 where 2 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 a robotically assisted approach is recorded. There is also logic on certain kidney and bladder procedures to escalate activity 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, where a subsidiary OPCS-4 site code indicates a prostatic or penile urethroplasty, 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, 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 procedure 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-4 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).

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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 code ***M44.5 Endoscopic removal of mesh from bladder*** has been mapped to HRG root **LB68 Complex Endoscopic Bladder Procedures**.

New OPCS-4.10 code ***M78.1 Endoscopic removal of mesh from urethra*** has been mapped to relabelled base HRG root **LB29 Major Urethra Procedures**. The label of this HRG root and those of its associated HRGs have been amended to reflect that both major open, laparoscopic and endoscopic procedures can map to this HRG root.

New OPCS-4.10 codes ***M66.4 Endoscopic removal of inert substance from outlet of male bladder*** and ***M56.4 Endoscopic removal of inert substance from outlet of female bladder*** have been mapped to relabelled base HRG root **LB70 Complex Endoscopic, Prostate or Bladder Neck Procedures**. As a result of the introduction of M56.4, the now redundant combination code ***M568+Y264 Endoscopic removal of other repair material from outlet of female bladder*** has been deleted.

New OPCS-4.10 code ***T45.5 Image controlled insertion of biodegradable spacer into perirectal space*** has been mapped to relabelled base HRG root **LB26 Intermediate Endoscopic, Prostate or Bladder Neck Procedures**. As a result, the now redundant combination code ***T967+O161 Injection into soft tissue of pelvis NEC*** has been deleted.

New OPCS-4.10 codes ***M57.5 Division of tension-free vaginal tape***, ***M57.6 Division of transobturator tape*** and ***M57.7 Division of vaginal tape NEC*** have been mapped to relabelled base HRG root **LB59 Major, Open or Laparoscopic, Bladder Neck Procedures**.

New OPCS-4.10 codes ***M51.3 Insertion of autologous sling***, ***M58.3 Removal of inert substance from outlet of female bladder***, ***M60.5 Total removal of transobturator sling*** and ***M60.6 Partial removal of transobturator sling*** have been mapped to relabelled base HRG root **LB21 Complex Open, Prostate or Bladder Neck Procedures**. As a result of the introduction of ***M51.3***, the now redundant combination code ***M538+Y60 Vaginal operation using insertion of other harvest of fascia to support outlet of female bladder*** has been deleted.

New OPCS-4.10 codes ***M54.4 Attention to artificial urinary sphincter in outlet of female bladder*** and ***M60.4 Attention to artificial urinary sphincter in outlet of male bladder*** have been mapped to relabelled base HRG root **LB21 Complex Open, Prostate or Bladder Neck Procedures**. In addition, 2 new combination codes have been created from these new OPCS-4.10 codes to capture renewal of artificial urinary sphincter. ***M544+Y032 Renewal of artificial urinary sphincter in outlet of female bladder*** and ***M604+Y032 Renewal of artificial urinary sphincter in outlet of male bladder*** have been mapped to relabelled HRG **LB50Z Implantation of Artificial Urinary Sphincter**.

The introduction of new OPCS-4.10 code ***P29.6 Oversewing of mesh in vagina***, which has been appropriately mapped to an HRG within Subchapter **MA Female Reproductive System Procedures**, has led to the deletion of the now redundant combination code ***M538+Y252 Vaginal resuture to support outlet of female bladder***, which previously mapped to a base HRG root in this subchapter.

As a result of the introduction of a significant number of new OPCS-4.10 codes for prostate and bladder neck procedures, and the replacement of related national coding standards, it has been appropriate to remap some existing prostate and bladder neck procedure codes. This is to ensure gender parity, so that procedures, irrespective of sex, map to the appropriate HRG based on expected complexity and resource usage. This has included the relabelling of all the prostate, bladder neck and vaginal tape HRGs as described, and also the relabelling of HRG **LB78Z Minor Prostate or Bladder Neck Procedures**.

Existing OPCS-4 code ***M64.7 Introduction of transobturator sling*** has been remapped from base HRG root **LB21 Major Open, Prostate or Bladder Neck Procedures (Male)**, and existing code ***M52.1 Suprapubic sling operation NEC*** has been remapped from HRG **LB59Z Major, Open or Laparoscopic, Bladder Neck Procedures (Female)**, to relabelled HRG root **LB51 Intermediate, Open or Laparoscopic, Bladder Neck Procedures** to ensure that the insertion of all prosthetic slings and tapes map to the same resource HRG, irrespective of whether they are performed to support the male or female bladder neck.

Existing OPCS-4 code ***M64.8 Other specified other open operations on outlet of male bladder*** has been remapped from base HRG root **LB21 Major Open, Prostate or Bladder Neck Procedures (Male)** to relabelled HRG **LB59Z Major, Open or Laparoscopic, Bladder Neck Procedures** to reflect that this non-specific procedure is expected to utilise the same resource as the equivalent procedure on the female outlet of bladder.

Existing OPCS-4 codes ***M55.3 Insertion of prosthetic collar around outlet of female bladder***, ***M55.6 Insertion of retropubic device for female stress urinary incontinence NEC***, ***M60.1 Insertion of male retropubic continence device NEC*** and ***M64.3 Insertion of prosthetic collar around outlet of male bladder*** have been remapped from HRG **LB50Z Implantation of Artificial Urinary Sphincter (Male and Female)** to relabelled base HRG

root **LB21 Complex Open, Prostate or Bladder Neck Procedures**. This is to ensure that only insertion of artificial urinary sphincter procedures map to HRG **LB50Z Implantation of Artificial Urinary Sphincter**. As a result, 4 combination codes that previously mapped to this HRG are now redundant: ***M554+Y032 Renewal of prosthetic collar around outlet of female bladder***, ***M558+Y032 Renewal of retropubic device into outlet of female bladder***, ***M644+Y032 Renewal of prosthetic collar around outlet of male bladder*** and ***M648+Y032 Renewal of retropubic device into outlet of male bladder***, and have been deleted.

Existing OPCS-4 codes ***M53.4 Total removal of tension-free vaginal tape*** and ***M57.2 Total removal of vaginal tape NEC*** have been remapped from base HRG root **LB51 Vaginal Tape Operations for Urinary Incontinence** to relabelled base HRG root **LB21 Complex Open, Prostate or Bladder Neck Procedures**.

Existing OPCS-4 codes ***M51.1 Abdominoperineal suspension of urethra***, ***M54.2 Reconstruction of neck of female bladder NEC***, ***M54.3 Removal of artificial urinary sphincter from outlet of female bladder***, ***M55.1 Open resection of outlet of female bladder***, ***M55.4 Maintenance of prosthetic collar around outlet of female bladder***, ***M55.5 Removal of prosthetic collar from around outlet of female bladder*** and ***M55.7 Removal of female retropubic device NEC*** have been remapped from HRG **LB59Z Major, Open or Laparoscopic, Bladder Neck Procedures (Female)** to relabelled base HRG root **LB21 Complex Open, Prostate or Bladder Neck Procedures**.

Existing OPCS-4 codes ***M53.5 Partial removal of tension-free vaginal tape***, ***M53.7 Total removal of transobturator tape***, ***M57.3 Partial removal of vaginal tape NEC*** and ***M57.4 Partial removal of transobturator tape*** have been remapped from HRG root **MA04 Intermediate Open Lower Genital Tract Procedures** to relabelled base HRG root **LB21 Complex Open, Prostate or Bladder Neck Procedures**.

The relabelling of HRG root **LB21 Complex Open, Prostate or Bladder Neck Procedures** has enabled both complex male and female bladder neck procedures, such as bladder neck reconstruction and the removal of tapes, to map to these HRGs.

All codes that map to base HRG root **LB21 Complex Open, Prostate or Bladder Neck Procedures** and ***M52.3 Colposuspension of neck of bladder*** have new logic to escalate activity to relabelled HRG **LB22Z Complex Laparoscopic, Prostate or Bladder Neck Procedures** where an OPCS-4 subsidiary code indicating laparoscopic approach is recorded or to relabelled HRG **LB69Z Complex Robotic, Prostate or Bladder Neck Procedures** where an OPCS-4 subsidiary code indicating robotically assisted approach is recorded. The latter logic uses a list that now includes new OPCS-4.10 code ***Y72.1 Failed robotic minimal access approach converted to open*** to reflect that the clinical intent was a robotically assisted procedure, and therefore the resource usage of these procedures would be more similar to that of a robotically assisted, rather than open, procedure.

The introduction of new OPCS-4.10 site codes ***O53.1 Prostatic urethra*** and ***O53.3 Penile urethra*** has enabled new logic to be added to the urethroplasty procedure codes that map to relabelled base HRG root **LB29 Major Urethra Procedures**. The new logic ensures that where 1 of these codes is recorded alongside a urethroplasty, activity escalates to relabelled HRG **LB81Z Complex Urethra Procedures** to reflect the additional complexity of urethroplasties involving the prostatic or penile urethra.

The introduction of new OPCS-4.10 approach code ***Y69.5 Harvest of buccal mucosa*** has enabled the creation of a new combination code, ***S388+Y695 Graft of buccal mucosa***. Although this combination code has been mapped to HRG root **JC43 Minor Skin Procedures**, it has been created to replace the more generic ***S38.8 Other specified graft***

of mucosa on the **LB_CompGraft** list, which is used to escalate urethroplasty procedure codes that map to relabelled base HRG root **LB29 Major Urethra Procedures** to relabelled HRG **LB81Z Complex Urethra Procedures**.

Changes related to other OPCS-4.10 updates and amendments

For consistency, logic has been added to existing OPCS-4 codes ***M20.2 Unilateral replantation of ureter***, ***M20.3 Replantation of ureter after urinary diversion***, ***M20.8 Other specified replantation of ureter*** and ***M20.9 Unspecified replantation of ureter*** to escalate activity from base HRG roots **LB61 Major, Open or Percutaneous, Kidney or Ureter Procedures, 19 years and over** in adult patients or **LB63 Major, Open or Laparoscopic, Kidney or Ureter Procedures, 18 years and under** in child patients to HRG root **LB60 Complex, Open or Laparoscopic, Kidney or Ureter Procedures** when a subsidiary OPCS-4 code indicating a robotically assisted approach is recorded.

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		
	NC23/24	NC22/23
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.

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

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

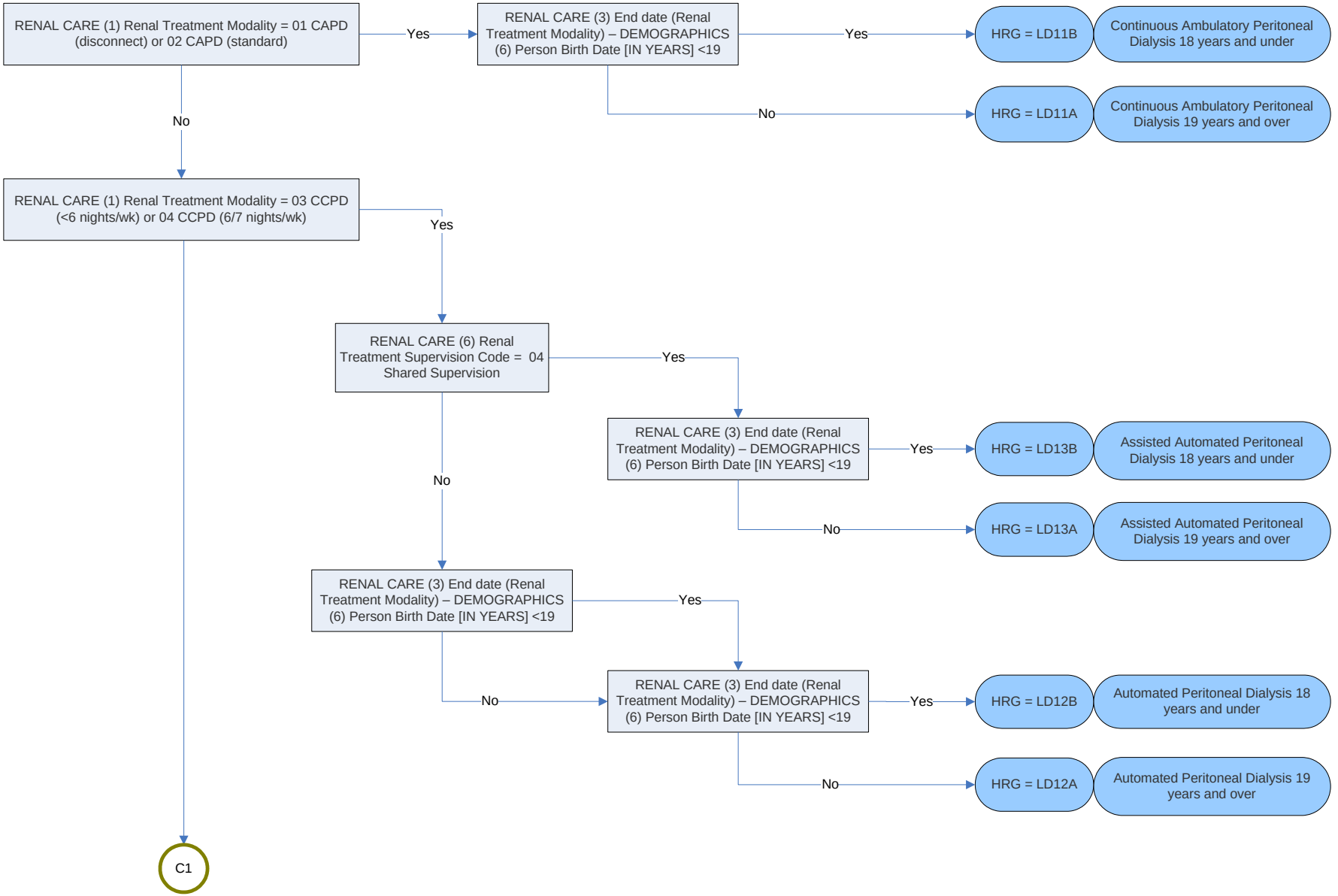
Validation	Only on list. Leading zero must be included.

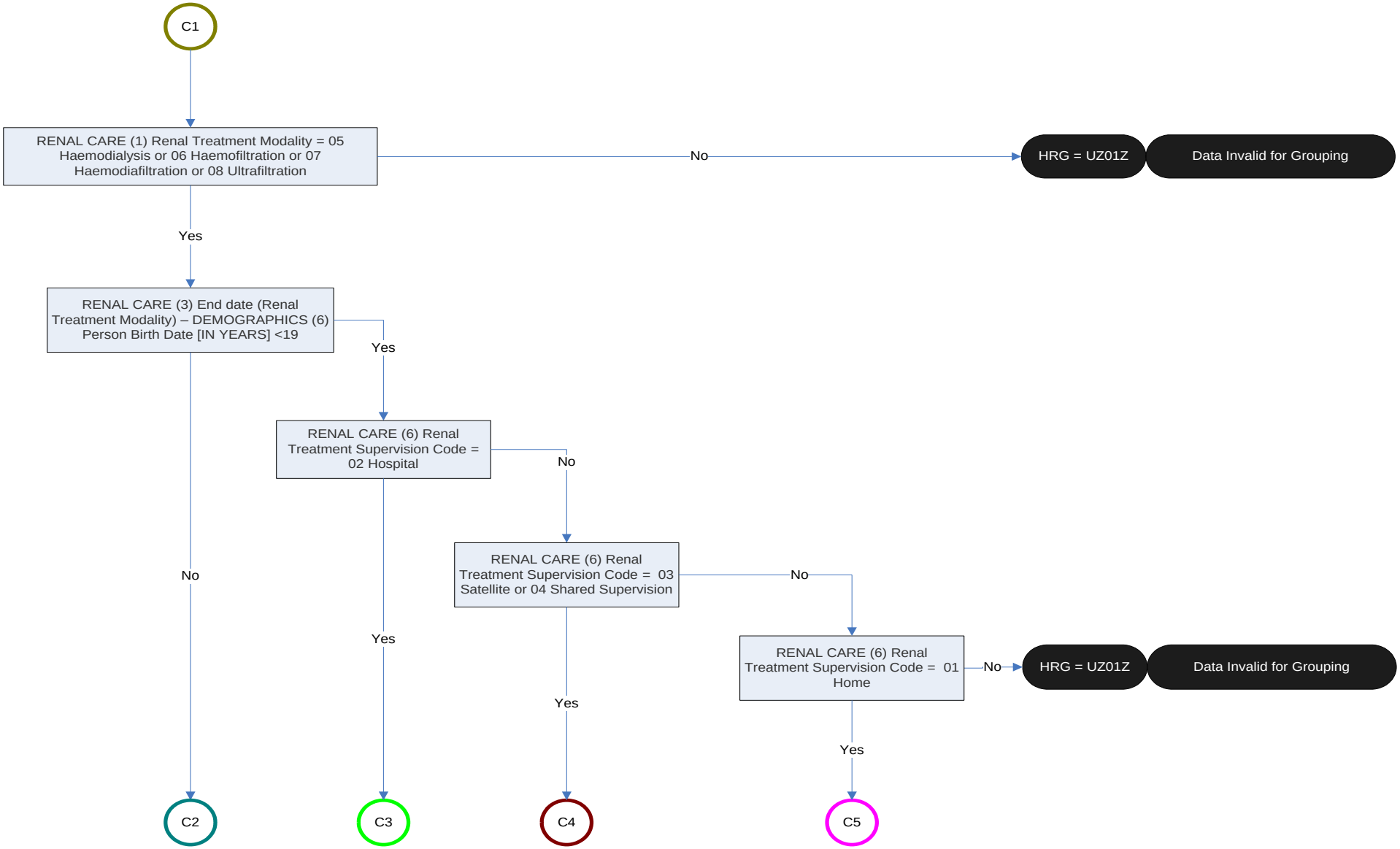
Type of dialysis access (Current)	Description
01	Non-tunnelled line
02	Tunnelled line
03	Arteriovenous fistula (AVF)
04	Arteriovenous graft (AVG)
05	Vein loop
06	PD catheter
07	PD catheter temp
Validation	On list plus blank. Leading zero must be included.

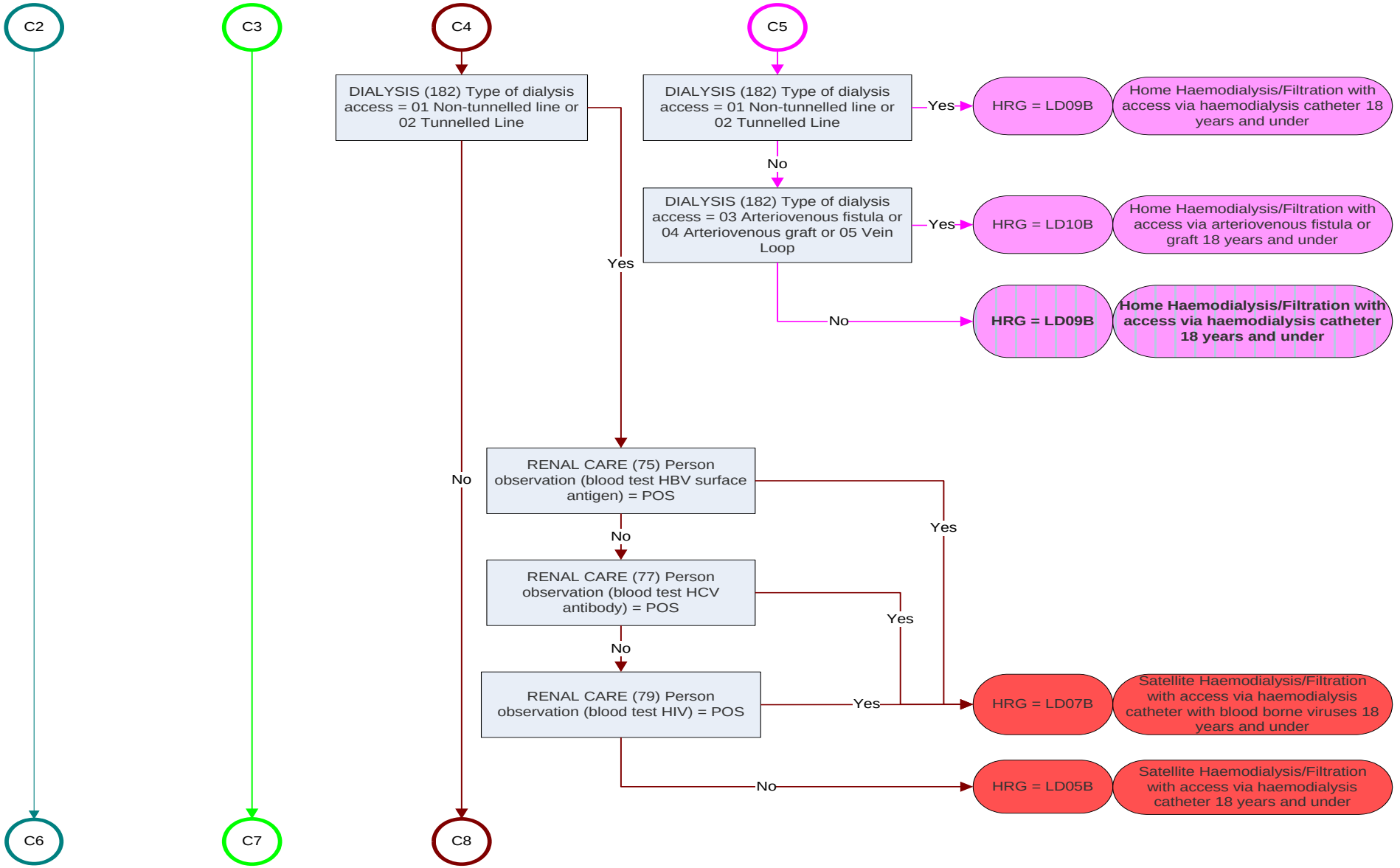
Date	Description
Free text	Date in standard format, e.g. 11/11/11 or 11-11-11
Validation	None

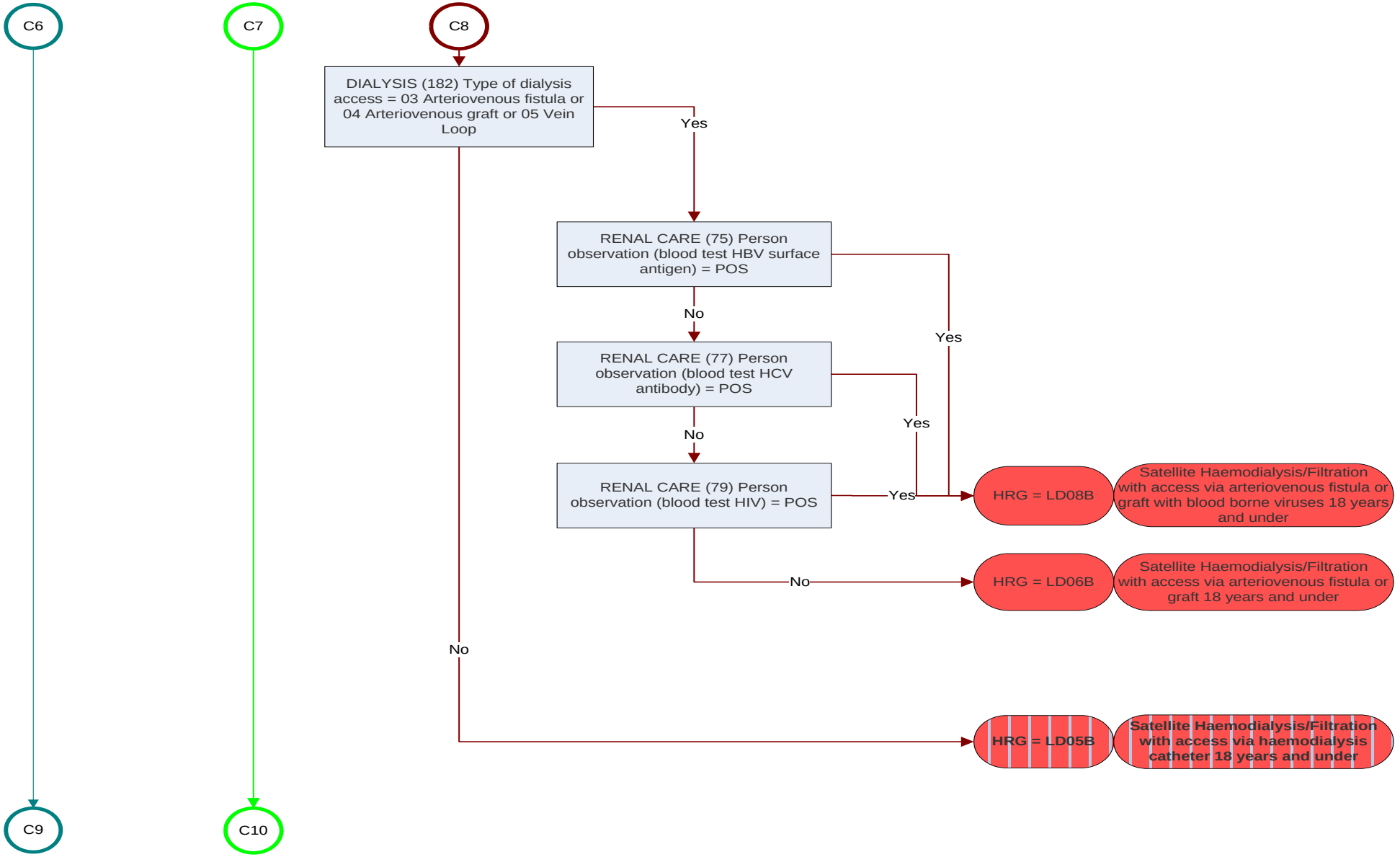
Person observation (blood test HBV surface antigen)	Description
POS	Positive
NEG	Negative
UNK	Unknown
Validation	On list plus blank. Must be upper case.

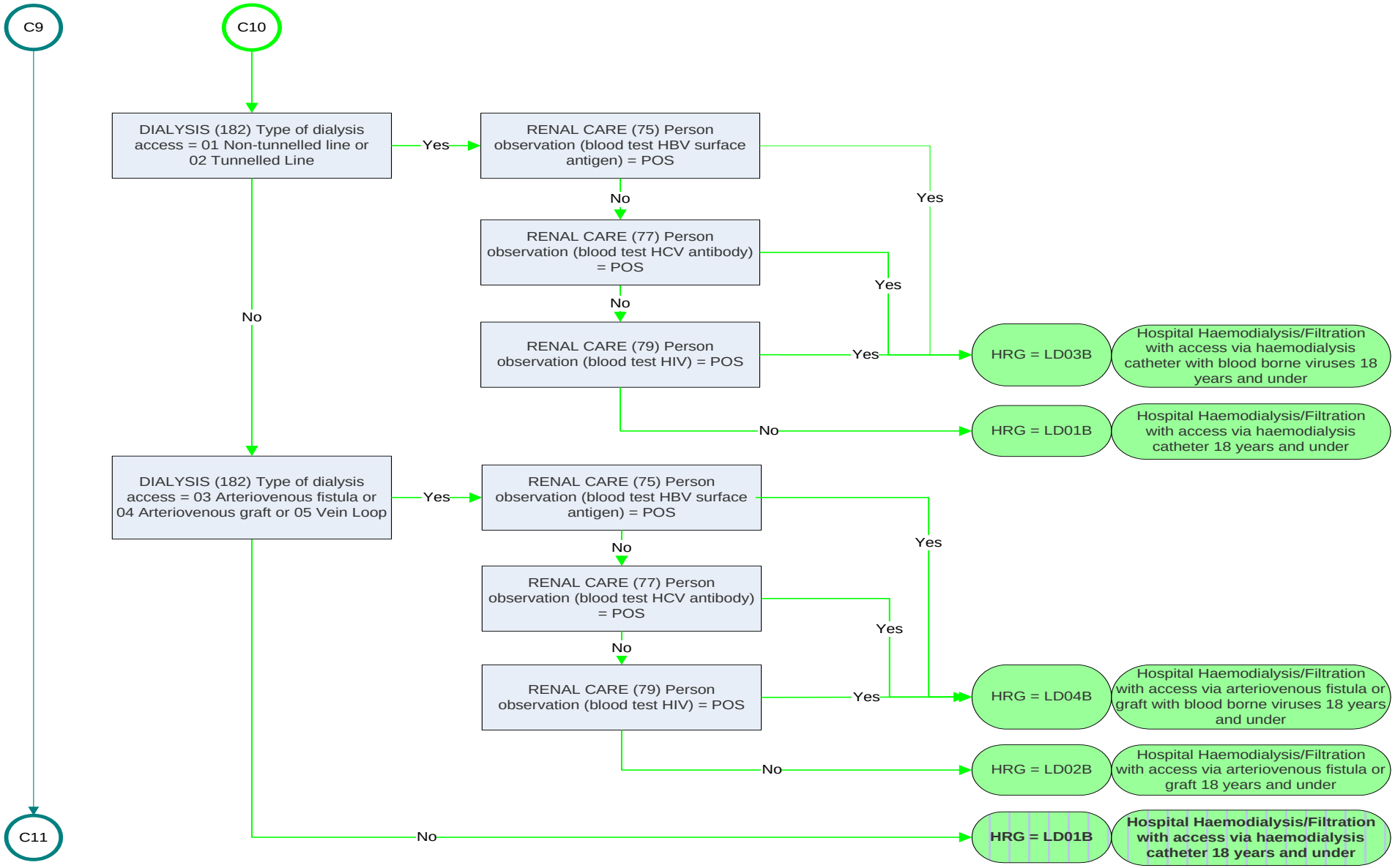
Below is a flow diagram that demonstrates how each of the dialysis HRGs within this subchapter are derived.

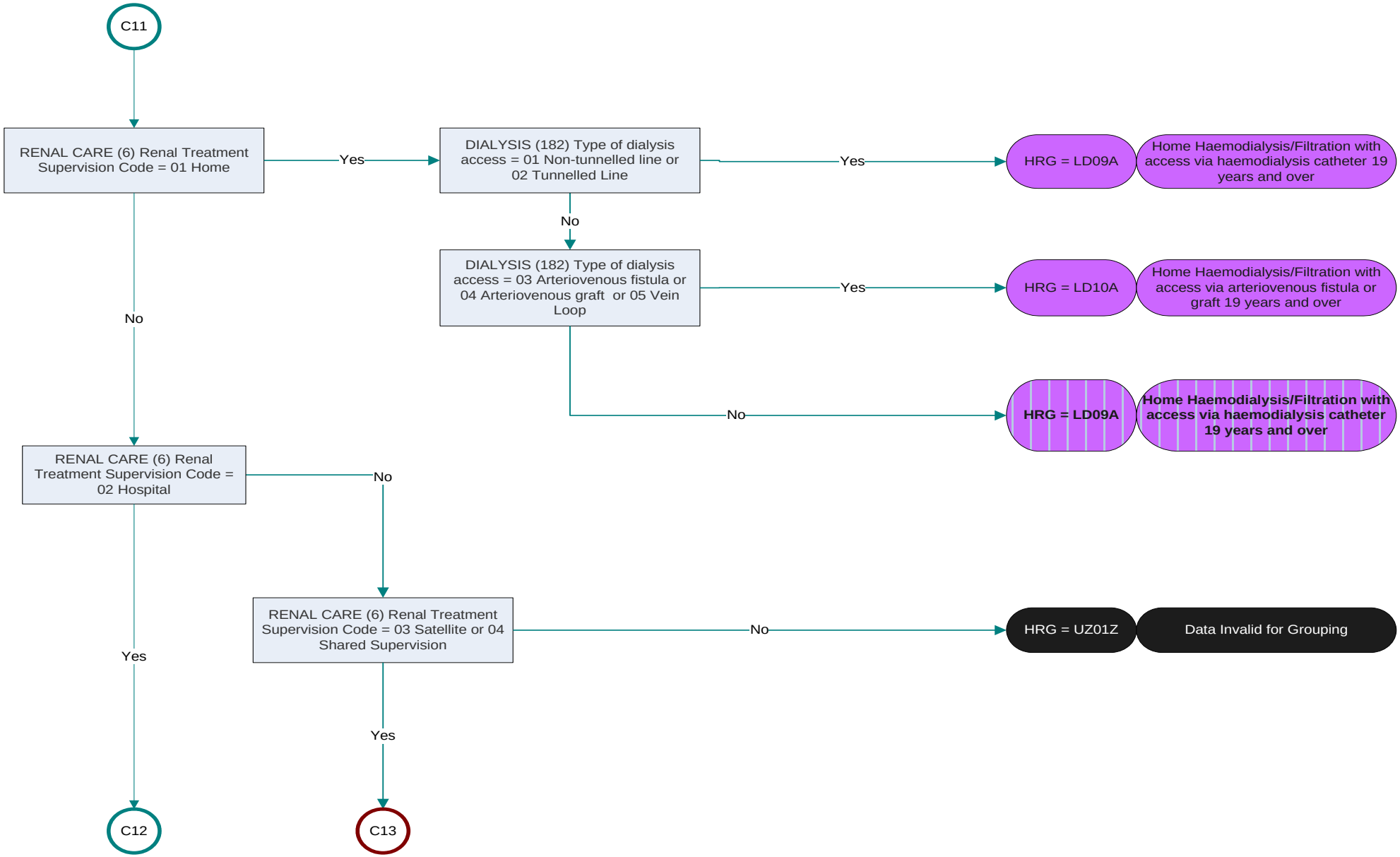


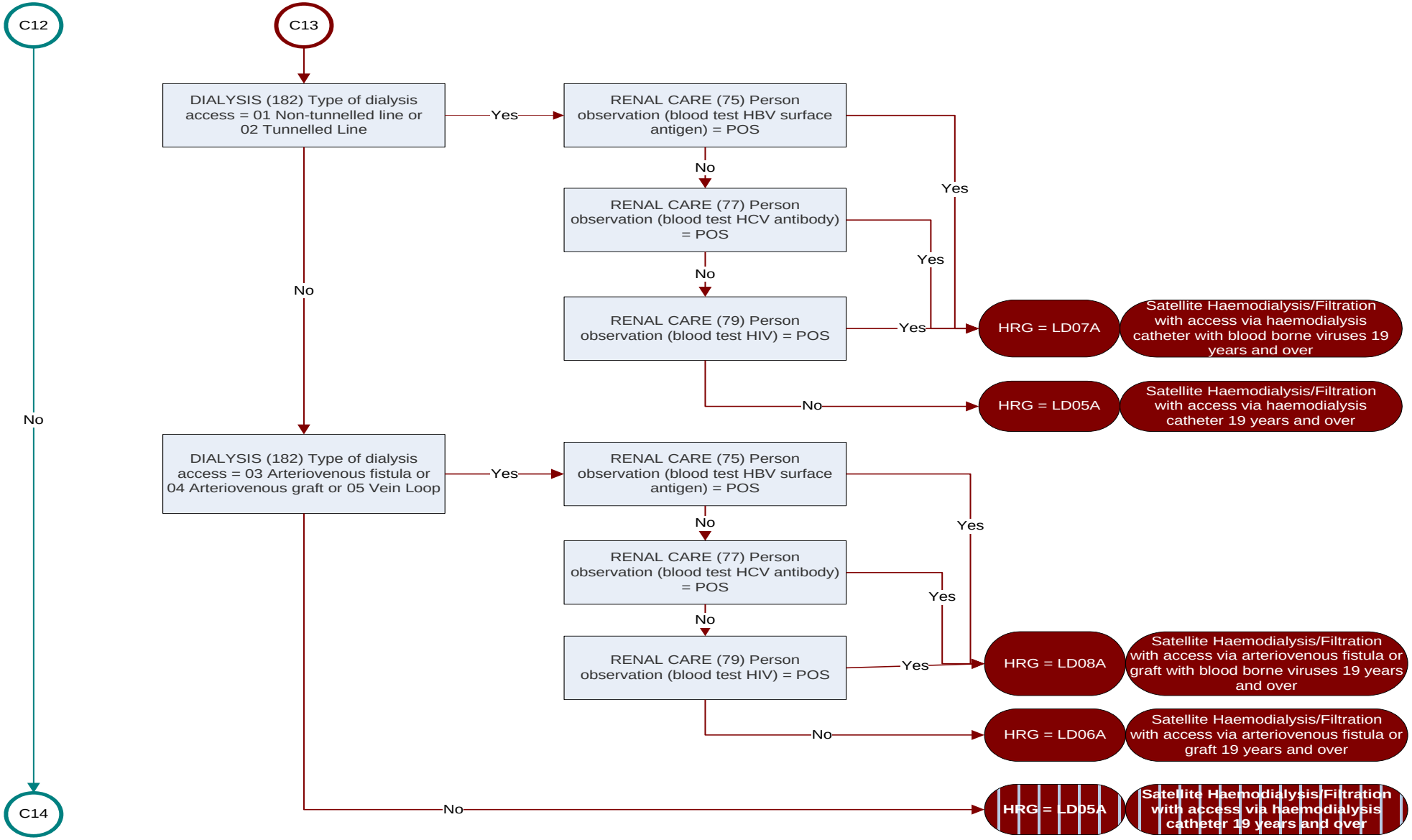


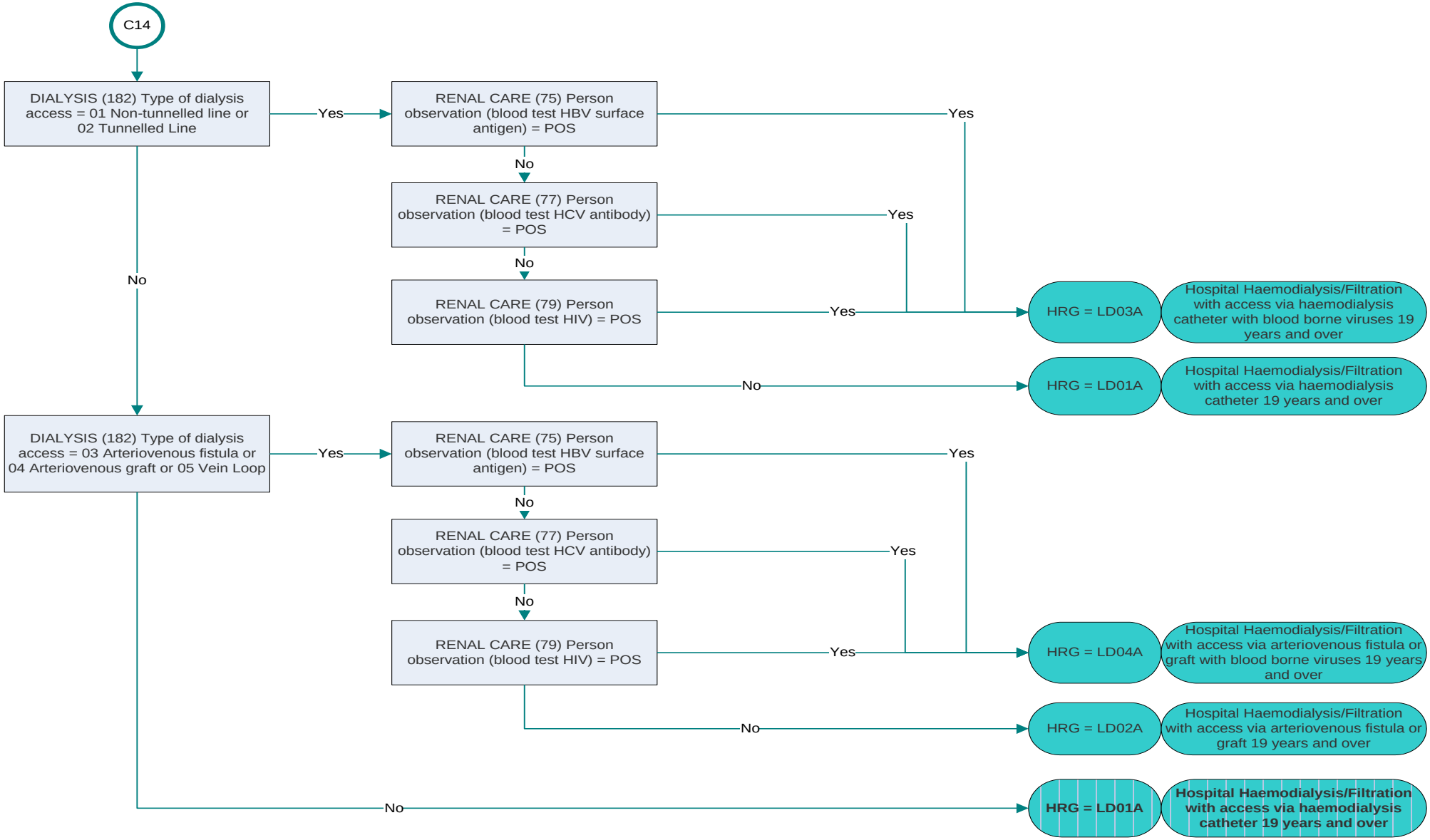












Differences from the HRG4+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

Subchapter LE – Renal Dialysis for Acute Kidney Injury

Composition and Concepts		
	NC23/24	NC22/23
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

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**.

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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

Subchapter MA – Female Reproductive System Procedures

Composition and Concepts		
	NC23/24	NC22/23
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

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 (including robotic), on the part of the female genital tract operated on – upper or lower, and on whether the treatment related to gynaecological malignancy, pelvic peritoneum adhesions or other gynaecological disorders.

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, which are differentiated based on surgical versus medical care:

- The surgical care HRGs are separated based on gestational age as recorded using subsidiary OPCS-4 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.

- 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 complexity level, where:

- an additional vaginal vault repair procedure is recorded alongside a dominant hystercolpectomy procedure, or
- an additional bladder neck or vaginal prolapse repair procedure is performed alongside a dominant pelvic organ prolapse repair procedure, or
- sacrospinous fixation of vagina and colporrhaphy procedures are recorded alongside a dominant hysterectomy procedure, or
- a diagnosis code indicating severe endometriosis is recorded in any position, with a dominant major upper genital tract procedure, or
- a primary diagnosis code indicating an ectopic pregnancy is recorded alongside a dominant salpingectomy procedure, or
- an additional intraperitoneal chemotherapy procedure or 3 additional peritoneum, omentum or abdominopelvic lymph node procedures are recorded alongside a dominant hysterectomy or 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 a dominant procedure of OPCS-4 code ***X37.3 Intramuscular chemotherapy*** (which is used to indicate methotrexate treatment), and 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, in addition to the dominant procedure of OPCS-4 code ***X37.3 Intramuscular chemotherapy***.

Some activity with a dominant procedure mapped to an HRG outside this subchapter maps to an HRG in this subchapter in certain scenarios:

- Where certain procedures are undertaken on the peritoneum of a female patient with a gynaecological primary diagnosis code, or on a female patient with a diagnosis code indicating severe endometriosis in any position, activity maps to the Female Pelvic Peritoneum Adhesion Procedures HRGs rather than the General Abdominal HRGs within Subchapter **FF Digestive System Open and Laparoscopic Procedures**.
- Where a diagnostic high resolution anoscopy procedure is performed alongside a colposcopy procedure, activity maps to HRG **MA27Z Minor, Upper or Lower Genital Tract Procedures for Malignancy** rather than the Anal Procedures HRGs within 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 HRG **MA01Z Complex Open, Upper or Lower Genital Tract Procedures** rather than the Prostate and Bladder Neck Procedures HRGs within Subchapter **LB Urological and Male Reproductive System Procedures and Disorders**.

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS-4 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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 codes ***P30.3 Plication of mesh previously inserted for suspension of vaginal vault*** and ***Q57.3 Plication of mesh previously inserted for suspension of uterus*** have been mapped to base HRG root **MA02 Very Major Open, Upper or Lower Genital Tract Procedures**.

New OPCS-4.10 code ***Q05.3 Insertion of osmotic dilator into cervix*** has been mapped to base HRG root **MA56 Medical, Abortion or Miscarriage Care, under 9 weeks Gestation**.

New OPCS-4.10 code ***P29.6 Oversewing of mesh in vagina*** has been mapped to HRG root **MA04 Intermediate Open Lower Genital Tract Procedures**. As a result, the now redundant combination codes ***P228+Y252 Resuture of prolapse of vagina and amputation of cervix uteri***, ***P238+Y252 Resuture of prolapse of vagina***, ***P248+Y252 Resuture of vault of vagina*** and ***P298+Y252 Resuture of vagina*** have been deleted.

New OPCS-4.10 codes ***Q57.2 Sacrospinous fixation of uterus*** and ***Q57.4 Plication of uterosacral ligament*** have been mapped to base HRG root **MA11 Intermediate Open Upper Genital Tract Procedures**. Existing related OPCS-4 code ***Q54.1 Suspension of uterus NEC*** has been added to the **MA_Major** escalation list to ensure appropriate escalation of all pelvic organ prolapse procedures when undertaken alongside a hysterectomy.

New OPCS-4.10 codes ***H73.1 Diagnostic examination of anus and biopsy of anus using high resolution anoscope***, ***H73.8 Other specified diagnostic operations on anus using high resolution anoscope*** and ***H73.9 Unspecified diagnostic operations on anus using high resolution anoscope*** have been mapped to HRG **FF42Z Minor Anal Procedures**, with logic to map to HRG **MA27Z Minor, Upper or Lower Genital Tract Procedures for Malignancy** where the length of stay is 1 day or less and an additional procedure code is recorded indicating diagnostic colposcopy.

- As a result, new combination code ***P098+Y41 Examination of vulva*** has been created to capture colposcopy of vulva (also known as vulvoscopy). This combination code has been mapped to HRG **MA23Z Minimal Lower Genital Tract Procedures** and added to the new diagnostic colposcopy list (**MA_Colposcopy**). This ensures that where investigations for multizonal anogenital neoplasia are undertaken, activity maps to the appropriate gynaecological procedure HRG.

Changes related to other OPCS-4.10 updates and amendments

In lieu of specific OPCS-4 codes, to ensure that complex debulking and cytoreductive procedures that are undertaken to treat cancers that typically impact multiple abdominal organs, logic has been added to the following HRGs / HRG roots within this subchapter:

- Logic has been added to the hysterectomy and [salping]oophorectomy procedure codes that map to base HRG root **MA07 Major Open Upper Genital Tract Procedures** to escalate activity up 1 complexity level when an OPCS-4 subsidiary procedure code indicating robotically assisted approach is recorded.

- Logic has been added to the hysterectomy and [salping]oophorectomy procedure codes that map to base HRG roots **MA02 Very Major Open, Upper or Lower Genital Tract Procedures** and **MA07 Major Open Upper Genital Tract Procedures** to escalate activity to HRG root **FF50 Complex General Abdominal Procedures** when an additional intraperitoneal chemotherapy procedure or 3 additional peritoneum, omentum or abdominopelvic lymph node procedures are recorded.

- Existing logic on the open freeing of peritoneal or omentum adhesions procedure codes has been amended so that escalation to HRG root **FF50 Complex General Abdominal Procedures** occurs ahead of escalation to HRG **MA29Z Major Female Pelvic Peritoneum Adhesion Procedures**, as the former has a higher expected resource usage.

- Existing logic on the endoscopic peritoneum procedure codes has been amended so that escalation to HRG root **FF51 Major General Abdominal Procedures** occurs ahead of escalation to HRG **MA30Z Intermediate Female Pelvic Peritoneum Adhesion Procedures**, as the former has a higher expected resource usage.

Changes related to OPCS-4.10 code retirements

OPCS-4.9 code ***P15.3 Repair of hymen*** has been retired in OPCS-4.10 and its description updated to ***Code retired - refer to introduction*** as this procedure is now illegal to perform in the UK.

P15.3 Code retired - refer to introduction has been remapped to HRG **UZ01Z Data Invalid for Grouping** and will generate error category **UZ06 Poorly coded procedure for Casemix grouping purposes** if recorded.

Subchapter MB – Female Reproductive System Disorders

Subchapter **MB Female Reproductive System Disorders** covers female reproductive system disorders for adults and some child patients. It includes activity undertaken in an inpatient and day case setting.

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 another for non-malignant gynaecological disorders.

Composition and Concepts		
	NC23/24	NC22/23
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

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 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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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 by "with or without superovulation, and "with or without donor sperm".

There is 1 HRG for implantation of embryo, with the other IVF HRGs differentiated by the 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.

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

Composition and Concepts		
	NC23/24	NC22/23
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

Differences from the HRG4+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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		
	NC23/24	NC22/23
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 third degree tear, 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 codes recorded.

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-4 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**.

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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 code ***R15.2 Mechanical induction of labour*** has been mapped to HRG root **NZ24 Ante-Natal Therapeutic Procedures, including Induction**.

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 Subchapters **XA Neonatal Critical Care,** and **XB Paediatric Critical Care**, respectively. 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		
	NC23/24	NC22/23
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 HRG **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 is 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.
- 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. Instead, 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 (recorded in ICD-10 as ***Z29.2 Other prophylactic chemotherapy***) due to previous infection in the mother, map to these neonatal diagnoses HRGs to reflect the additional resource usage of treatment.

In addition, where a secondary diagnosis code indicating carrier of disease is recorded, this will also generate 1 of these neonatal diagnoses 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 1 of the neonatal diagnoses HRGs within this subchapter, else HRG **UZ01Z Data Invalid for Grouping** will be generated.

In accordance with national coding rules, ICD-10 diagnosis code ***P95.X Fetal death of unspecified cause***, requires a discharge method of stillbirth or died to generate HRG root **PB04 Neonatal Diagnoses, Admitted from Other Location or Born in Hospital**, 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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

Subchapter PC – Paediatric Ear, Nose, Mouth and Throat Disorders

Subchapter **PC Paediatric Ear, Nose, Mouth 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 HRG root within this subchapter – to 4 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

Subchapter PG – Paediatric Hepatobiliary Disorders

Subchapter **PG Paediatric Hepatobiliary Disorders** contains 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 HRG root within this subchapter – to 3 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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 HRG root within this subchapter –to 4 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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 1 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		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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 1 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		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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 HRG **PM44Z Paediatric Neoplasm Diagnoses with length of stay 0 days**, irrespective of cancer type.

Composition and Concepts		
	NC23/24	NC22/23
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 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 then used to determine the final CC score.

- 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 HRG **PM45B Paediatric Febrile Neutropenia with Malignancy, with CC Score 3-5** being generated.

Differences from the HRG4+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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.

Composition and Concepts		
	NC23/24	NC22/23
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*

There is 1 HRG root, **PN46 Paediatric Thalassaemia**, which can be reached where a procedure code classifying a blood transfusion is the dominant procedure, with a primary diagnosis of thalassaemia and a patient age of 18 years and under, or with a primary diagnosis of thalassaemia, where the patient's age is 18 years and under. This grouping logic is necessary to ensure appropriate paediatric HRG generation, as **Core 1** procedure-driven grouping takes precedence over **Core 1** diagnosis-driven grouping in the HRG design.

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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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 HRG root within this subchapter – to 2 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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 HRG root within this subchapter – to 2 levels – to more appropriately differentiate expected resource usage between routine and complex patients.

Composition and Concepts		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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 and 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		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

Subchapter PX – Paediatric Medicine

Subchapter **PX Paediatric Medicine** contains activity relating to the medical treatment in children (18 years and under) of conditions 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 or congenital renal disorders. There are also disorder- or symptom-specific HRGs such as those for chest pain and failure to thrive.

Composition and Concepts		
	NC23/24	NC22/23
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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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 the patient required extensive repositioning as determined by subsidiary OPCS-4 codes recorded alongside the scan.

Composition and Concepts		
	NC23/24	**NC22/23**
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 HRGs (RD97Z, RD98Z) that also utilise TFC*

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.

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 codes and would generate 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 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).

Within this subchapter there are 2 core HRGs:

- **RD97Z Same Day Diagnostic Imaging Admission or Attendance** is an “empty core” HRG. This is generated when a diagnostic imaging scan is recorded under TFC **812 Diagnostic Imaging Service**, where no significant procedure(s) are recorded, and the adjusted length of stay is zero days.
- **HRG RD98Z Admission or Attendance for Diagnostic Imaging under General Anaesthetic** is a core HRG. It is generated when a diagnostic imaging or nuclear medicine scan is recorded, under either TFC **812 Diagnostic Imaging Service** or **371 Nuclear Medicine Service,** and when an additional OPCS-4 code classifying GA is recorded, and where no significant procedure(s) are recorded.

Differences from the HRG4+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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 1 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 or parathyroid scan.

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		
	NC23/24	NC22/23
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 1 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 combination codes that generate the **RN10Z Octreotide Scan**, **RN11Z Dopamine Transporter Scan,** and the **RN12* Metaiodobenzylguanidine (MIBG) Scan** HRGs.

Age splits are employed in the majority of the 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).

Within this subchapter, there is a single core HRG:

- **RN97Z Same Day Nuclear Medicine Admission or Attendance** is an “empty core” HRG. This is generated when a nuclear medicine scan is recorded under TFC **812 Diagnostic Imaging Service** or **371 Nuclear Medicine Service** where no significant procedure(s) are recorded, and the adjusted length of stay is zero days.

Where a nuclear medicine scan is recorded, under either TFC **812 Diagnostic Imaging Service** or **371 Nuclear Medicine Service**, and an additional OPCS-4 code classifying GA is recorded, and where no significant procedure(s) are recorded, the core HRG **RD98Z Admission or Attendance for Diagnostic Imaging under General Anaesthetic** (from Subchapter **RD Diagnostic Imaging**) will be generated. This is due to the low volume of activity undertaken under GA in Nuclear Medicine, such that a separate core HRG within Subchapter **RN Nuclear Medicine Procedures** is not currently warranted.

Differences from the HRG4+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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 codes, or where subsidiary OPCS-4 codes identifying a related or volunteer-unrelated donor, are recorded.

Composition and Concepts		
	NC23/24	NC22/23
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 1 hybrid HRG that is driven by either procedure or diagnosis*

Procedure combination codes are used where no viable alternative is available, such that multiple OPCS-4 codes are required to identify a single procedure. In this subchapter they are used to identify automated red blood cell exchange and harvest procedures.

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 where a procedure code classifying a blood transfusion is recorded as the dominant procedure alongside a primary diagnosis of thalassaemia, or with a primary diagnosis of thalassaemia. This grouping logic is necessary to ensure appropriate HRG generation, as **Core 1** procedure-driven grouping takes precedence over **Core 1** diagnosis-driven grouping in the HRG design.

Similarly, the child equivalent HRGs of adult HRG **SA11Z Thalassaemia, PN46* Paediatric Thalassaemia**, can be reached where a procedure code classifying a blood transfusion is recorded as the dominant procedure alongside a primary diagnosis of thalassaemia, where the age of the patient is 18 years or under, or with a primary diagnosis of thalassaemia where the age of the patient is 18 years or under.

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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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. In addition, there is a catch-all HRG for the procurement of drugs not on the list.

Composition and Concepts		
	NC23/24	NC22/23
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 1 core HRG (SB97Z) that is driven by both diagnosis and procedure logic for admitted patient care and by procedure only for non-admitted patients*		

There are HRGs specific to chemotherapy delivery, distinguished by method of delivery, e.g. oral or intravenous infusion.

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.

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 1, 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*** + ***X72.2 Delivery of complex parenteral chemotherapy for neoplasm at first attendance***

HRG Output

Core HRG: **HD40* Malignancy, of Bone or Connective Tissue**

Unbundled HRG(s): **SB04Z Procure Chemotherapy drugs for regimens in Band 4** + **SB13Z Deliver more Complex Parenteral Chemotherapy at First Attendance**

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**

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

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*** + ***X72.2 Delivery of complex parenteral chemotherapy for neoplasm at first attendance***

HRG Output

Core HRG: **LB35* Scrotum, Testis or Vas Deferens Disorders**

Unbundled HRG: **SB03Z Procure Chemotherapy drugs for regimens in Band 3** +

SB13Z Deliver more Complex Parenteral Chemotherapy at First Attendance

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**

Case 5: Outpatient treatment with a subsequent element

A lung cancer patient is receiving Carboplatin + Vinorelbine chemotherapy as an outpatient. This consists of 1 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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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 HRGs 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.

Composition and Concepts		
	NC23/24	NC22/23
Total HRGs*	**30**	**30**
Total HRG Roots	**30**	**30**
Procedure-driven HRGs	30	30
Diagnosis-driven HRGs	1	1
Age Splits	No	No
s	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 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.

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.

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 zero 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.

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

Differences from the HRG4+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

Subchapter SD – Specialist Palliative Care

Composition and Concepts		
	NC23/24	NC22/23
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

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.

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 main driver for the 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.

The SPC HRGs require 1 or a combination of the following: an MSC or TFC of **315 Palliative Medicine Service** and a diagnosis code of ***Z51.5 Palliative Care***.

- **SD01* 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.
- **SD02* 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).
- **SD03* Hospital Specialist Palliative Care Support** is NOT generated per diem, irrespective of the number of SPC days recorded in the CDS field.
- **SD04* & SD05* 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.

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]

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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

Subchapter UZ – Undefined Groups

Composition and Concepts		
	NC23/24	NC22/23
Total HRGs	1	1
Total HRG Roots	1	1
Procedure-driven HRGs	N/A	N/A
Diagnosis-driven HRGs	N/A	N/A

Subchapter **UZ Undefined Groups** covers the instance where a patient record is not valid for grouping to HRGs in other subchapters.

There is only 1 HRG in this subchapter, **UZ01Z Data Invalid for Grouping**.

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 generation of HRG **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 HRG **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, HRG **UZ01Z Data invalid for grouping** is returned in the output record, signifying that the record is unclassified.

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 has been recorded. 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 code with the highest procedure hierarchy value 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.

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 HRG **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 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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

The following 52 new OPCS-4.10 codes have been mapped to HRG **UZ01Z Data Invalid for Grouping**. These codes will generate error category **UZ05 Invalid procedure for Casemix grouping purposes** if recorded as these are site, method of operation, or conversion from codes, which according to coding standards should only ever be used in a subsidiary position.

OPCS-4.10 Code	Description
O42.1	***Medial branch of cervical spinal nerve***
O42.2	***Medial branch of thoracic spinal nerve***
O42.3	***Medial branch of lumbosacral spinal nerve***
O42.8	***Specified medial branch of spinal nerve NEC***
O42.9	***Unspecified medial branch of spinal nerve NEC***
O46.1	***Interbrain***
O46.2	***Midbrain***
O46.8	***Specified other tissue of brain NEC***
O46.9	***Other tissue of brain NEC***
O47.1	***Triangular fibrocartilage complex of wrist***
O47.8	***Specified other joint structure NEC***
O47.9	***Other joint structure NEC***

OPCS-4.10 Code	Description
O48.1	*Prone positioning of patient*
O48.8	*Other specified other facilitating operations NOC*
O48.9	*Unspecified other facilitating operations NOC*
O50.1	*Proximal interphalangeal joint of toe*
O50.2	*Distal interphalangeal joint of toe*
O50.8	*Specified joint of foot NEC*
O50.9	*Joint of foot NEC*
O51.0	*Conversion from previous total prosthetic replacement of wrist joint*
O52.1	*Intercostal nerve*
O52.8	*Specified nerve NEC*
O52.9	*Nerve NEC*
O53.1	*Prostatic urethra*
O53.2	*Bulbar urethra*
O53.3	*Penile urethra*
O53.8	*Specified other lower urinary tract NEC*
O53.9	*Other lower urinary tract NEC*
Y17.6	*Electrohydraulic lithotripsy of lesion of organ NOC*
Y45.3	*Approach to organ under seed marker guided control*
Y54.4	*Harvest of multiple nerves*
Y67.3	*Harvest of osteochondral tissue*
Y69.5	*Harvest of buccal mucosa*
Y72.1	*Failed robotic minimal access approach converted to open*
Y72.2	*Failed video-assisted minimal access approach converted to open*
Y72.8	*Other specified other late operations NOC*
Y72.9	*Unspecified other late operations NOC*
Y77.1	*Approach to hip joint using surgical dislocation of hip joint*
Y77.2	*Approach to organ through groin*
Y77.8	*Other specified other approach to organ*
Y77.9	*Unspecified other approach to organ*
Y84.3	*Intravenous sedation*
Y84.4	*Inhalation sedation*
Z07.4	*Spinal nerve root of sacral spine*
Z77.6	*Tuberosity of tibia*
Z82.5	*Scapholunate joint*
Z82.6	*Lunotriquetral joint*
Z82.7	*Scaphotrapeziotrapezoidal joint*
Z85.7	*Naviculo-cuneiform joint*

OPCS-4.10 Code	Description
Z86.7	***Interphalangeal joint of great toe***
Z88.4	***Supraglottis***
Z88.5	***Subglottis***

The following 26 new OPCS-4.10 codes have been mapped to HRG **UZ01Z Data Invalid for Grouping**. These codes will generate error category **UZ06 Poorly coded procedure for Casemix grouping purposes** if recorded as they are the ***.8 Other specified*** and ***.9 Unspecified*** codes of extended code categories, which according to coding standards should never be used.

OPCS-4.10 Code	Description	Principal Category
A71.8	***Other specified other microsurgical repair of peripheral nerve***	***A62***
A71.9	***Unspecified other microsurgical repair of peripheral nerve***	***A62***
B43.8	***Other specified other reconstruction of breast***	***B29***
B43.9	***Unspecified other reconstruction of breast***	***B29***
B45.8	***Other specified other prosthesis for breast***	***B30***
B45.9	***Unspecified other prosthesis for breast***	***B30***
E32.8	***Other specified therapeutic endoscopic operations on larynx***	***E35***
E32.9	***Unspecified therapeutic endoscopic operations on larynx***	***E35***
F19.8	***Other specified other preprosthetic oral surgery***	***F11***
F19.9	***Unspecified other preprosthetic oral surgery***	***F11***
F21.8	***Other specified operations on tooth***	***F16***
F21.9	***Unspecified operations on tooth***	***F16***
H38.8	***Other specified other endoscopic extirpation of lesion of colon***	***H20***
H38.9	***Unspecified other endoscopic extirpation of lesion of colon***	***H20***
M78.8	***Other specified other therapeutic endoscopic operations on urethra***	***M76***
M78.9	***Unspecified other therapeutic endoscopic operations on urethra***	***M76***
O49.8	***Other specified internal fixation of bone***	***W28***
O49.9	***Unspecified internal fixation of bone***	***W28***
T66.8	***Other specified other primary repair of tendon***	***T67***
T66.9	***Unspecified other primary repair of tendon***	***T67***
T73.8	***Other specified other secondary repair of tendon***	***T68***
T73.9	***Unspecified other secondary repair of tendon***	***T68***

OPCS-4.10 Code	Description	Principal Category
T78.8	***Other specified other delayed primary repair of tendon***	***T75***
T78.9	***Unspecified other delayed primary repair of tendon***	***T75***
T82.8	***Other specified operations on tendon***	***T74***
T82.9	***Unspecified operations on tendon***	***T74***

Changes related to OPCS-4.10 code retirements

The following 2 existing OPCS-4 codes have been retired in OPCS-4.10 and their description updated to ***Code retired - refer to introduction***. The former has been replaced by new OPCS-4.10 code ***U17.7 Wireless capsule endoscopy of gastrointestinal tract*** and the latter is now a banned procedure in the UK. These codes have been remapped to HRG **UZ01Z Data Invalid for Grouping** and will generate error category **UZ06 Poorly coded procedure for Casemix grouping purposes** if recorded.

OPCS-4.10 Code	Previous OPCS-4.9 Description
G80.2	***Wireless capsule endoscopy***
P15.3	***Repair of hymen***

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		
	NC23/24	NC22/23
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	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

- 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.

All multiple trauma HRGs require at least 2 trauma (injury) ICD-10 diagnosis codes (1 must be the primary diagnosis), 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)*.

To ensure that the HRG multiple trauma design does not double count non-superficial injuries to the same body site, 2 lists are used. 1 list is body site specific and prefixed by **VA_***, the second (complementary) list is prefixed by **Comp_VA_***.

The **VA_*** lists contain non-superficial trauma injury codes from ICD-10 *Chapter XIX, Injury, poisoning and certain other consequences of external causes (S00 – T98)* relating to injuries of specific body areas. There are 9 lists relating to specific body sites:

1. Abdominal trauma diagnoses – on list **VA_Ab**
2. Chest trauma diagnoses – on list **VA_Chest**
3. Head trauma diagnoses – on list **VA_Head**
4. Kidney trauma diagnoses – on list **VA_Kid**
5. Lower limb trauma diagnoses – on list **VA_Lower**
6. Other trauma diagnoses, such as blood loss and shock – on list **VA_Other**

7. Pelvis or spine trauma diagnoses – on list **VA_Pel_Sp**
8. Upper limb trauma diagnoses – on list **VA_Upper**
9. Urinary trauma diagnoses – on list **VA_Urinary**

The **Comp_VA_*** lists also contain non-superficial trauma injury codes from ICD-10 *Chapter XIX, Injury, poisoning and certain other consequences of external causes (S00 – T98)* relating to injuries of specific body areas. There are 9 complementary lists relating to specific body sites:

1. Comp_VA_Ab
2. Comp_VA_Chest
3. Comp_VA_Head
4. Comp_VA_Kid
5. Comp_VA_Lower
6. Comp_VA_Other
7. Comp_VA_Pel_Sp
8. Comp_VA_Upper
9. Comp_VA_Urinary

The codes within each of the complementary lists are taken from 8 of the 9 **VA_*** lists. They do not contain the codes from the corresponding body site **VA_*** list.

For example, **Comp_VA_Ab** *does not* contain the codes on the **VA_Ab** list, but instead does contain all the non-superficial injury codes contained within the other 8 body sites lists. The content of these lists can be found in the “Other Lists” tab of the Code to Group Excel workbook.

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 codes and 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 unique 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	9–18	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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

The following 69 new OPCS-4.10 codes have been added to multiple trauma summative scoring:

OPCS-4.10 Code	Description	MT_OPCS_Value
A69.4	*Revision of cubital tunnel release*	8
A71.1	*Primary microsurgical transfer of peripheral nerve*	5
A71.2	*Secondary microsurgical transfer of peripheral nerve*	5
A71.3	*Microsurgical transfer of multiple peripheral nerves*	5
A71.4	*Microsurgical transfer of peripheral nerve NEC*	5
B30.7	*Removal of breast prosthesis from pre-pectoral space*	9
B42.1	*Reconstruction of breast using free myocutaneous gracilis flap*	11
B42.2	*Reconstruction of breast using free profunda artery perforator flap*	11
B42.8	*Other specified reconstruction of breast using flap of thigh*	11
B42.9	*Unspecified reconstruction of breast using flap of thigh*	11
B43.1	*Reconstruction of breast using free lumbar artery perforator flap*	11
B44.1	*Reconstruction of breast using pedicled intercostal artery perforator flap*	11
B44.2	*Reconstruction of breast using pedicled thoracodorsal artery perforator flap*	11
B44.3	*Reconstruction of breast using pedicled thoracic artery perforator flap*	11
B44.8	*Other specified reconstruction of breast using flap of chest wall*	11
B44.9	*Unspecified reconstruction of breast using flap of chest wall*	11
E33.7	*Cricoid split*	10
F11.7	*Endosseous implantation into zygoma*	9
F19.1	*Removal of dental implant*	6
F19.2	*Preservation of alveolar ridge using graft*	6
F32.7	*Surgically assisted expansion of palate using orthodontic appliance*	11
F67.1	*Creation of impression for intraoral appliance*	6
F67.3	*Adjustment of intraoral appliance*	6
F67.8	*Other specified insertion of intraoral appliance*	6
H72.1	*Excision of lesion of anus using high resolution anoscope*	8
H72.2	*Destruction of lesion of anus using high resolution anoscope*	8
H72.8	*Other specified therapeutic operations on anus using high resolution anoscope*	8
H72.9	*Unspecified therapeutic operations on anus using high resolution anoscope*	8

OPCS-4.10 Code	Description	MT_OPCS_Value
H73.8	*Other specified diagnostic operations on anus using high resolution anoscope*	8
H73.9	*Unspecified diagnostic operations on anus using high resolution anoscope*	8
L93.7	*Repair of vein NEC*	9
O27.5	*Intra-articular ligament reconstruction for stabilisation of joint*	5
O41.1	*Reconstruction of acetabular labrum*	9
O41.2	*Repair of acetabular labrum*	9
O41.3	*Debridement of acetabular labrum*	9
O51.1	*Primary total prosthetic replacement of wrist joint*	10
O51.3	*Revision of total prosthetic replacement of wrist joint*	11
O51.5	*Primary prosthetic replacement of articulation of bone of wrist*	10
O51.6	*Revision of prosthetic replacement of articulation of bone of wrist*	11
O51.8	*Other specified prosthetic replacement of wrist joint*	10
O51.9	*Unspecified prosthetic replacement of wrist joint*	10
P30.3	*Plication of mesh previously inserted for suspension of vaginal vault*	9
Q05.3	*Insertion of osmotic dilator into cervix*	6
T05.5	*Open biopsy of lesion of chest wall*	9
T05.6	*Percutaneous biopsy of lesion of chest wall*	9
T66.1	*Primary repair of multiple tendons HFQ*	5
T67.7	*Primary repair of tendon to bone using fixation*	5
T68.7	*Secondary repair of tendon to bone using fixation*	5
T72.5	*Insertion of spacer into sheath of tendon*	5
T73.1	*Secondary repair of multiple tendons HFQ*	5
T75.1	*Delayed primary repair of tendon using tendon transfer procedure*	5
T75.2	*Delayed primary repair of tendon using lengthening procedure*	5
T75.3	*Delayed primary repair of tendon using permanent prosthesis*	5
T75.4	*Delayed primary repair of tendon using temporary prosthesis*	5
T75.5	*Delayed primary repair of tendon using graft*	5
T75.6	*Delayed primary simple repair of tendon*	5
T75.7	*Delayed primary repair of tendon to bone using fixation*	5
T75.8	*Other specified delayed primary repair of tendon*	5
T75.9	*Unspecified delayed primary repair of tendon*	5
T76.2	*Transfer of flap of muscle NEC*	5
T78.1	*Delayed primary repair of multiple tendons HFQ*	5
T82.1	*Revision of repair of tendon*	5
V46.6	*Fixation of fracture of spine using screw*	11
W70.4	*Open total replacement of meniscus of knee joint*	10

OPCS-4.10 Code	Description	MT_OPCS_Value
W70.5	***Open partial replacement of meniscus of knee joint***	10
W73.5	***Primary prosthetic reinforcement of extra-articular ligament NEC***	5
W73.6	***Prosthetic reinforcement of extra-articular ligament NEC***	5
W82.4	***Endoscopic total replacement of meniscus of knee joint***	10
W82.5	***Endoscopic partial replacement of meniscus of knee joint***	10

The following 226 new combination codes created using new OPCS-4.10 codes have been added to multiple trauma summative scoring:

Combination Code	Description	MT_OPCS_Value
A018+O461	***Other specified major excision of tissue of interbrain***	11
A018+O462	***Other specified major excision of tissue of midbrain***	11
A071+O461	***Open division of tissue of interbrain***	11
A071+O462	***Open division of tissue of midbrain***	11
A078+O461	***Other specified other open operations on tissue of interbrain***	10
A078+O462	***Other specified other open operations on tissue of midbrain***	10
A108+O461	***Other specified other operations on tissue of interbrain***	11
A108+O462	***Other specified other operations on tissue of midbrain***	11
A711+ELBOW	***Primary microsurgical transfer of peripheral nerve of elbow***	10
A711+FOOT	***Primary microsurgical transfer of peripheral nerve of foot***	10
A711+HAND	***Primary microsurgical transfer of peripheral nerve of hand***	10
A711+HIP	***Primary microsurgical transfer of peripheral nerve of hip***	11
A711+KNEE	***Primary microsurgical transfer of peripheral nerve of knee***	11
A711+SHOULDER	***Primary microsurgical transfer of peripheral nerve of shoulder***	10
A712+ELBOW	***Secondary microsurgical transfer of peripheral nerve of elbow***	10
A712+FOOT	***Secondary microsurgical transfer of peripheral nerve of foot***	10
A712+HAND	***Secondary microsurgical transfer of peripheral nerve of hand***	10
A712+HIP	***Secondary microsurgical transfer of peripheral nerve of hip***	11
A712+KNEE	***Secondary microsurgical transfer of peripheral nerve of knee***	11
A712+SHOULDER	***Secondary microsurgical transfer of peripheral nerve of shoulder***	10

Combination Code	Description	MT_OPCS_Value
A713+ELBOW	*Microsurgical transfer of multiple peripheral nerves of elbow*	10
A713+FOOT	*Microsurgical transfer of multiple peripheral nerves of foot*	10
A713+HAND	*Microsurgical transfer of multiple peripheral nerves of hand*	10
A713+HIP	*Microsurgical transfer of multiple peripheral nerves of hip*	11
A713+KNEE	*Microsurgical transfer of multiple peripheral nerves of knee*	11
A713+SHOULDER	*Microsurgical transfer of multiple peripheral nerves of shoulder*	10
A714+ELBOW	*Microsurgical transfer of peripheral nerve NEC of elbow*	10
A714+FOOT	*Microsurgical transfer of peripheral nerve NEC of foot*	10
A714+HAND	*Microsurgical transfer of peripheral nerve NEC of hand*	10
A714+HIP	*Microsurgical transfer of peripheral nerve NEC of hip*	11
A714+KNEE	*Microsurgical transfer of peripheral nerve NEC of knee*	11
A714+SHOULDER	*Microsurgical transfer of peripheral nerve NEC of shoulder*	10
F673+Y032	*Renewal of intraoral appliance*	6
F678+Y032	*Renewal of intraoral appliance*	6
L937+ABD	*Repair of vein of abdomen*	11
L937+LOWLIMB	*Repair of vein of lower limb*	11
L937+UPPLIMB	*Repair of vein of upper limb*	9
O275+ELBOW	*Intra-articular ligament reconstruction for stabilisation of joint of elbow*	10
O275+FOOT	*Intra-articular ligament reconstruction for stabilisation of joint of foot*	10
O275+HAND	*Intra-articular ligament reconstruction for stabilisation of joint of hand*	10
O275+HIP	*Intra-articular ligament reconstruction for stabilisation of joint of hip*	11
O275+KNEE	*Intra-articular ligament reconstruction for stabilisation of joint of knee*	11
O275+SHOULDER	*Intra-articular ligament reconstruction for stabilisation of joint of shoulder*	10
O418+ELBOW	*Other specified operations on cartilage of joint of elbow*	8
O418+FOOT	*Other specified operations on cartilage of joint of foot*	8
O418+HAND	*Other specified operations on cartilage of joint of hand*	8
O418+HIP	*Other specified operations on cartilage of joint of hip*	9
O418+KNEE	*Other specified operations on cartilage of joint of knee*	9
O418+RIB	*Other specified operations on cartilage of joint of rib*	10

Combination Code	Description	MT_OPCS_Value
O418+SHOULDER	*Other specified operations on cartilage of joint of shoulder*	9
O419+ELBOW	*Unspecified operations on cartilage of joint of elbow*	8
O419+FOOT	*Unspecified operations on cartilage of joint of foot*	8
O419+HAND	*Unspecified operations on cartilage of joint of hand*	8
O419+HIP	*Unspecified operations on cartilage of joint of hip*	9
O419+KNEE	*Unspecified operations on cartilage of joint of knee*	9
O419+RIB	*Unspecified operations on cartilage of joint of rib*	10
O419+SHOULDER	*Unspecified operations on cartilage of joint of shoulder*	9
O491+ELBOW	*Removal of intramedullary fixation from bone of elbow*	9
O491+FOOT	*Removal of intramedullary fixation from bone of foot*	9
O491+HAND	*Removal of intramedullary fixation from bone of hand*	9
O491+HIP	*Removal of intramedullary fixation from bone of hip*	10
O491+KNEE	*Removal of intramedullary fixation from bone of knee*	10
O491+RIB	*Removal of intramedullary fixation of bone of rib*	10
O491+SHOULDER	*Removal of intramedullary fixation from bone of shoulder*	10
T661+ELBOW	*Primary repair of multiple tendons HFQ of elbow*	8
T661+FOOT	*Primary repair of multiple tendons HFQ of foot*	8
T661+HAND	*Primary repair of multiple tendons HFQ of hand*	8
T661+HIP	*Primary repair of multiple tendons HFQ of hip*	9
T661+KNEE	*Primary repair of multiple tendons HFQ of knee*	9
T661+SHOULDER	*Primary repair of multiple tendons HFQ of shoulder*	9
T677+ELBOW	*Primary repair of tendon to bone of elbow using fixation*	8
T677+FOOT	*Primary repair of tendon to bone of foot using fixation*	8
T677+HAND	*Primary repair of tendon to bone of hand using fixation*	8
T677+HIP	*Primary repair of tendon to bone of hip using fixation*	9
T677+KNEE	*Primary repair of tendon to bone of knee using fixation*	9
T677+SHOULDER	*Primary repair of tendon to bone of shoulder using fixation*	9
T687+ELBOW	*Secondary repair of tendon to bone of elbow using fixation*	10
T687+FOOT	*Secondary repair of tendon to bone of foot using fixation*	10
T687+HAND	*Secondary repair of tendon to bone of hand using fixation*	10
T687+HIP	*Secondary repair of tendon to bone of hip using fixation*	11
T687+KNEE	*Secondary repair of tendon to bone of knee using fixation*	11
T687+SHOULDER	*Secondary repair of tendon to bone of shoulder using fixation*	10
T725+ELBOW	*Insertion of spacer into sheath of tendon of elbow*	8
T725+FOOT	*Insertion of spacer into sheath of tendon of foot*	8

Combination Code	Description	MT_OPCS_Value
T725+HAND	*Insertion of spacer into sheath of tendon of hand*	8
T725+HIP	*Insertion of spacer into sheath of tendon of hip*	9
T725+KNEE	*Insertion of spacer into sheath of tendon of knee*	9
T725+SHOULDER	*Insertion of spacer into sheath of tendon of shoulder*	9
T731+ELBOW	*Secondary repair of multiple tendons HFQ of elbow*	10
T731+FOOT	*Secondary repair of multiple tendons HFQ of foot*	10
T731+HAND	*Secondary repair of multiple tendons HFQ of hand*	10
T731+HIP	*Secondary repair of multiple tendons HFQ of hip*	11
T731+KNEE	*Secondary repair of multiple tendons HFQ of knee*	11
T731+SHOULDER	*Secondary repair of multiple tendons HFQ of shoulder*	10
T751+ELBOW	*Delayed primary repair of tendon of elbow using tendon transfer procedure*	9
T751+FOOT	*Delayed primary repair of tendon of foot using tendon transfer procedure*	11
T751+HAND	*Delayed primary repair of tendon of hand using tendon transfer procedure*	9
T751+HIP	*Delayed primary repair of tendon of hip using tendon transfer procedure*	10
T751+KNEE	*Delayed primary repair of tendon of knee using tendon transfer procedure*	10
T751+SHOULDER	*Delayed primary repair of tendon of shoulder using tendon transfer procedure*	10
T752+ELBOW	*Delayed primary repair of tendon of elbow using lengthening procedure*	9
T752+FOOT	*Delayed primary repair of tendon of foot using lengthening procedure*	9
T752+HAND	*Delayed primary repair of tendon of hand using lengthening procedure*	9
T752+HIP	*Delayed primary repair of tendon of hip using lengthening procedure*	10
T752+KNEE	*Delayed primary repair of tendon of knee using lengthening procedure*	10
T752+SHOULDER	*Delayed primary repair of tendon of shoulder using lengthening procedure*	10
T753+ELBOW	*Delayed primary repair of tendon of elbow using permanent prosthesis*	9
T753+FOOT	*Delayed primary repair of tendon of foot using permanent prosthesis*	9
T753+HAND	*Delayed primary repair of tendon of hand using permanent prosthesis*	9
T753+HIP	*Delayed primary repair of tendon of hip using permanent prosthesis*	10
T753+KNEE	*Delayed primary repair of tendon of knee using permanent prosthesis*	10

Combination Code	Description	MT_OPCS_Value
T753+SHOULDER	*Delayed primary repair of tendon of shoulder using permanent prosthesis*	10
T754+ELBOW	*Delayed primary repair of tendon of elbow using temporary prosthesis*	9
T754+FOOT	*Delayed primary repair of tendon of foot using temporary prosthesis*	9
T754+HAND	*Delayed primary repair of tendon of hand using temporary prosthesis*	9
T754+HIP	*Delayed primary repair of tendon of hip using temporary prosthesis*	10
T754+KNEE	*Delayed primary repair of tendon of knee using temporary prosthesis*	10
T754+SHOULDER	*Delayed primary repair of tendon of shoulder using temporary prosthesis*	10
T755+ELBOW	*Delayed primary repair of tendon of elbow using graft*	9
T755+FOOT	*Delayed primary repair of tendon of foot using graft*	9
T755+HAND	*Delayed primary repair of tendon of hand using graft*	9
T755+HIP	*Delayed primary repair of tendon of hip using graft*	10
T755+KNEE	*Delayed primary repair of tendon of knee using graft*	10
T755+SHOULDER	*Delayed primary repair of tendon of shoulder using graft*	10
T756+ELBOW	*Delayed primary simple repair of tendon of elbow*	9
T756+FOOT	*Delayed primary simple repair of tendon of foot*	9
T756+HAND	*Delayed primary simple repair of tendon of hand*	9
T756+HIP	*Delayed primary simple repair of tendon of hip*	10
T756+KNEE	*Delayed primary simple repair of tendon of knee*	10
T756+SHOULDER	*Delayed primary simple repair of tendon of shoulder*	10
T757+ELBOW	*Delayed primary repair of tendon to bone of elbow using fixation*	8
T757+FOOT	*Delayed primary repair of tendon to bone of foot using fixation*	8
T757+HAND	*Delayed primary repair of tendon to bone of hand using fixation*	8
T757+HIP	*Delayed primary repair of tendon to bone of hip using fixation*	9
T757+KNEE	*Delayed primary repair of tendon to bone of knee using fixation*	9
T757+SHOULDER	*Delayed primary repair of tendon to bone of shoulder using fixation*	9
T758+ELBOW	*Other specified delayed primary repair of tendon of elbow*	8
T758+FOOT	*Other specified delayed primary repair of tendon of foot*	8
T758+HAND	*Other specified delayed primary repair of tendon of hand*	8
T758+HIP	*Other specified delayed primary repair of tendon of hip*	9

Combination Code	Description	MT_OPCS_Value
T758+KNEE	*Other specified delayed primary repair of tendon of knee*	9
T758+SHOULDER	*Other specified delayed primary repair of tendon of shoulder*	9
T759+ELBOW	*Unspecified delayed primary repair of tendon of elbow*	8
T759+FOOT	*Unspecified delayed primary repair of tendon of foot*	8
T759+HAND	*Unspecified delayed primary repair of tendon of hand*	8
T759+HIP	*Unspecified delayed primary repair of tendon of hip*	9
T759+KNEE	*Unspecified delayed primary repair of tendon of knee*	9
T759+SHOULDER	*Unspecified delayed primary repair of tendon of shoulder*	9
T762+ELBOW	*Transfer of flap of muscle NEC of elbow*	11
T762+FOOT	*Transfer of flap of muscle NEC of foot*	10
T762+HAND	*Transfer of flap of muscle NEC of hand*	10
T762+HIP	*Transfer of flap of muscle NEC of hip*	11
T762+KNEE	*Transfer of flap of muscle NEC of knee*	11
T762+SHOULDER	*Transfer of flap of muscle NEC of shoulder*	11
T781+ELBOW	*Delayed primary repair of multiple tendons HFQ of elbow*	11
T781+FOOT	*Delayed primary repair of multiple tendons HFQ of foot*	10
T781+HAND	*Delayed primary repair of multiple tendons HFQ of hand*	10
T781+HIP	*Delayed primary repair of multiple tendons HFQ of hip*	11
T781+KNEE	*Delayed primary repair of multiple tendons HFQ of knee*	11
T781+SHOULDER	*Delayed primary repair of multiple tendons HFQ of shoulder*	11
T821+ELBOW	*Revision of repair of tendon of elbow*	11
T821+FOOT	*Revision of repair of tendon of foot*	10
T821+HAND	*Revision of repair of tendon of hand*	10
T821+HIP	*Revision of repair of tendon of hip*	11
T821+KNEE	*Revision of repair of tendon of knee*	11
T821+SHOULDER	*Revision of repair of tendon of shoulder*	11
V466+V552	*Fixation of fracture of spine using screw, with two levels of spine*	11
V466+V553	*Fixation of fracture of spine using screw, with greater than two levels of spine*	11
W276+ELBOW	*Attention to fixation of epiphysis of elbow*	9
W276+FOOT	*Attention to fixation of epiphysis of foot*	9
W276+HAND	*Attention to fixation of epiphysis of hand*	9
W276+HIP	*Attention to fixation of epiphysis of hip*	10
W276+KNEE	*Attention to fixation of epiphysis of knee*	10
W276+SHOULDER	*Attention to fixation of epiphysis of shoulder*	10
W276+Y032+ELBOW	*Renewal of fixation of epiphysis of elbow*	9

Combination Code	Description	MT_OPCS_Value
W276+Y032+FOOT	*Renewal of fixation of epiphysis of foot*	9
W276+Y032+HAND	*Renewal of fixation of epiphysis of hand*	9
W276+Y032+HIP	*Renewal of fixation of epiphysis of hip*	10
W276+Y032+KNEE	*Renewal of fixation of epiphysis of knee*	10
W276+Y032+SHOULDER	*Renewal of fixation of epiphysis of shoulder*	10
W277+ELBOW	*Removal of fixation from epiphysis NEC of elbow*	9
W277+FOOT	*Removal of fixation from epiphysis NEC of foot*	9
W277+HAND	*Removal of fixation from epiphysis NEC of hand*	9
W277+HIP	*Removal of fixation from epiphysis NEC of hip*	10
W277+KNEE	*Removal of fixation from epiphysis NEC of knee*	10
W277+SHOULDER	*Removal of fixation from epiphysis NEC of shoulder*	10
W285+ELBOW	*Insertion of telescopic intramedullary fixation of bone of elbow*	9
W285+FOOT	*Insertion of telescopic intramedullary fixation of bone of foot*	9
W285+HAND	*Insertion of telescopic intramedullary fixation of bone of hand*	9
W285+HIP	*Insertion of telescopic intramedullary fixation of bone of hip*	11
W285+KNEE	*Insertion of telescopic intramedullary fixation of bone of knee*	10
W285+RIB	*Insertion of telescopic intramedullary fixation of bone NEC of rib*	11
W285+SHOULDER	*Insertion of telescopic intramedullary fixation of bone of shoulder*	10
W286+ELBOW	*Insertion of intramedullary fixation of bone NEC of elbow*	9
W286+FOOT	*Insertion of intramedullary fixation of bone NEC of foot*	9
W286+HAND	*Insertion of intramedullary fixation of bone NEC of hand*	9
W286+HIP	*Insertion of intramedullary fixation of bone NEC of hip*	11
W286+KNEE	*Insertion of intramedullary fixation of bone NEC of knee*	10
W286+RIB	*Insertion of intramedullary fixation of bone NEC of rib*	11
W286+SHOULDER	*Insertion of intramedullary fixation of bone NEC of shoulder*	10
W287+ELBOW	*Attention to intramedullary fixation of bone NEC of elbow*	8
W287+FOOT	*Attention to intramedullary fixation of bone NEC of foot*	8
W287+HAND	*Attention to intramedullary fixation of bone NEC of hand*	8
W287+HIP	*Attention to intramedullary fixation of bone NEC of hip*	9
W287+KNEE	*Attention to intramedullary fixation of bone NEC of knee*	9
W287+RIB	*Adjustment to intramedullary fixation of bone NEC of rib*	10

Combination Code	Description	MT_OPCS_Value
W287+SHOULDER	***Attention to intramedullary fixation of bone NEC of shoulder***	9
W287+Y032+ELBOW	***Renewal of intramedullary fixation of bone NEC of elbow***	8
W287+Y032+FOOT	***Renewal of intramedullary fixation of bone NEC of foot***	8
W287+Y032+HAND	***Renewal of intramedullary fixation of bone NEC of hand***	8
W287+Y032+HIP	***Renewal of intramedullary fixation of bone NEC of hip***	9
W287+Y032+KNEE	***Renewal of intramedullary fixation of bone NEC of knee***	9
W287+Y032+RIB	***Renewal of intramedullary fixation of bone NEC of rib***	10
W287+Y032+SHOULDER	***Renewal of intramedullary fixation of bone NEC of shoulder***	9
W735+ELBOW	***Primary prosthetic reinforcement of extra-articular ligament NEC of elbow***	10
W735+FOOT	***Primary prosthetic reinforcement of extra-articular ligament NEC of foot***	10
W735+HAND	***Primary prosthetic reinforcement of extra-articular ligament NEC of hand***	10
W735+HIP	***Primary prosthetic reinforcement of extra-articular ligament NEC of hip***	11
W735+KNEE	***Primary prosthetic reinforcement of extra-articular ligament NEC of knee***	11
W735+SHOULDER	***Primary prosthetic reinforcement of extra-articular ligament NEC of shoulder***	10
W736+ELBOW	***Prosthetic reinforcement of extra-articular ligament NEC of elbow***	10
W736+FOOT	***Prosthetic reinforcement of extra-articular ligament NEC of foot***	10
W736+HAND	***Prosthetic reinforcement of extra-articular ligament NEC of hand***	10
W736+HIP	***Prosthetic reinforcement of extra-articular ligament NEC of hip***	11
W736+KNEE	***Prosthetic reinforcement of extra-articular ligament NEC of knee***	11
W736+SHOULDER	***Prosthetic reinforcement of extra-articular ligament NEC of shoulder***	10

As a result of the authoring of new codes, the following 3 now redundant combination codes have been deleted from the HRG design and therefore removed from multiple trauma summative scoring:

Combination Code	Description
P248+Y252	***Resuture of vault of vagina***
W282+SPINE	***Adjustment to internal fixation of bone NEC of spine***

Combination Code	Description
W283+SPINE	*Removal of internal fixation from bone NEC of spine*

Changes related to other OPCS-4.10 updates and amendments

The following 30 new combination codes, created as a result of clarification or updates to coding guidance, have been added to multiple trauma summative scoring:

Combination Code	Description	MT_OPCS_Value
A591+O521	*Total sacrifice of intercostal nerve*	5
A592+O521	*Partial sacrifice of intercostal nerve*	5
A735+O421	*Injection of therapeutic substance around medial branch of cervical spinal nerve*	8
A735+O422	*Injection of therapeutic substance around medial branch of thoracic spinal nerve*	8
A735+O423	*Injection of therapeutic substance around medial branch of lumbosacral spinal nerve*	8
A735+O428	*Injection of therapeutic substance around specified medial branch of spinal nerve*	8
A735+O429	*Injection of therapeutic substance around unspecified medial branch of spinal nerve*	8
S388+Y695	*Graft of buccal mucosa*	6
T761+Z605	*Microvascular free tissue transfer of flap of muscle of chest*	5
T768+Z605	*Other specified transplantation of muscle of chest*	5
T769+Z605	*Unspecified transplantation of muscle of chest*	5
T772+Z605	*Wide excision of muscle of chest*	5
T773+Z605	*Partial excision of muscle of chest NEC*	5
T774+Z605	*Debridement of muscle of chest NEC*	5
T778+Z605	*Other specified excision of muscle of chest*	5
T779+Z605	*Unspecified excision of muscle of chest*	5
T798+Z605	*Other specified repair of muscle of chest*	5
T799+Z605	*Unspecified repair of muscle of chest*	5
T808+Z605	*Other specified release of contracture of muscle of chest*	5
T809+Z605	*Unspecified release of contracture of muscle of chest*	5
T832+Z605	*Division of muscle of chest*	5
T834+Z605	*Exploration of muscle of chest*	5
T838+Z605	*Other specified other operations on muscle of chest*	5
W282+Y032+ELBOW	*Renewal of internal fixation of bone NEC of elbow*	8
W282+Y032+FOOT	*Renewal of internal fixation of bone NEC of foot*	8
W282+Y032+HAND	*Renewal of internal fixation of bone NEC of hand*	8

Combination Code	Description	MT_OPCS_Value
W282+Y032+HIP	*Renewal of internal fixation of bone NEC of hip*	9
W282+Y032+KNEE	*Renewal of internal fixation of bone NEC of knee*	9
W282+Y032+RIB	*Renewal of internal fixation of bone NEC of rib*	10
W282+Y032+SHOULDER	*Renewal of internal fixation of bone NEC of shoulder*	9

The following 50 combination codes, which have been deleted from the HRG design as they are now redundant as a result of clarification or changes to coding guidance, have been removed from multiple trauma summative scoring:

Combination Code	Description
T963+RIB	*Debridement of soft tissue NEC of rib*
A681+IMAGE	*Primary neurolysis of peripheral nerve and transposition of peripheral nerve under image control*
A681+IMAGE+ELBOW	*Primary neurolysis of peripheral nerve and transposition of peripheral nerve of elbow under image control*
A681+IMAGE+FOOT	*Primary neurolysis of peripheral nerve and transposition of peripheral nerve of foot under image control*
A681+IMAGE+HAND	*Primary neurolysis of peripheral nerve and transposition of peripheral nerve of hand under image control*
A681+IMAGE+HIP	*Primary neurolysis of peripheral nerve and transposition of peripheral nerve of hip under image control*
A681+IMAGE+KNEE	*Primary neurolysis of peripheral nerve and transposition of peripheral nerve of knee under image control*
A681+IMAGE+SHOULDER	*Primary neurolysis of peripheral nerve and transposition of peripheral nerve of shoulder under image control*
A682+IMAGE	*Secondary neurolysis of peripheral nerve and transposition of peripheral nerve under image control*
A682+IMAGE+ELBOW	*Secondary neurolysis of peripheral nerve and transposition of peripheral nerve of elbow under image control*
A682+IMAGE+FOOT	*Secondary neurolysis of peripheral nerve and transposition of peripheral nerve of foot under image control*
A682+IMAGE+HAND	*Secondary neurolysis of peripheral nerve and transposition of peripheral nerve of hand under image control*
A682+IMAGE+HIP	*Secondary neurolysis of peripheral nerve and transposition of peripheral nerve of hip under image control*
A682+IMAGE+KNEE	*Secondary neurolysis of peripheral nerve and transposition of peripheral nerve of knee under image control*
A682+IMAGE+SHOULDER	*Secondary neurolysis of peripheral nerve and transposition of peripheral nerve of shoulder under image control*
A683+IMAGE	*Neurolysis of peripheral nerve and transposition of peripheral nerve NEC under image control*
A683+IMAGE+ELBOW	*Neurolysis of peripheral nerve and transposition of peripheral nerve NEC of elbow under image control*

Combination Code	Description
A683+IMAGE +FOOT	*Neurolysis of peripheral nerve and transposition of peripheral nerve NEC of foot under image control*
A683+IMAGE +HAND	*Neurolysis of peripheral nerve and transposition of peripheral nerve NEC of hand under image control*
A683+IMAGE +HIP	*Neurolysis of peripheral nerve and transposition of peripheral nerve NEC of hip under image control*
A683+IMAGE +KNEE	*Neurolysis of peripheral nerve and transposition of peripheral nerve NEC of knee under image control*
A683+IMAGE +SHOULDER	*Neurolysis of peripheral nerve and transposition of peripheral nerve NEC of shoulder under image control*
A684+IMAGE	*Primary neurolysis of peripheral nerve NEC under image control*
A684+IMAGE +ELBOW	*Primary neurolysis of peripheral nerve NEC of elbow under image control*
A684+IMAGE +FOOT	*Primary neurolysis of peripheral nerve NEC of foot under image control*
A684+IMAGE +HAND	*Primary neurolysis of peripheral nerve NEC of hand under image control*
A684+IMAGE +HIP	*Primary neurolysis of peripheral nerve NEC of hip under image control*
A684+IMAGE +KNEE	*Primary neurolysis of peripheral nerve NEC of knee under image control*
A684+IMAGE +SHOULDER	*Primary neurolysis of peripheral nerve NEC of shoulder under image control*
A685+IMAGE	*Secondary neurolysis of peripheral nerve NEC under image control*
A685+IMAGE +ELBOW	*Secondary neurolysis of peripheral nerve NEC of elbow under image control*
A685+IMAGE +FOOT	*Secondary neurolysis of peripheral nerve NEC of foot under image control*
A685+IMAGE +HAND	*Secondary neurolysis of peripheral nerve NEC of hand under image control*
A685+IMAGE +HIP	*Secondary neurolysis of peripheral nerve NEC of hip under image control*
A685+IMAGE +KNEE	*Secondary neurolysis of peripheral nerve NEC of knee under image control*
A685+IMAGE +SHOULDER	*Secondary neurolysis of peripheral nerve NEC of shoulder under image control*
A688+IMAGE	*Other specified other release of peripheral nerve under image control*
A688+IMAGE +ELBOW	*Other specified other release of peripheral nerve of elbow under image control*
A688+IMAGE +FOOT	*Other specified other release of peripheral nerve of foot under image control*
A688+IMAGE +HAND	*Other specified other release of peripheral nerve of hand under image control*
A688+IMAGE +HIP	*Other specified other release of peripheral nerve of hip under image control*

Combination Code	Description
A688+IMAGE +KNEE	***Other specified other release of peripheral nerve of knee under image control***
A688+IMAGE +SHOULDER	***Other specified other release of peripheral nerve of shoulder under image control***
A689+IMAGE	***Unspecified other release of peripheral nerve under image control***
A689+IMAGE +ELBOW	***Unspecified other release of peripheral nerve of elbow under image control***
A689+IMAGE +FOOT	***Unspecified other release of peripheral nerve of foot under image control***
A689+IMAGE +HAND	***Unspecified other release of peripheral nerve of hand under image control***
A689+IMAGE +HIP	***Unspecified other release of peripheral nerve of hip under image control***
A689+IMAGE +KNEE	***Unspecified other release of peripheral nerve of knee under image control***
A689+IMAGE +SHOULDER	***Unspecified other release of peripheral nerve of shoulder under image control***

The following 4 existing OPCS-4 codes have been removed from combination lists **CL_Neuro** and **CL_UppLimb** as they are ***.8 Other specified*** or ***.9 Unspecified*** codes of extended code categories, which according to coding standards should never be used:

- ***O28.8 Specified other cerebral artery NEC***
- ***O28.9 Other cerebral artery NEC***
- ***Z95.8 Specified other branch of thoracic aorta NEC***
- ***Z95.9 Other branch of thoracic aorta NEC***

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		
	NC23/24	NC22/23
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).

- These hierarchy values determine the dominant treatment code and dominant investigation code, and thereby the complexity categories of both.
- 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 HRG **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

Treatment Code	Description	Category (5=highest; 1=lowest)	Hierarchy (8=highest; 1=lowest)
033	Removal of sutures/clips	1	3
041	Wound closure – steristrips	2	4
042	Wound closure - wound glue	2	4
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

Treatment Code	Description	Category (5=highest; 1=lowest)	Hierarchy (8=highest; 1=lowest)
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
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 *
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 HRG **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 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)

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.

Differences from the HRG4+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs 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

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.

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

Composition and Concepts		
	NC23/24	NC22/23
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

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 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.

Note that according to national coding standards, “where a patient receives rehabilitation assessment (***X60***) and actual rehabilitation (***U50–U54***) within the same hospital provider spell, only 1 code is required from within the range (***U50–U54***)”.

An unbundled rehabilitation assessment HRG is generated per instance of an OPCS-4 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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 code ***U50.6 Delivery of rehabilitation for joint instability*** has been mapped to unbundled HRG **VC24Z Rehabilitation for Other Musculoskeletal Disorders**.

Subchapter WD – Treatment of Mental Health Patients by Non-Mental Health Service Providers

Composition and Concepts		
	NC23/24	NC22/23
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

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.

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 Alzheimer's or schizophrenia.

Mental health services provided by specialist mental health providers fall outside the HRG design.

Differences from the HRG4+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

Subchapter WF – Non-Admitted Consultations

Composition and Concepts		
	LP23/24	LP22/23
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

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

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:

		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 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 a PH value 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*** each have a PH value of 3.
- Where ***X62.2 Assessment by multi-professional team NEC*** or ***X62.3 Assessment by multi-disciplinary team NEC*** are recorded 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 a code from 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.

Differences from the HRG4+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

However, the inclusion of updates to codes and coding guidance in OPCS-4.10 in the HRG design may impact on the generation of **WF*** HRGs. For instance, where procedures are now Ignored for Grouping purposes and hence can no longer be the dominant procedure in an Outpatient record, a **WF*** HRG may be derived where previously the HRG generated would have been a procedure-driven HRG from a subchapter other than Subchapter **WF Non-Admitted Consultations**.

Subchapter WH – Poisoning, Toxic Effects, Special Examinations, Screening and Other Healthcare Contacts

Composition and Concepts		
	NC23/24	NC22/23
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

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.

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 or 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 is derived: for stays of 4 days or less, between 5 and 8 days, or 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***

- ***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, **WH50A Procedure Not Carried Out, for Medical or Patient Reasons** 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***

WH50B Procedure Not Carried Out, for Other or Unspecified Reasons 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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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		
	NC23/24	NC22/23
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 a single HRG root specific to all other immune system disorders.

There are also HRGs for multi-systemic infections that are differentiated based on the expected complexity of care. These HRGs are split 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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

Subchapter XA – Neonatal Critical Care

Composition and Concepts		
	NC23/24	NC22/23
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

Subchapter **XA Neonatal Critical Care** includes unbundled HRGs and covers neonatal critical care, including transportation (retrieval).

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 (SCU) 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).

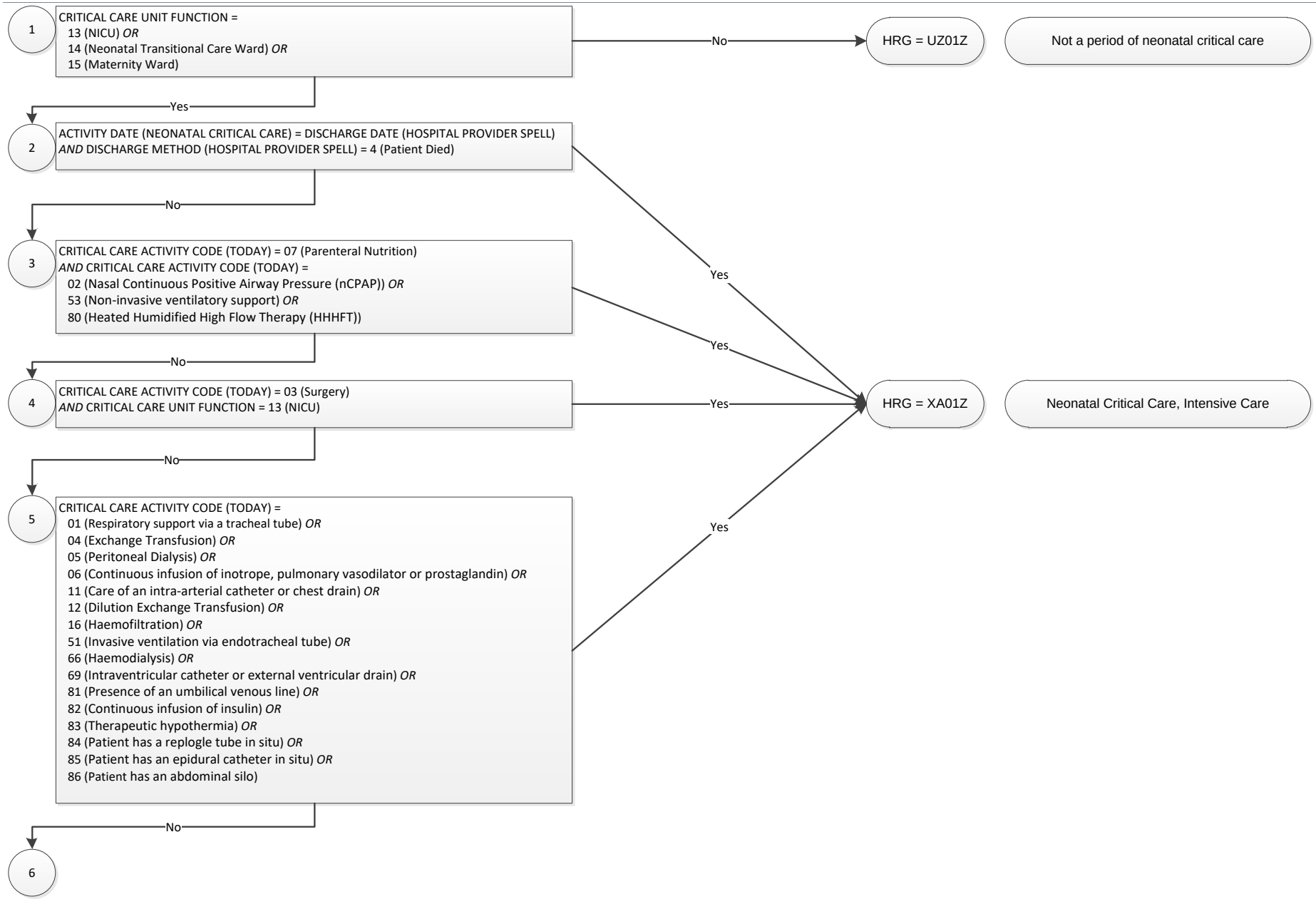
A neonatal critical care HRG is generated for each day the baby receives critical care. The HRGs are unbundled, being generated in addition to the core HRGs for the associated admitted patient care episode and spell.

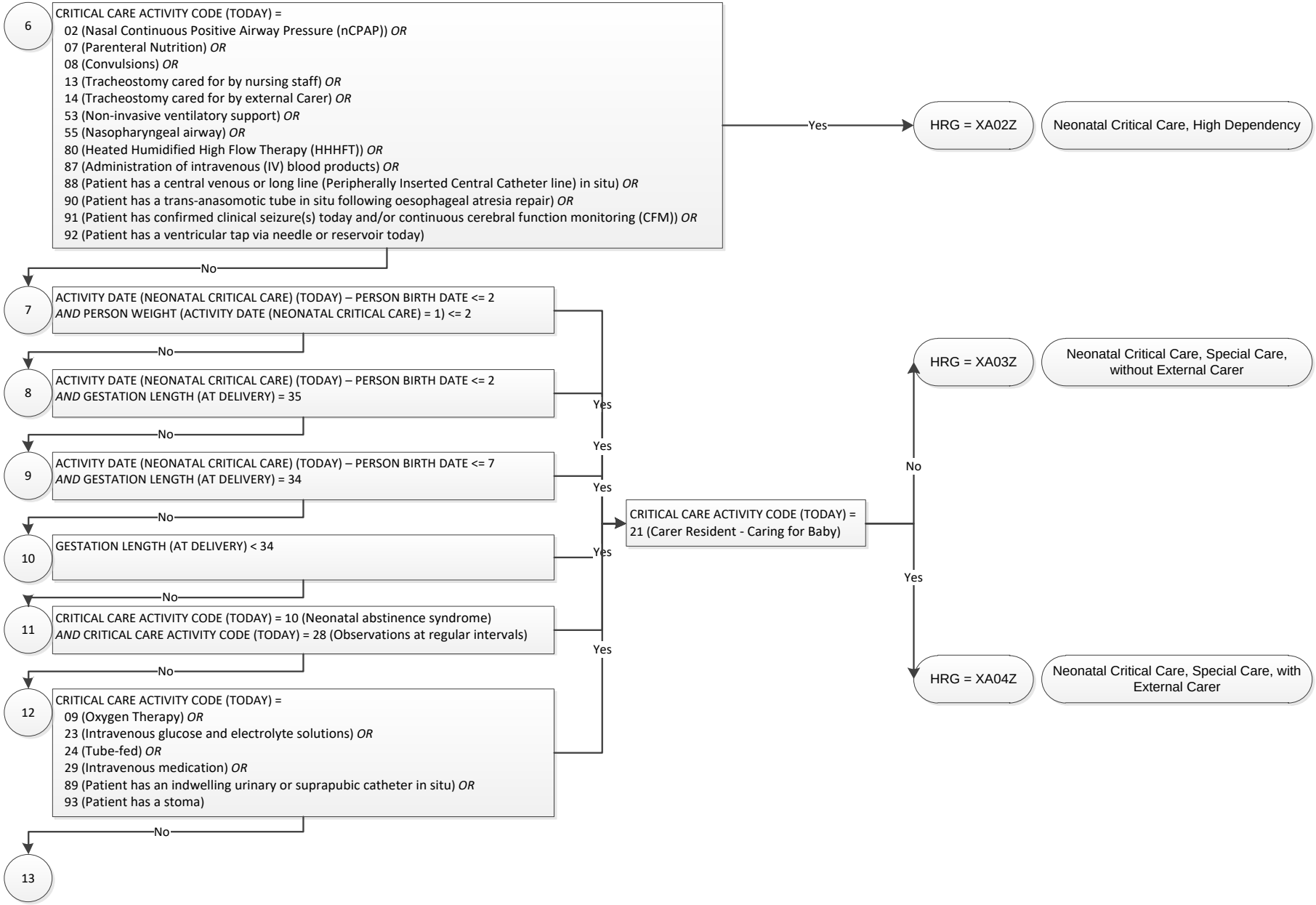
Please see the grouping algorithm flowchart at the end of the subchapter for further information.

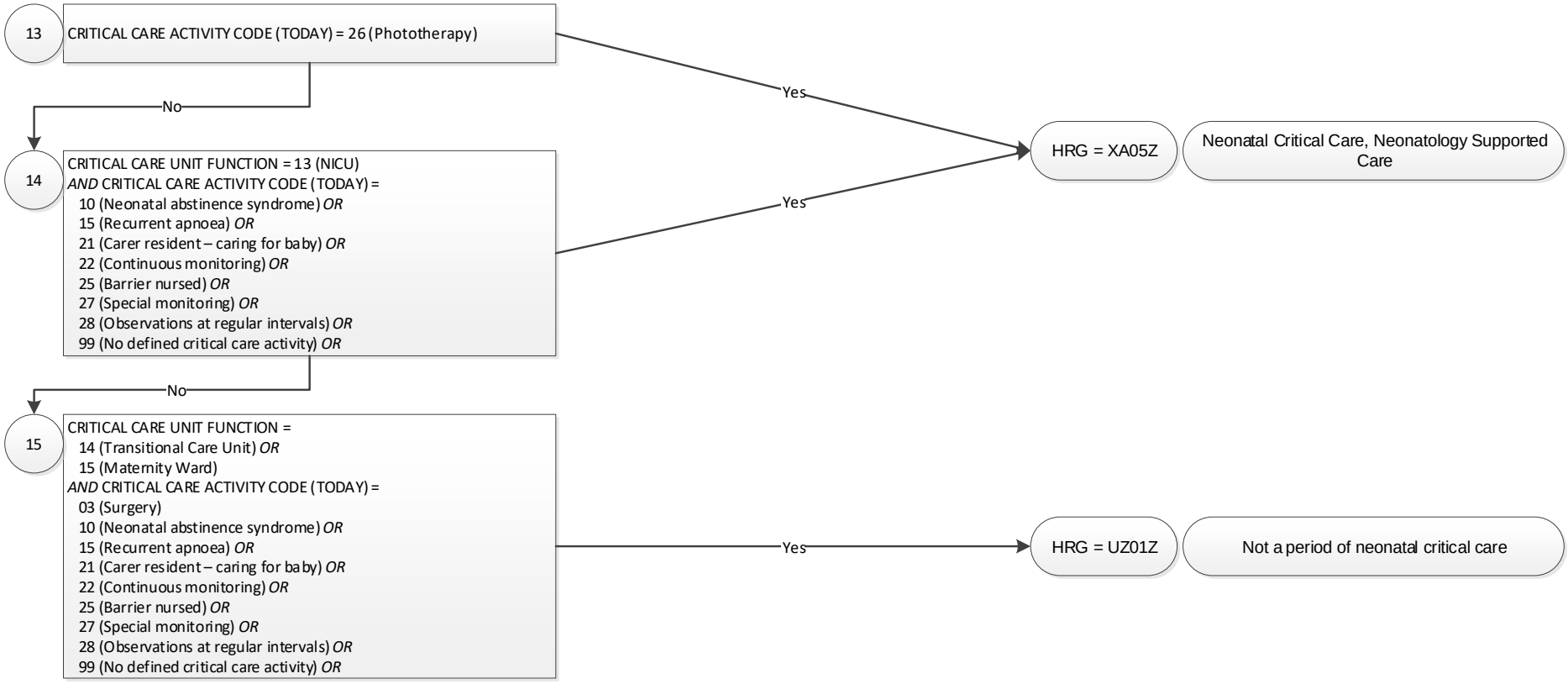
There is also an HRG specific to neonatal transportation – **XA06Z Neonatal Critical Care, Transportation**. This HRG is derived from the APC data set as the Neonatal Critical Care data set does not incorporate data items that can be used to identify transportation. This represents the transfer of a baby in neonatal critical care from 1 provider trust to another.

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)	







Differences from the HRG4+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

Subchapter XB – Paediatric Critical Care

Composition and Concepts		
	NC23/24	NC22/23
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

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 that would be undertaken in a paediatric intensive care unit (PICU); and 3 HRGs specific to paediatric high dependency care activity that may take place in a PICU or paediatric high dependency unit or ward.

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 1 provider trust to another.

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

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.

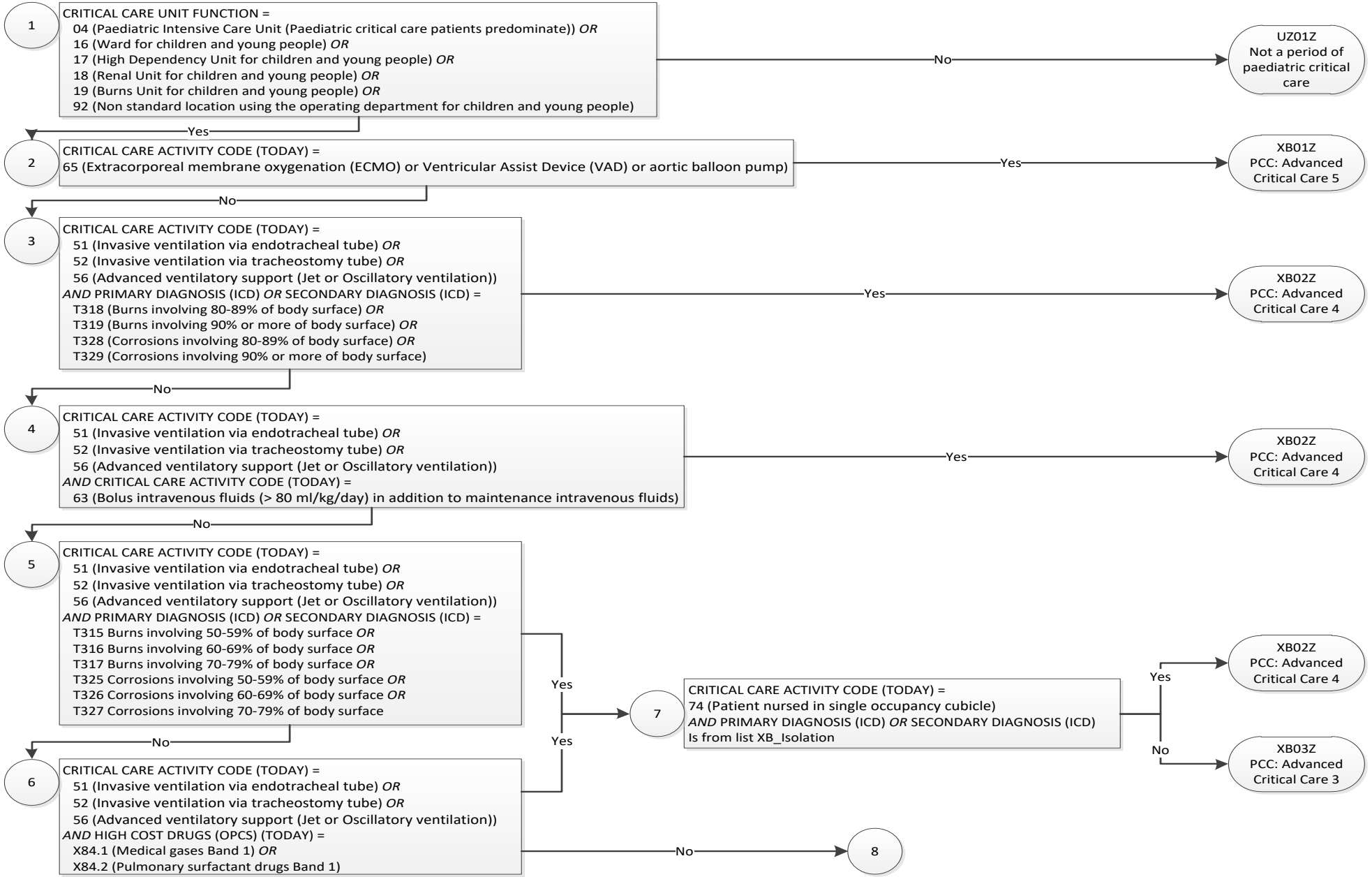
B	16 (Ward for children and young people)	10	1 (Patient discharged on clinical advice or with clinical consent)	62 Central venous pressure monitoring				**XB06Z**	**Paediatric Critical Care, Basic Critical Care**

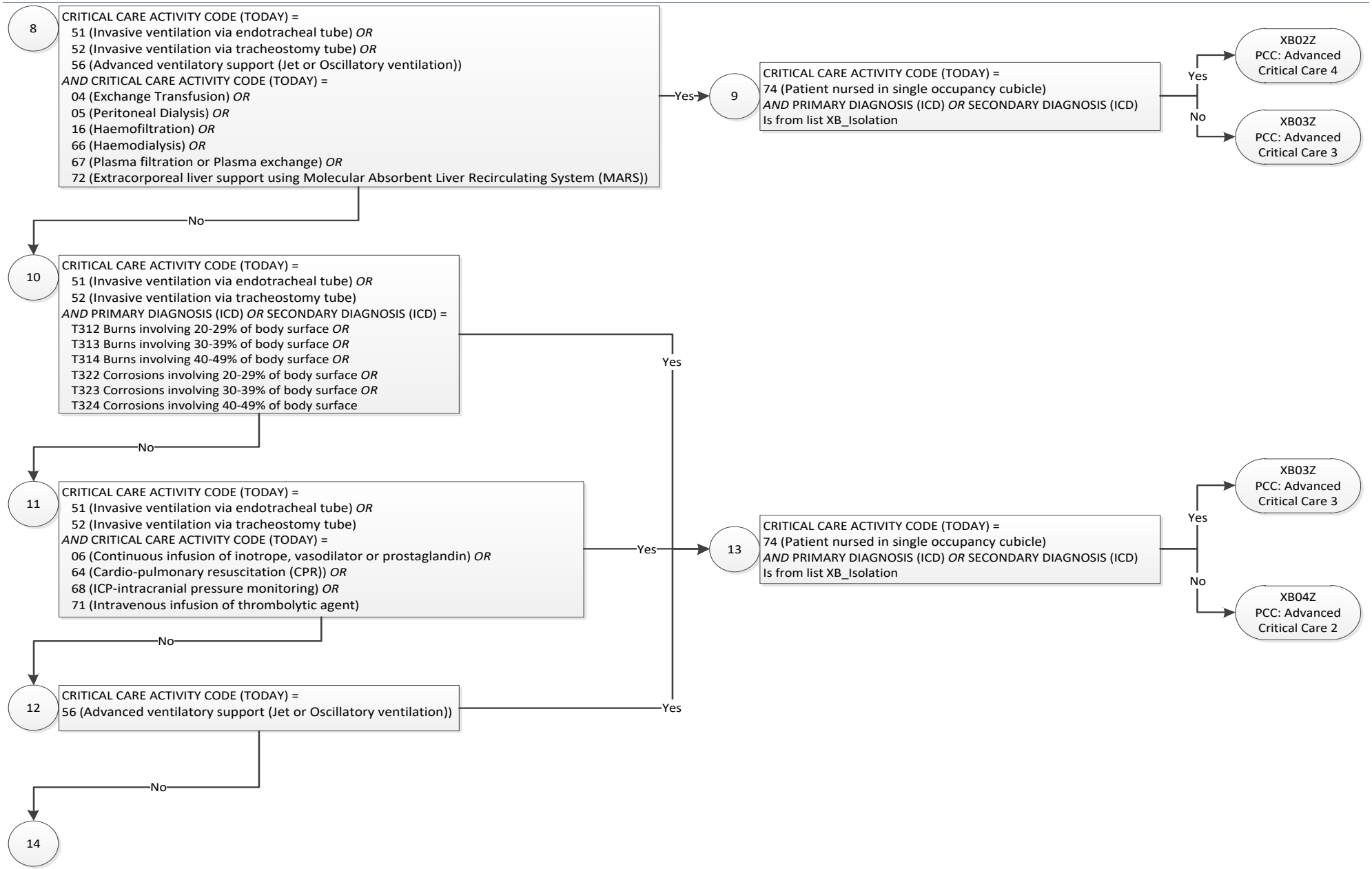
Case C: A patient is being treated in the paediatric critical care unit and has invasive ventilation after being severely burned. This illustrates how the diagnosis is used in deriving the HRG.

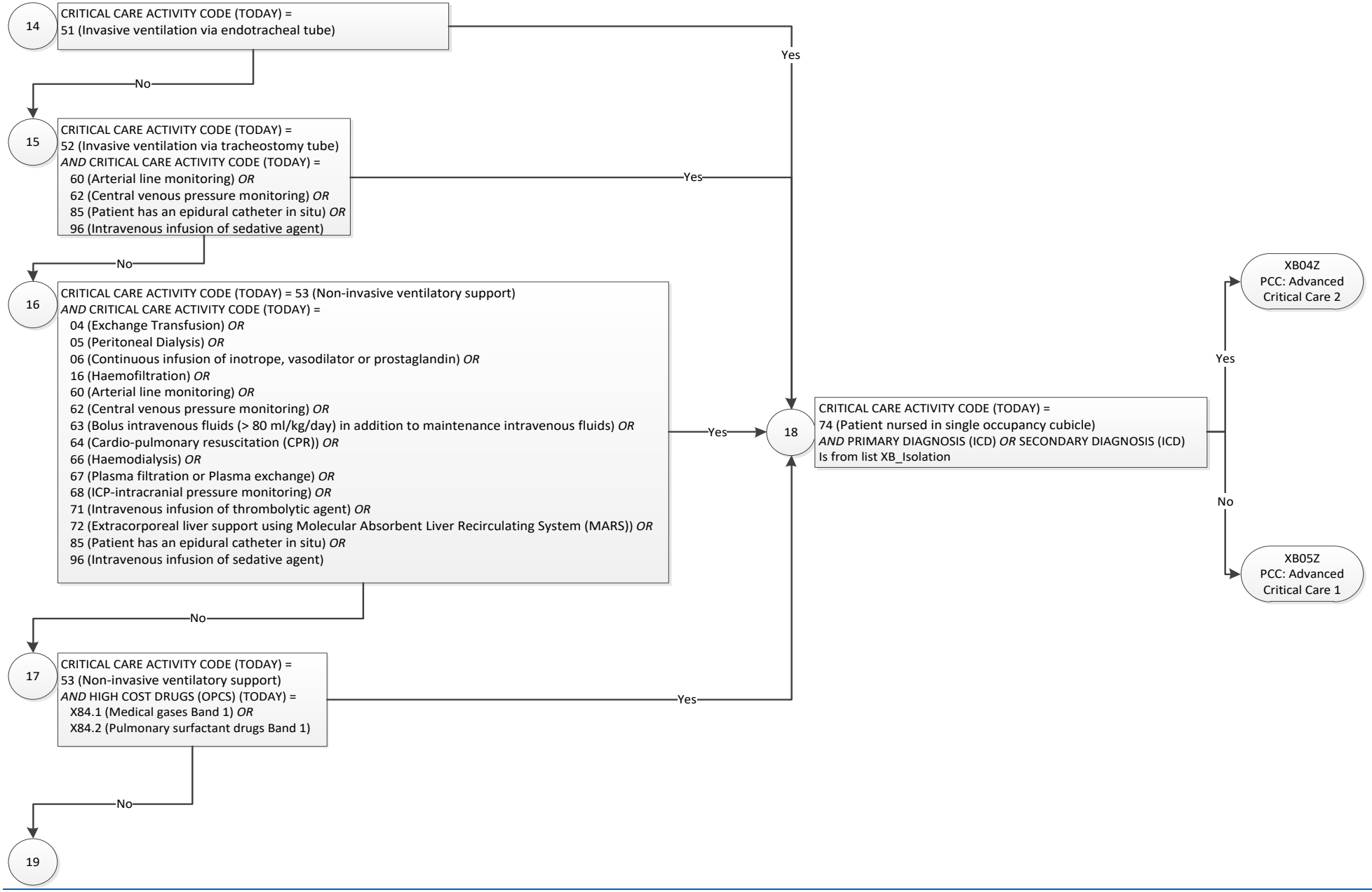
C	04 (Paediatric Intensive Care Unit)	10	1 (Patient discharged on clinical advice or with clinical consent)	51 Invasive ventilation via endotracheal tube		T31.5	Burns involving 50-59% of body surface	**XB03Z**	**Paediatric Critical Care, Advanced Critical Care 3**

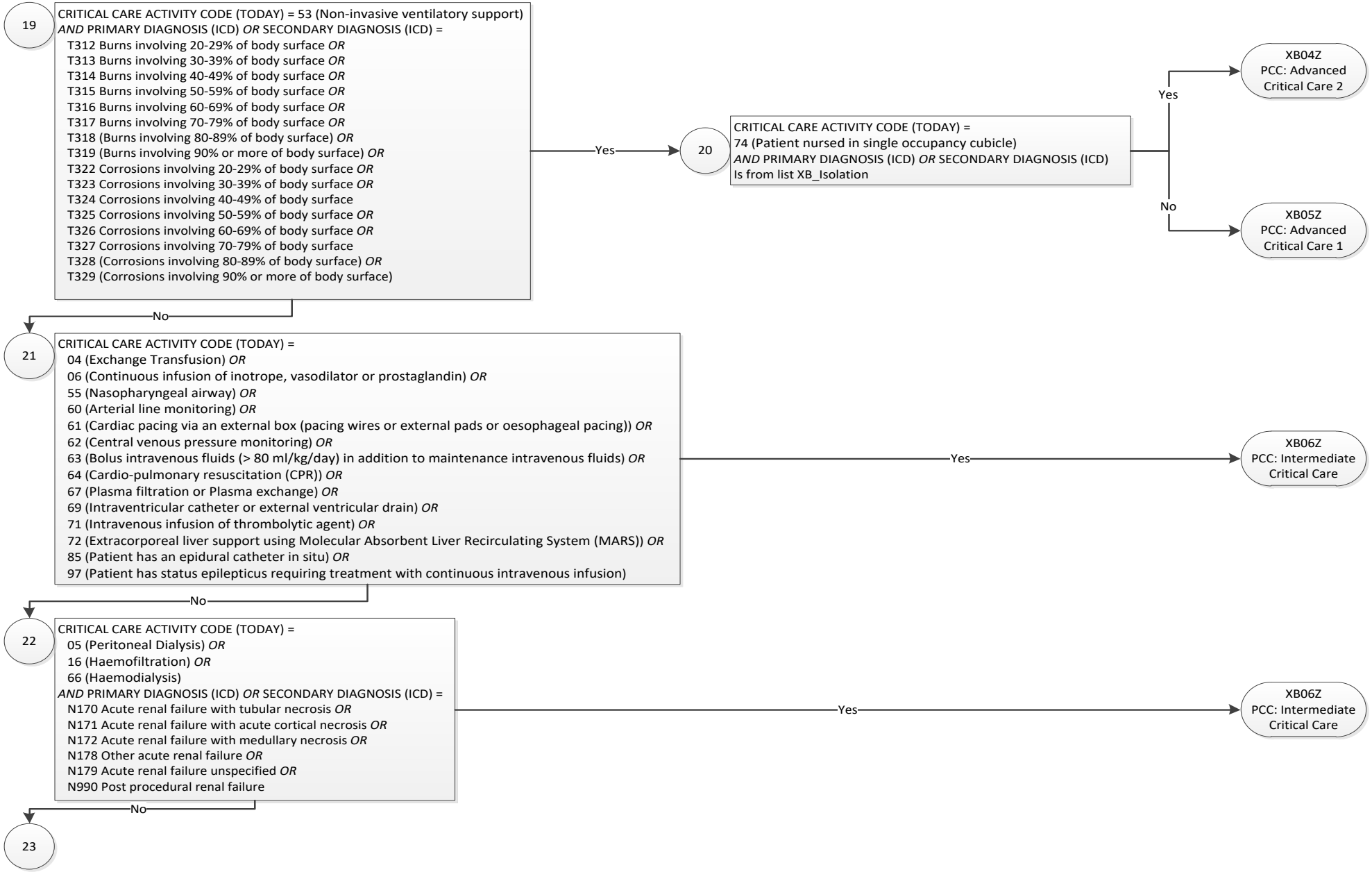
Case D: A patient with renal hypoplasia who develops adenoviral pneumonia is admitted to a single occupancy cubicle in the paediatric critical care unit. This illustrates how both the diagnosis and CCAC affect the HRG derived.

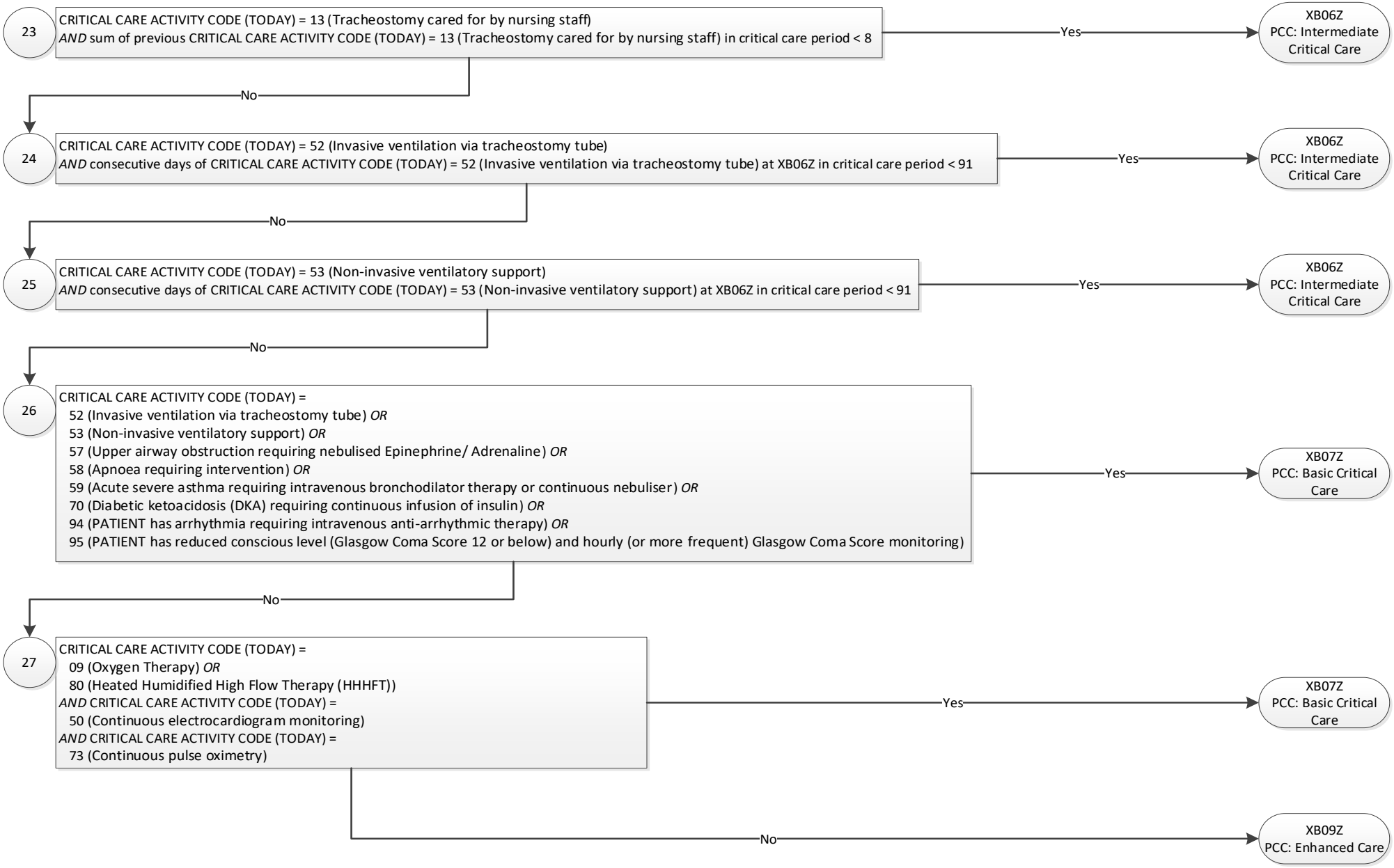
D	04 (Paediatric Intensive Care Unit)	10	1 (Patient discharged on clinical advice or with clinical consent)	51 Invasive ventilation via endotracheal tube	05 Peritoneal dialysis + 74 Patient nursed on single occupancy cubicle	Q60.5 + J12.0	Renal hypoplasia, unspecified + Adenoviral pneumonia	**XB02Z**	**Paediatric Critical Care, Advanced Critical Care 4**











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*

ICD-10 code	Description
A15.8	*Other respiratory tuberculosis, confirmed bacteriologically and histologically*
A15.9	*Respiratory tuberculosis unspecified, confirmed bacteriologically and histologically*
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*

ICD-10 code	Description
B02.9	*Zoster without complication*
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*

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*

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

Differences from the HRG4+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

Subchapter XC – Adult Critical Care

Composition and Concepts		
	NC23/24	NC22/23
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

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.

Adult critical care HRGs are generated per Critical Care Period, i.e. 1 (maximum) HRG is generated for each Critical Care Period and not on a per diem basis, although the Grouper output will also identify the number 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:

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**
Case E illustrates a patient with no organ systems supported and neither Level 2 nor Level 3 care.															

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
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**

Differences from the HRG4+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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 the NHS England pricing team) 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 a single unbundled HRG is generated for each distinct high cost drug OPCS-4 code recorded in the patient record.

Composition and Concepts		
	NC23/24	NC22/23
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*)** currently states:

There is no national requirement to collect OPCS-4 High Cost Drugs data using codes in categories **X81-X98**, with the exception of:

- ***X83.3 Fibrinolytic drugs Band 1:*** This must be assigned when alteplase is given in the treatment of acute stroke (see **PCSX25: Administration of thrombolytic / fibrinolytic drugs and alteplase**).
- ***X90.4 Intravenous nutrition Band 1***: This must be assigned once on every episode that a patient receives parenteral nutrition, regardless of the number of days this is given.
- ***X89.2 Monoclonal antibodies Band 2***: This must be assigned when neutralising monoclonal antibodies are administered for the treatment of COVID-19.

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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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		
	NC23/24	NC22/23
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 HRG **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 HRG **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-4 codes are required to identify a single procedure. As many OPCS-4 codes for vascular imaging interventions are not blood vessel specific, many **+NEURO** 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.

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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 site codes ***O46.1 Interbrain*** and ***O46.2 Midbrain*** have been added to combination list **CL_Neuro**, which is used to generate the ***+NEURO*** combination codes, which are mapped to various HRGs within this subchapter.

Changes related to other OPCS-4.10 updates and amendments

The following 3 existing OPCS-4 codes have been removed from combination list **CL_Neuro** as they are ***.8 Other specified*** or ***.9 Unspecified*** codes of extended code categories, which according to coding standards should never be used:

- ***O28.8 Specified other cerebral artery NEC***
- ***O28.9 Other cerebral artery NEC***
- ***Z95.8 Specified other branch of thoracic aorta NEC***

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. There are HRGs for image guided biopsies, aspirations and therapeutic procedures.

Composition and Concepts		
	NC23/24	NC22/23
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 and 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-4 codes are required to identify a single procedure. The majority of procedures that map to this subchapter are either classified using a combination code consisting of an OPCS-4 code followed by a subsidiary OPCS-4 code indicating that 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+ 2022/23 National Costs Grouper

Changes related to other OPCS-4.10 updates and amendments

The CCS have confirmed the appropriate coding of various thyroid ablation procedures. As a result, new combination codes ***B128+RFA Radiofrequency controlled thermal destruction of thyroid gland***, ***B128+MIC Microwave destruction of thyroid gland***, ***B128+CRY Cryotherapy to thyroid gland***, ***B128+WVA Water vapour ablation of thyroid gland*** and ***B128+Y123 Irreversible electroporation of lesion of thyroid*** have been created and mapped to HRG **YC10Z Percutaneous Therapeutic, Head or Neck Procedures**.

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. There are HRGs specific to thoracic ablation procedures, biopsy of pleura and lung or mediastinum, drainage and aspiration of pleural cavity.

Composition and Concepts		
	NC23/24	NC22/23
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-4 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 HRG **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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 code ***T05.6 Percutaneous biopsy of lesion of chest wall*** has been mapped to relabelled HRG **YD02Z Percutaneous Biopsy of Lesion of, Pleura or Chest Wall**.

Changes related to other OPCS-4.10 updates and amendments

The CCS have confirmed the appropriate codes for classifying operations on the soft tissue of the chest. This has resulted in the deletion of the existing now redundant combination code ***T966+RIB Biopsy of soft tissue of rib***, which previously mapped to HRG **DZ71Z Minor Thoracic Procedures**, and the creation of a new combination code to replace it. The new combination code, ***T966+Z924 Biopsy of soft tissue of chest***, has been mapped to relabelled HRG **YD02Z Percutaneous Biopsy of Lesion of, Pleura or Chest Wall** to reflect that this is expected to be a percutaneous, rather than open, procedure.

The CCS have confirmed the appropriate codes for classifying operations on intercostal muscles. As a result, new combination code ***T811+Z605 Percutaneous biopsy of muscle of chest*** has been created and mapped to relabelled HRG **YD02Z Percutaneous Biopsy of Lesion of, Pleura or Chest Wall**.

Subchapter YF – Gastrointestinal Imaging Interventions

Composition and Concepts		
	NC23/24	NC22/23
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

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**.

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-4 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 the 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+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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.

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**.

Composition and Concepts		
	NC23/24	NC22/23
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

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-4 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**.

Differences from the HRG4+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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 that 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		
	NC23/24	NC22/23
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 3 levels of complexity and are generated using combination codes that reflect the type of vertebroplasty and levels of spine operated on. These combination codes include the vertebroplasty OPCS-4 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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 code ***V44.6 Augmentation vertebroplasty of fracture of spine using intravertebral implant*** has been mapped to relabelled HRG **YH02Z Major Percutaneous Vertebroplasty**.

- In addition, 2 new combination codes have been created to ensure that when this procedure is undertaken on multiple levels of spine, it is appropriately mapped to take into account the additional resource usage. ***V446+V552 Augmentation vertebroplasty of fracture of spine using intravertebral implant, with two levels of spine*** and ***V446+V553 Augmentation vertebroplasty of fracture of spine using intravertebral implant, with greater than two levels of spine*** have been mapped to relabelled HRG **YH01Z Complex Percutaneous Vertebroplasty**.

To accommodate the new OPCS-4.10 code, the labels of the vertebroplasty HRGs have been updated to reflect 3 complexity levels – standard, major and complex – based on the type of vertebroplasty and the levels of spine operated on:

- **YH01Z Percutaneous Vertebroplasty of, Three or More Levels of Spine** updated to **YH01Z Complex Percutaneous Vertebroplasty**
- **YH02Z Percutaneous Vertebroplasty of Two Levels of Spine** updated to **YH02Z Major Percutaneous Vertebroplasty**
- **YH03Z Percutaneous Vertebroplasty of One Level of Spine** updated to **YH03Z Standard Percutaneous Vertebroplasty**

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		
	NC23/24	NC22/23
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 relabelled HRG **YJ12Z Insertion of Marker, into Breast or Axillary Lymph Node** are 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+ 2022/23 National Costs Grouper

Changes related to other OPCS-4.10 updates and amendments

The CCS have confirmed the appropriate coding for recording the insertion of various types of breast and lymph node markers. As a result, 4 new combination codes, ***B372+Y392 Injection of radiocontrast substance into breast***, ***B372+Y374 Injection of marker into breast***, ***T928+Y355+Z613 Insertion of radioactive marker into axillary lymph node*** and ***T928+Y374+Z613 Insertion of marker into axillary lymph node*** have been created and

mapped to relabelled HRG **YJ12Z Insertion of Marker, into Breast or Axillary Lymph Node.**

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		
	NC23/24	NC22/23
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**, while radiofrequency, microwave or other ablation procedures map to HRG **YL02Z Standard Percutaneous Ablation of Lesion of Kidney**.

YL10Z Bilateral or Multiple, Percutaneous Insertion of, Ureteric Stent or Nephrostomy is reached via escalation logic when a dominant procedure of percutaneous insertion of ureteric stent or nephrostomy is recorded with 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-4 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.

Differences from the HRG4+ 2022/23 National Costs Grouper

No changes directly impacting this subchapter have been made in the HRG4+ 2023/24 National Costs Grouper when compared to the HRG4+ 2022/23 National Costs Grouper.

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		
	NC23/24	NC22/23
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, splitting activity 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 on specific lists are recorded alongside the dominant procedure.

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. These are reached when an additional vascular imaging intervention procedure from list **YQ_Vasc_IR** is recorded alongside the dominant procedure.

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, 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.

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 with a dominant procedure of repair of thoracic aorta (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 will be generated if either the identical procedure is 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 is 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 either directly with OPCS-4 codes specific to the treatment of recurrent varicose veins or with a varicose vein procedure recorded with 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-4 codes are required to identify a single procedure. As many vascular OPCS-4 codes are not blood vessel specific, 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*** and ***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.

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+ 2022/23 National Costs Grouper

Changes related to new OPCS-4.10 codes

New OPCS-4.10 code ***L93.7 Repair of vein NEC*** has been mapped to HRG root **YQ41 Open Operations, on Other or Unspecified Blood Vessels**.

In addition, 3 new combination codes have been created to ensure that when this procedure undertaken on blood vessels of the abdomen and limbs, it is appropriately mapped to the site-specific HRGs within this subchapter.

- ***L937+ABD Repair of vein of abdomen*** has been mapped to base HRG root **YQ05 Single Open Procedure, on Aorta or Abdominal Blood Vessel**.
- ***L937+LOWLIMB Repair of vein of lower limb*** has been mapped to base HRG root **YQ12 Single Open Procedure on Blood Vessel of Lower Limb**.
- ***L937+UPPLIMB Repair of vein of upper limb*** has been mapped to base HRG root **YQ32 Single Open Procedure, on Blood Vessel or Upper Limb**.

Changes related to other OPCS-4.10 updates and amendments

Redundant multiple procedure escalation logic has been removed from combination code ***L703+Z382 Ligation of internal iliac artery***, on clinical advice.

Existing OPCS-4 code ***Z95.9 Other branch of thoracic aorta NEC*** has been removed from combination list **CL_UppLimb** as it is the ***.9 Unspecified*** code of an extended code category, which according to coding standards should never be used.

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**.

The HRGs within this subchapter are procedure-specific and are separated into the following types of interventions:

Composition and Concepts		
	NC23/24	NC22/23
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 the type of stent or stent graft inserted and whether multiple stents are inserted. 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, where there is a subsidiary OPCS-4 code indicating a bilateral operation, or for angioplasty of blood vessels of the liver, or where subsidiary OPCS-4 codes indicate angioplasty of at least 2 different blood vessels.

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 will be generated if either the identical procedure is performed on both legs, i.e. sclerotherapy of varicose veins with a subsidiary OPCS-4 code indicating a bilateral operation, or a different varicose vein procedure is 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), as defined per the OPCS-4 classification. In addition, there is escalation logic to map to the 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 HRG **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 either 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 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 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 combination codes to the appropriate procedure-specific EVAR HRGs.

The EVAR HRGs are also separated based on the expected complexity of the procedures, splitting activity into Standard and Complex HRGs. Some procedures, such as those explicitly for aortic dissection, map directly to the Complex HRGs to reflect the inherent clinical 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+ 2022/23 National Costs Grouper

Changes related to other OPCS-4.10 updates and amendments

The CCS have confirmed the appropriate codes for recording sclerotherapy of vascular and lymphatic malformations. As a result, 2 new combination codes, ***L948+SCLR Injection of sclerosing substance into vein*** and ***T928+SCLR Injection of sclerosing substance into lymphatic tissue***, have been created and mapped to relabelled HRG **YR58Z Injection Sclerotherapy of Peripheral Low Flow Vascular Malformation**.

The CCS have confirmed that angioplasty or venoplasty of blood vessels of the liver should be coded using existing OPCS-4 code ***J10.4 Percutaneous transluminal angioplasty of blood vessel of liver***, with appropriate subsidiary site codes indicating the particular blood vessel(s) treated. New logic has been added to ensure appropriate escalation occurs when angioplasty of multiple blood vessels of the liver are recorded. Logic has been added to OPCS-4 code ***J10.4 Percutaneous transluminal angioplasty of blood vessel of liver*** to escalate activity from HRG root **YR11 Percutaneous Transluminal Angioplasty of Single Blood Vessel** to HRG root **YR10 Percutaneous Transluminal Angioplasty of Multiple Blood Vessels** when at least 2 subsidiary OPCS-4 site codes from ***Z37.6 Hepatic artery***, ***Z39.3 Portal vein*** and ***Z39.6 Hepatic vein*** are recorded.

The Documentation Suite

Below is a list of the various documents which are available to download from the National Casemix Office website: https://digital.nhs.uk/services/national-casemix-office/downloads-groupers-and-tools.

This documentation suite provides a comprehensive resource intended to help users understand HRG design concepts and logic, as well as use the Grouper.

- The **Summary of Changes** document provides an overview of the main differences between the current Grouper design and its relevant predecessor.
- The **Grouper User Manual** provides instructions on how to prepare and group data using the Grouper software application. Sample data with expected results is provided. This document is updated with each Grouper release.
- The **Chapter Summaries** document provides an overview of the scope, composition, and relevant grouping logic of individual HRG subchapters, and it highlights significant changes made in the latest HRG design.
- The **Code to Group Workbook** is an Excel workbook that embodies the Casemix design. It provides details of the constituent elements that contribute to HRG grouping, and it contains reference data such as the ICD-10 and OPCS-4 codes utilised in the design, the procedure and diagnosis hierarchies pertinent to a specific design, and the Complication and Comorbidities (CC) lists for HRG subchapters. The workbook also includes information on Programme Budgeting Category (PBC) mapping as well as a comprehensive list of HRG codes and labels.

Additional documentation can be found on The why, what and how of Casemix on our website, which provides further background information relating to the work of the National Casemix Office. This section now contains **The Casemix Companion,** which is a starting point and general reference guide for anyone interested in learning about the Casemix classification system used by the NHS in England. This document provides an introduction to HRGs, Groupers, HRG4+ design concepts and grouping logic, and contains links to additional resources.