ICD-10-PCS Reference Manual

THE INTERNATIONAL CLASSIFICATION OF DISEASES Tenth Revision Procedure Coding System (ICD-10-PCS) was developed with the support of the Centers for Medicare and Medicaid Services, under contract Nos. 90-1138, 91-22300, 500-95-0005, and HHSM-500-2004-00011C to 3M Health Information Systems.

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Preface

THE INTERNATIONAL CLASSIFICATION OF DISEASES Tenth Revision Procedure Coding System (ICD-10-PCS) is a new system for coding inpatient procedures, developed for the Centers for Medicare and Medicaid Services (CMS).

This manual is written as a general introduction for data managers, payers, administrators, and medical record coders. For readers who do not need a detailed understanding of ICD-10-PCS but would like a general introduction, the material in chapter 1 and the appendices is recommended.

Manual organization

The manual is organized into the following chapters and appendices. A glossary also provides a list of terms introduced in the manual.

Chapter 1 **Overview.** Includes a general introduction to ICD-10-PCS, a brief history of its development, and a presentation of the code structure, organization, and characteristics. The first part of the overview contains basic information; the second and third parts discuss structure, characteristics, and applications in more detail.

Chapter 2 **Procedures in the Medical and Surgical section.** Provides reference material for each root operation in the MEDICAL AND SURGICAL section (0), with the full definition, additional explanation as needed, a code example, and coding exercises for each root operation.

Chapter 3 **Procedures in the Medical and Surgical-related sections.** Provides reference material for each of the Medical and Surgical-related sections (1–9), with definitions, additional explanation as needed, a code example, and coding exercises for each section.

Chapter 4 **Procedures in the ancillary sections.** Provides reference material for each of the ancillary sections (B–D, F–H), with definitions, additional explanation as needed, a code example, and coding exercises for each section.

Appendix A **ICD-10-PCS definitions.** Tables listing the full definitions of all root operations and approaches in the MEDICAL AND SURGICAL section.

Appendix B **ICD-10-PCS draft coding guidelines.** Contains draft guidelines for coding procedures with ICD-10-PCS.

Conventions used

This manual uses several conventions throughout, as described below.

Small capital letters Small capital letters are used to distinguish words that define code components, as in the root operation TRANSPLANTATION.

Root operation boxes Root operation boxes are used to present the full definition of root operations in the MEDICAL AND SURGICAL section, including explanation and examples. A root operation box is shown below. Root operation boxes are used in chapter 2.

Drainage	Definition	Taking or letting out fluids and/or gases from a body part
9	Explanation	The fluids or gases may be normal or abnormal
	Examples	Incision and drainage, thoracentesis

Table excerpts Table excerpts present a single code in the ICD-10-PCS Table format, identifying all components of the code. Text descriptions are truncated as needed to fit the compressed format, as in the example below.

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	RESPIRATORY	EXCISION	LOWER LOBE BRONCHUS, RT	OPEN	NO DEVICE	DIAGNOSTIC
0	B	B	6	0	Z	X

Root operation groups This table is used only in chapter 2 to organize root operations in the MEDICAL AND SURGICAL section, highlighting distinguishing features.

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Root operation	Procedure Objective	Procedure Site	Example
Drainage	Taking/letting out fluids/gases	Within a body part	I&D of perinephric cyst
Extirpation	Taking/cutting out solid matter	Within a body part	Taking out a kidney stone
Fragmentation	Breaking solid matter into pieces without removal	Within a body part	Lithotripsy of kidney stone

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Chapter 1

ICD-10-PCS overview

THE INTERNATIONAL CLASSIFICATION OF DISEASES Tenth Revision Procedure Coding System (ICD-10-PCS) was created to accompany the World Health Organization's (WHO) ICD-10 diagnosis classification. The new procedure coding system was developed to replace ICD-9-CM procedure codes for reporting inpatient procedures.

Unlike the ICD-9-CM classification, ICD-10-PCS was designed to enable each code to have a standard structure and be very descriptive, and yet flexible enough to accommodate future needs. Information about the structure, organization, and application of ICD-10-PCS codes, along with reference material for coding with ICD-10-PCS, is provided in this manual.

This chapter contains the following parts:

- What is ICD-10-PCS?
- ICD-10-PCS code structure
- ICD-10-PCS system organization
- ICD-10-PCS design
- ICD-10-PCS additional characteristics
- ICD-10-PCS applications

More specific information on coding with ICD-10-PCS is found in chapters 2–4 of this manual.

What is ICD-10-PCS?

ICD-10-PCS is a procedure coding system that will be used to collect data, determine payment, and support the electronic health record for all inpatient procedures performed in the United States.

History of ICD-10-PCS

The World Health Organization has maintained the International Classification of Diseases (ICD) for recording cause of death since 1893. It has updated the ICD periodically to reflect new discoveries in epidemiology and changes in medical understanding of disease.

The International Classification of Diseases Tenth Revision (ICD-10), published in 1992, is the latest revision of the ICD. The WHO authorized the National Center for Health Statistics (NCHS) to develop a clinical modification of ICD-10 for use in the United States. This version of ICD-10 is called ICD-10-CM. ICD-10-CM is intended to replace the previous U.S. clinical modification, ICD-9-CM, that has been in use since 1979. ICD-9-CM contains a procedure classification; ICD-10-CM does not.

The Centers for Medicare and Medicaid Services, the agency responsible for maintaining the inpatient procedure code set in the U.S., contracted with 3M Health Information Systems in 1993 to design and then develop a procedure classification system to replace Volume 3 of ICD-9-CM. ICD-10-PCS is the result.

ICD-10-PCS was initially released in 1998. It has been updated annually since that time.

ICD-9-CM Volume 3 compared with ICD-10-PCS

With ICD-10 implementation, the U.S. clinical modification of the ICD will not include a procedure classification based on the same principles of organization as the diagnosis classification. Instead, a separate procedure coding system has been developed to meet the rigorous and varied demands that are made of coded data in the healthcare industry. This represents a significant step toward building a health information infrastructure that functions optimally in the electronic age.

The following table highlights basic differences between ICD-9-CM Volume 3 and ICD-10-PCS.

Table 1–1. Comparison of ICD-9-CM and ICD-10-PCS

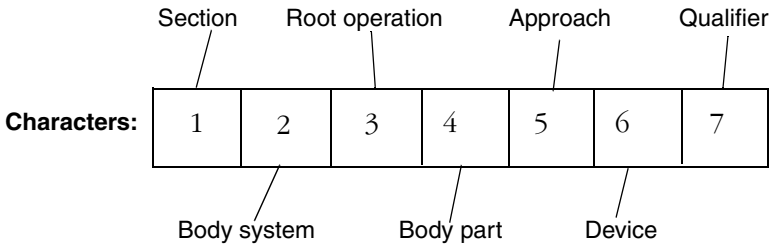
ICD-9-CM Volume 3	**ICD-10-PCS**
Follows ICD structure (designed for diagnosis coding)	Designed/developed to meet healthcare needs for a procedure code system
Codes available as a fixed/finite set in list form	Codes constructed from flexible code components (values) using tables
Codes are numeric	Codes are alphanumeric
Codes are 3–4 digits long	All codes are seven characters long

ICD-10-PCS code structure

Undergirding ICD-10-PCS is a logical, consistent structure that informs the system as a whole, down to the level of a single code. This means that the process of constructing codes in ICD-10-PCS is also logical and consistent: individual letters and numbers, called "values," are selected in sequence to occupy the seven spaces of the code, called "characters."

Characters

All codes in ICD-10-PCS are seven characters long. Each character in the seven-character code represents an aspect of the procedure, as shown in the following diagram of characters from the main section of ICD-10-PCS, called MEDICAL AND SURGICAL.



An ICD-10-PCS code is best understood as the result of a process rather than as an isolated, fixed quantity. The process consists of assigning values from among the valid choices for that part of the system, according to the rules governing the construction of codes.

Values

One of 34 possible values can be assigned to each character in a code: the numbers 0–9 and the alphabet (except I and O, because they are easily confused with the numbers 1 and 0). A finished code looks like the example below.

02100Z4

This code is derived by choosing a specific value for each of the seven characters. Based on details about the procedure performed, values for each character specifying the section, body system, root operation, body part, approach, device, and qualifier are assigned.

Because the definition of each character is a function of its physical position in the code, the same value placed in a differ-

ent position in the code means something different. The value 0 in the first character means something different than 0 in the second character, or 0 in the third character, and so on.

Code structure: Medical and Surgical section

The following pages define each character using the code 0LB50ZZ, "Excision of right lower arm and wrist tendon, open approach" as an example. This example comes from the MEDICAL AND SURGICAL section of ICD-10-PCS.

Character 1: Section

The first character in the code determines the broad procedure category, or section, where the code is found. In this example, the section is MEDICAL AND SURGICAL. 0 is the value that represents MEDICAL AND SURGICAL in the first character.

For definitions of characters used in the Medical and Surgical section, please refer to the Glossary.

The sample code looks like this so far:

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL						
0						

Character 2: Body system

The second character defines the body system—the general physiological system or anatomical region involved. Examples of body systems include LOWER ARTERIES, CENTRAL NERVOUS SYSTEM, and RESPIRATORY SYSTEM. In this example, the body system is TENDONS, represented by the value L.

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	TENDONS					
0	L					

Character 3: Root operation

The third character defines the root operation, or the objective of the procedure. Some examples of root operations are BYPASS, DRAINAGE, and REATTACHMENT. In the sample code below, the root operation is EXCISION. When used in the third character of the code, the value B represents EXCISION.

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	TENDONS	EXCISION				
0	L	B				

For the complete list of root operations and their definitions, please refer to appendix A.

Character 4: Body part

The fourth character defines the body part, or specific anatomical site where the procedure was performed. The body system (second character) provides only a general indication of the procedure site. The the body part and body system values together provide a precise description of the procedure site.

Examples of body parts are KIDNEY, TONSILS, and THYMUS. In this example, the body part value is 5, LOWER ARM AND WRIST, RIGHT. When the second character is L, the value 5 when used in the fourth character of the code represents the right lower arm and wrist tendon.

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	TENDONS	EXCISION	LOWER ARM AND WRIST, RIGHT			
0	L	B	5			

Character 5: Approach

The fifth character defines the approach, or the technique used to reach the procedure site. Eight different approach values are used in the MEDICAL AND SURGICAL section to define the approach. Examples of approaches include OPEN and PERCUTANEOUS ENDOSCOPIC.

In the sample code below, the approach is OPEN and is represented by the value 0.

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	TENDONS	EXCISION	LOWER ARM AND WRIST, RIGHT	OPEN		
0	L	B	5	0		

For the complete list of approaches and their definitions, please refer to appendix A.

Character 6: Device

Depending on the procedure performed, there may or may not be a device left in place at the end of the procedure. The sixth character defines the device. Device values fall into four basic categories:

- Grafts and Prostheses
- Implants
- Simple or Mechanical Appliances
- Electronic Appliances

In this example, there is no device used in the procedure. The value Z is used to represent NO DEVICE, as shown below.

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	TENDONS	EXCISION	LOWER ARM AND WRIST, RIGHT	OPEN	NO DEVICE	
0	L	B	5	0	Z	

Character 7: Qualifier

The seventh character defines a qualifier for the code. A qualifier specifies an additional attribute of the procedure, if applicable.

Examples of qualifiers include DIAGNOSTIC and STEREOTACTIC. Qualifier choices vary depending on the previous values selected. In this example, there is no specific qualifier applicable to this procedure, so the value is NO QUALIFIER, represented by the letter Z.

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	TENDONS	EXCISION	LOWER ARM AND WRIST, RIGHT	OPEN	NO DEVICE	NO QUALIFIER
0	L	B	5	0	Z	Z

0LB50ZZ is the complete specification of the procedure "Excision of right lower arm and wrist tendon, open approach."

ICD-10-PCS system organization

ICD-10-PCS is composed of 16 sections, represented by the numbers 0–9 and the letters B–D and F–H. The broad procedure categories contained in these sections range from surgical procedures to substance abuse treatment.

Medical and Surgical section

The first section, MEDICAL AND SURGICAL, contains the great majority of procedures typically reported in an inpatient setting. As shown in the previous section discussing ICD-10-PCS code structure, all procedure codes in the MEDICAL AND SURGICAL section begin with the section value 0.

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	TENDONS	EXCISION	LOWER ARM AND WRIST, RIGHT	OPEN	NO DEVICE	NO QUALIFIER
0	L	B	5	0	Z	Z

More complete information on coding procedures in the Medical and Surgical section is found in chapter 2 of this manual.

Medical and Surgical-related sections

Sections 1–9 of ICD-10-PCS comprise the Medical and Surgical-related sections. These sections include obstetrical procedures, administration of substances, measurement and monitoring of body functions, and extracorporeal therapies, as listed in the table below.

Section value	Description
1	Obstetrics
2	Placement
3	Administration
4	Measurement and Monitoring
5	Extracorporeal Assistance and Performance
6	Extracorporeal Therapies
7	Osteopathic
8	Other Procedures
9	Chiropractic

In sections 1 and 2, all seven characters define the same aspects of the procedure as in the MEDICAL AND SURGICAL section.

Codes in sections 3–9 are structured for the most part like their counterparts in the MEDICAL AND SURGICAL section, with a few exceptions. For example, in sections 5 and 6, the fifth character is defined as duration instead of approach, as in this code for intra-aortic balloon pump (IABP):

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body System	Character 5 Duration	Character 6 Function	Character 7 Qualifier
EXTRACORP. ASSIST. AND PERFORMANCE	PHYSIOLOGICAL SYSTEMS	ASSISTANCE	CARDIAC	CONTINUOUS	OUTPUT	BALLOON PUMP
5	A	0	2	2	1	0

Additional differences include these uses of the sixth character:

- Section 3 defines the sixth character as substance.
- Sections 4 and 5 define the sixth character as function.
- Sections 7–9 define the sixth character as method.

More complete information on coding procedures in the Medical and Surgical-related sections is found in chapter 3 of this manual.

Ancillary sections

Sections B–D and F–H comprise the ancillary sections of ICD-10-PCS. These six sections include imaging procedures, nuclear medicine, and substance abuse treatment, as listed in the following table.

Section value	Description
B	Imaging
C	Nuclear Medicine
D	Radiation Oncology
F	Physical Rehabilitation and Diagnostic Audiology
G	Mental Health
H	Substance Abuse Treatment

The definitions of some characters in the ancillary sections differs from that seen in previous sections. In the IMAGING section, the third character is defined as type, and the fifth and sixth characters define contrast and contrast/qualifier respectively, as in the CT scan example below.

Character 1 Section	Character 2 Body System	Character 3 Type	Character 4 Body Part	Character 5 Contrast	Character 6 Qualifier	Character 7 Qualifier
IMAGING	CENTRAL NERVOUS	COMPUTERIZED TOMOGRAPHY	BRAIN	HIGH OSMOLAR	UNENHANCED AND ENHANCED	NONE
B	0	2	0	0	0	Z

Additional differences include:

- Section C defines the fifth character as radionuclide.
- Section D defines the fifth character as modality qualifier and the sixth character as isotope.
- Section F defines the tdefines the fifth character as type qualifier and the sixth character as equipment.
- Sections G and H define the third character as a type qualifier.

More complete information on coding procedures in the ancillary sections is found in chapter 4 of this manual.

Tables

The complete ICD-10-PCS is presented in three parts: the Tables, the Index, and the List of Codes.

The Tables are organized in a series, beginning with section 0, MEDICAL AND SURGICAL, and body system 0, CENTRAL NERVOUS, and proceeding in numerical order. Sections 0–9 are followed by sections B–D and F–H. The same convention is followed within each table for the second through the seventh characters—numeric values in order first, followed by alphabetical values in order.

The following examples use the MEDICAL AND SURGICAL section to describe the organization and format of the ICD-10-PCS Tables.

The MEDICAL AND SURGICAL section (first character 0) is organized by its 31 body system values. Each body system subdivision in the
MEDICAL AND SURGICAL section contains an introductory table that lists the possible values for the remaining characters, given that body system.

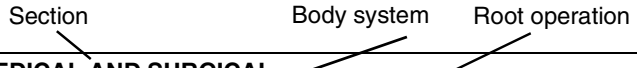
The following example shows the introductory table for the URINARY system.

Table 1–2. Introductory table of values for the Medical and Surgical section Urinary body system (characters 3–7)

Operation Character 3	**Body Part Character 4**	**Approach Character 5**	**Device Character 6**	**Qualifier Character 7**
1 Bypass	**0** Kidney, Right	**0** Open	**0** Drainage Device	**0** Allogeneic
2 Change	**1** Kidney, Left	**2** Open Endoscopic	**1** Radioactive Element	**1** Syngeneic
5 Destruction	**2** Kidneys, Bilateral	**3** Percutaneous	**2** Monitoring Device	**2** Zooplastic
7 Dilation	**3** Kidney Pelvis, Right	**4** Percutaneous Endoscopic	**3** Infusion Device	**3** Kidney Pelvis, Right
8 Division	**4** Kidney Pelvis, Left	**7** Via Natural or Artificial Opening	**7** Autologous Tissue Substitute	**4** Kidney Pelvis, Left
9 Drainage	**5** Kidney	**8** Via Natural or Artificial Opening Endoscopic	**C** Extraluminal Device	**6** Ureter, Right
B Excision	**6** Ureter, Right	**X** External	**D** Intraluminal Device	**7** Ureter, Left
C Extirpation	**7** Ureter, Left		**J** Synthetic Substitute	**8** Colon
F Fragmentation	**8** Ureters, Bilateral		**K** Nonautologous Tissue Substitute	**9** Colocutaneous
H Insertion	**9** Ureter		**L** Artificial Sphincter	**A** Ileum
J Inspection	**B** Bladder		**M** Electrode	**B** Bladder
L Occlusion	**C** Bladder Neck		**Y** Other Device	**C** Ileocutaneous
M Reattachment	**D** Urethra		**Z** No Device	**D** Cutaneous
N Release				**X** Diagnostic
P Removal				**Z** No Qualifier
Q Repair				
R Replacement				
S Reposition				
T Resection				
V Restriction				
W Revision				
Y Transplantation				

Following the introductory table are the root operation tables. These tables provide the valid choices of values available to construct a code.

The root operation tables consist of four columns and a varying number of rows, as in the following example of the root operation BYPASS, in the CENTRAL NERVOUS body system.



0: MEDICAL AND SURGICAL
0: CENTRAL NERVOUS
1: BYPASS: Altering the route of passage of the contents of a tubular body part

Body Part Character 4	Approach Character 5	Device Character 6	Qualifier Character 7
6 Cerebral Ventricle	**0** Open	**7** Autologous Tissue Substitute **J** Synthetic Substitute **K** Nonautologous Tissue Substitute	**0** Nasopharynx **1** Mastoid Sinus **2** Atrium **3** Blood Vessel **4** Pleural Cavity **5** Intestine **6** Peritoneal Cavity **7** Urinary Tract **8** Bone Marrow **B** Cerebral Cisterns
U Spinal Canal	**0** Open	**7** Autologous Tissue Substitute **J** Synthetic Substitute **K** Nonautologous Tissue Substitute	**4** Pleural Cavity **6** Peritoneal Cavity **7** Urinary Tract **9** Fallopian Tube

The values for characters 1–3 are provided at the top of each table. Four columns contain the applicable values for characters 4–7, given the values in characters 1–3.

A table may be separated into rows to specify the valid choices of values in characters 4–7. A built using values from more than one row of a table is not a valid code.

For the complete list of ICD-10-PCS draft coding guidelines, please refer to appendix B.

Index

The ICD-10-PCS Index can be used to access the Tables. The Index mirrors the structure of the Tables, so it follows a consistent pattern of organization and use of hierarchies.

The Index is organized as an alphabetic lookup. Two types of main terms are listed in the Index:

- Based on the value of the third character
- Common procedure terms

Main terms

For the MEDICAL AND SURGICAL and related sections, the root operation values are used as main terms in the Index. In other sections, the values representing the general type of procedure performed, such as nuclear medicine or imaging type, are listed as main terms.

For the MEDICAL AND SURGICAL and related sections, values such as EXCISION, BYPASS, and TRANSPLANTATION are included as main terms in the Index. The applicable body system entries are listed beneath the main term, and refer to a specific table. For the ancillary sections, values such as FLUOROSCOPY and POSITRON EMISSION TOMOGRAPHY are listed as main terms.

In the example below, the index entry "Bypass" refers to the MEDICAL AND SURGICAL section tables for all applicable body systems, including ANATOMICAL REGIONS and CENTRAL NERVOUS SYSTEM.

Bypass
by Body System
Anatomical Regions 0W1....
Central Nervous System 001....

The body system listings may be followed by entries for specific body parts, as in the excerpt below. In the root operations CHANGE, INSERTION, REMOVAL, and REVISION, the device entries follow the body system listings.

by Body Part
Artery

Aorta, Abdominal 0410...
Aorta, Thoracic 021W...
Axillary 031....
Brachial 031....
Common Carotid 031....

Common procedure terms

The second type of term listed in the Index uses procedure names, such as "appendectomy" or "fundoplication." These entries are listed as main terms, and refer to a table or tables from which a valid code can be constructed, as shown in the following example.

Cholecystectomy
- see Excision, Hepatobiliary System & Pancreas 0FB....
- see Resection, Hepatobiliary System & Pancreas 0FT....

List of Codes

The ICD-10-PCS List of Codes is a resource that displays all valid codes in alphanumeric order. Each entry begins with the seven-character code, followed by the full text description.

The code descriptions are generated using rules that produce standardized, complete, and easy-to-read code descriptions.

ICD-10-PCS design

ICD-10-PCS is fundamentally different from ICD-9-CM in its structure, organization, and capabilities. It was designed and developed to adhere to recommendations made by the National Committee on Vital and Health Statistics (NCVHS). It also incorporates input from a wide range of organizations, individual physicians, healthcare professionals, and researchers.

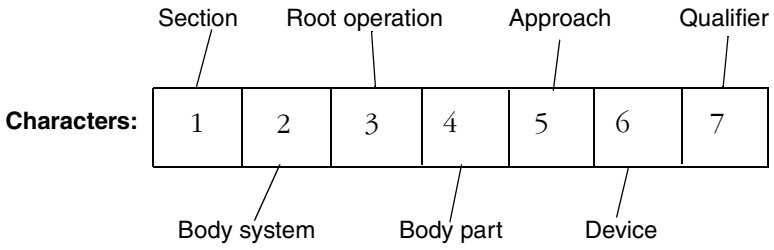
Several structural attributes were recommended for a new procedure coding system. These attributes include

- Multiaxial structure
- Completeness
- Expandability

Multiaxial structure

The key attribute that provides the framework for all other structural attributes is multiaxial code structure. Multiaxial code structure makes it possible for the ICD-10-PCS to be complete, expandable, and to provide a high degree of flexibility and functionality.

As mentioned earlier, ICD-10-PCS codes are composed of seven characters. Each character represents a category of information that can be specified about the procedure performed.
A character defines both the category of information and its physical position in the code.



A character's position can be understood as a semi-independent axis of classification that allows different specific values to be inserted into that space, and whose physical position remains stable. Within a defined code range, a character retains the general meaning that it confers on any value in that position. For example, the fifth character retains the general meaning "approach" in sections 0–4 and 7–9 of the system. Any

specific value in the fifth character will define a specific approach, such as OPEN.

Each group of values for a character contains all of the valid choices in relation to the other characters of the code, giving the system completeness. In the fifth character, for example, each significantly distinct approach is assigned its own approach value and all applicable approach values are included to represent the possible versions of a procedure.

Each group of values for a character can be added to as needed, giving the system expandability. If a significantly distinct approach is used to perform procedures, a new approach value can be added to the system.

Each group of values is confined to its own character, giving ICD-10-PCS a stable, predictable readability across a wide range of codes. In sections 0–4 and 7–9 of the system, for example, the fifth character always represents the approach.

ICD-10-PCS' multiaxial structure houses its capacity for completeness, expandability, and flexibility, giving it a high degree of functionality for multiple uses.

Completeness

Completeness is considered a key structural attribute for a new procedure coding system. The specific recommendation for completeness includes these characteristics:

- A unique code is available for each significantly different procedure.
- Each code retains its unique definition. Codes are not reused.

In Volume 3 of ICD-9-CM, procedures performed on many different body parts using different approaches or devices may be assigned to the same procedure code. In ICD-10-PCS, a unique code can be constructed for every significantly different procedure.

Within each section, a character defines a consistent component of a code, and contains all applicable values for that character. The values define individual expressions (open, percutaneous) of the character's general meaning (approach) that are then used to construct unique procedure codes.

Because all approaches by which a procedure is performed are assigned a separate approach value in the system, every procedure which uses a different approach will have its own unique code. This is true of the other characters as well. The same procedure performed on a different body part has its own unique

code, the same procedure performed using a different device has its own unique code, and so on.

Coronary bypass example

In the case of the coronary artery bypass graft (CABG), ICD-9-CM contains a total of nine codes to describe different versions of the
procedure. These codes specify the version based on one aspect of the procedure, and the aspect defined is not consistent for all nine codes. Four of the codes specify the number of coronary arteries bypassed, four specify the source of the new blood flow, and one is an "unspecified" choice.

By contrast, ICD-10-PCS components can be combined to produce 34 unique codes defining all significantly different versions of the comparable CABG procedure. All 34 codes specify the same four aspects of the procedure: the number of coronary artery sites bypassed, the approach to the procedure site, the type of graft if used, and the origin of the bypass (source of the new blood flow). The differences are summarized in the table below.

Table 1–3. Comparison of CABG procedure codes

ICD-9-CM Volume 3	ICD-10-PCS
36.11 Aortocoronary Bypass of One Coronary Artery (1 of 4)	021009W Bypass Coronary Artery, One Site to Aorta with Autologous Venous Tissue, Open Approach(1 of 8)
36.15 Single Internal Mammary-Coronary Artery Bypass (1 of 2)	02100Z8 Bypass Coronary Artery, One Site to Right Internal Mammary, Open Approach (1 of 16)
36.17 Abdominal-Coronary Artery Bypass (1 of 2)	02100AF Bypass Coronary Artery, One Site to Abdominal Artery with Autologous Arterial Tissue, Open Approach (1 of 10)
36.10 Aortocoronary Bypass for Heart Revascularization, Not Otherwise Specified (1 of 1)	No Equivalent ICD-10-PCS codes all contain a minimum level of specificity

Unique definitions

Because ICD-10-PCS codes are constructed of individual values rather than lists of fixed codes and text descriptions, the unique, stable definition of a code in the system is retained. New values may be added to the system to represent a specific new approach or device or qualifier, but whole codes by design cannot be given new meanings and reused.

Expandability

Expandability was also recommended as a key structural attribute. The specific recommendation for expandability includes these characteristics:

- Accommodate new procedures and technologies
- Add new codes without disrupting the existing structure

ICD-10-PCS is designed to be easily updated as new codes are required for new procedures and new techniques. Changes to ICD-10-PCS can all be made within the existing structure, because whole codes are not added. Instead, one of two possible changes is made to the system:

- A new value for a character is added as needed to the system.
- An existing value for a character is added to a table(s) in the system.

ICD-10-PCS update: PICVA

An example of how the updating of ICD-10-PCS works can be seen in the coronary artery bypass procedure called Percutaneous in-situ coronary venous arterialization (PICVA). This procedure is no more invasive than a percutaneous coronary angioplasty, but achieves the benefits of a bypass procedure by placing a specialized stent into the diseased coronary artery, through its wall into the adjacent coronary vein, and diverting blood flow through the stent into the artery past the blockage.

ICD-10-PCS was updated in 2004 to include an appropriate range of codes for the PICVA procedure (16 possible codes). This was accomplished simply by adding another row to the relevant table (see table 021, BYPASS, HEART AND GREAT VESSELS) containing two approach values for the non-invasive approach, two device values for the possible types of stent, and a single qualifier defining the coronary vein as the source of the new blood flow, as in the example below.

0: MEDICAL AND SURGICAL
2: HEART AND GREAT VESSELS
1: BYPASS: Altering the route of passage of the contents of a tubular body part

Body Part Character 4	Approach Character 5	Device Character 6	Qualifier Character 7
0 Coronary Artery, One Site **1** Coronary Artery, Two Sites **2** Coronary Artery, Three Sites **3** Coronary Artery, Four or More Sites	**3** Percutaneous **4** Percutaneous Endoscopic	**4** Drug-eluting Intraluminal Device **D** Intraluminal Device	**D** Coronary Vein

Structural integrity

As shown in the previous example, ICD-10-PCS can be easily expanded without disrupting the structure of the system.

In the PICVA example, one new value—the qualifier value CORONARY VEIN—was added to the system to effect this change. All other values in the new row are existing values used to create unique, new codes.

This type of updating can be replicated anywhere in the system when a change is required. ICD-10-PCS allows unique new codes to be added to the system because values for the seven characters that make up a code can be combined as needed. The system can evolve as medical technology and clinical practice evolve, without disrupting the ICD-10-PCS structure.

ICD-10-PCS additional characteristics

ICD-10-PCS possesses several additional characteristics in response to government and industry recommendations. These characteristics are

- Standardized terminology within the coding system
- Standardized level of specificity
- No diagnostic information
- No explicit "not otherwise specified" (NOS) code options
- Limited use of "not elsewhere classified" (NEC) code options

Standardized terminology

Words commonly used in clinical vocabularies may have multiple meanings. This can cause confusion and result in inaccurate data. ICD-10-PCS is standardized and self-contained. Characters and values used in the system are defined in the system.

For example, the word "excision" is used to describe a wide variety of surgical procedures. In ICD-10-PCS, the word "excision" describes a single, precise surgical objective, defined as "Cutting out or off, without replacement, a portion of a body part."

For the complete list of root operations and their definitions, please refer to appendix A.

No eponyms or common procedure names

The terminology used in ICD-10-PCS is standardized to provide precise and stable definitions of all procedures performed. This standardized terminology is used in all ICD-10-PCS code descriptions.

As a result, ICD-10-PCS code descriptions do not include eponyms or common procedure names. Two examples from ICD-9-CM are 22.61, "Excision of lesion of maxillary sinus with Caldwell-Luc approach," and 51.10, "Endoscopic retrograde cholangiopancreatography [ERCP]." In ICD-10-PCS, physicians' names are not included in a code description, nor are procedures identified by common terms or acronyms such as appendectomy or CABG. Instead, such procedures are coded to the root operation that accurately identifies the objective of the procedure.

The procedures described in the preceding paragraph by ICD-9-CM codes are coded in ICD-10-PCS according to the root operation that matches the objective of the procedure. Here the ICD-10-PCS equivalents would be EXCISION and INSPECTION respectively. By relying on the universal objectives defined in

root operations rather than eponyms or specific procedure titles that change or become obsolete, ICD-10-PCS preserves the capacity to define past, present, and future procedures accurately using stable terminology in the form of characters and values.

No combination codes

With rare exceptions, ICD-10-PCS does not define multiple procedures with one code. This is to preserve standardized terminology and consistency across the system. Procedures that are typically performed together but are distinct procedures may be defined by a single "combination code" in ICD-9-CM. An example of a combination code in ICD-9-CM is 28.3, "Tonsillectomy with adenoidectomy."

A procedure that meets the reporting criteria for a separate procedure is coded separately in ICD-10-PCS. This allows the system to respond to changes in technology and medical practice with the maximum degree of stability and flexibility.

Standardized level of specificity

In ICD-9-CM, one code with its description and includes notes may encompass a vast number of procedure variations while another code defines a single specific procedure. ICD-10-PCS provides a standardized level of specificity for each code, so that each code represents a single procedure variation.

The ICD-9-CM code 39.31, "Suture of artery," does not specify the artery, whereas the code range 38.40–38.49, "Resection of artery with replacement," provides a fourth-digit subclassification for specifying the artery by anatomical region (thoracic, abdominal, etc.).

In ICD-10-PCS, the codes identifying all artery suture and artery replacement procedures possess the same degree of specificity. The ICD-9-CM examples above coded to their ICD-10-PCS equivalents would use the same artery body part values in all codes identifying the respective procedures.

In general, ICD-10-PCS code descriptions are much more specific than their ICD-9-CM counterparts, but sometimes an ICD-10-PCS code description is actually less specific. In most cases this is because the ICD-9-CM code contains diagnosis information. The standardized level of code specificity in ICD-10-PCS cannot always take account of these fluctuations in ICD-9-CM level of specificity. Instead, ICD-10-PCS provides a standardized level of specificity that can be predicted across the system.

Diagnosis information excluded

Another key feature of ICD-10-PCS is that information pertaining to a diagnosis is excluded from the code descriptions.

ICD-9-CM often contains information about the diagnosis in its procedure codes. Adding diagnosis information limits the flexibility and functionality of a procedure coding system. It has the effect of placing a code "off limits" because the diagnosis in the medical record does not match the diagnosis in the procedure code description. The code cannot be used even though the procedural part of the code description precisely matches the procedure performed.

Diagnosis information is not contained in any ICD-10-PCS code. The diagnosis codes, not the procedure codes, will specify the reason the procedure is performed.

NOS code options restricted

ICD-9-CM often designates codes as "unspecified" or "not otherwise specified" codes. By contrast, the standardized level of specificity designed into ICD-10-PCS restricts the use of broadly applicable NOS or unspecified code options in the system. A minimal level of specificity is required to construct a valid code.

In ICD-10-PCS, each character defines information about the procedure and all seven characters must contain a specific value obtained from a single row of a table to build a valid code. Even values such as the sixth-character value Z, NO DEVICE and the seventh-character value Z, NO QUALIFIER, provide important information about the procedure performed.

Limited NEC code options

ICD-9-CM often designates codes as "not elsewhere classified" or "other specified" versions of a procedure throughout the code set. NEC options are also provided in ICD-10-PCS, but only for specific, limited use.

In the MEDICAL AND SURGICAL section, two significant "not elsewhere classified" options are the root operation value Q, REPAIR and the device value Y, OTHER DEVICE.

The root operation REPAIR is a true NEC value. It is used only when the procedure performed is not one of the other root operations in the MEDICAL AND SURGICAL section.

OTHER DEVICE, on the other hand, is intended to be used to temporarily define new devices that do not have a specific value assigned, until one can be added to the system. No categories of medical or surgical devices are permanently classified to OTHER DEVICE.

ICD-10-PCS applications

ICD-10-PCS code structure results in qualities that optimize the performance of the system in electronic applications, and maximize the usefulness of the coded healthcare data. These qualities include

- Optimal search capability
- Consistent character definitions
- Consistent values wherever possible
- Code readability

Some have argued that, in the world of the electronic health record, the classification system as we know it is outmoded, that classification doesn't matter because a computer is able to find a code with equal ease whether the code has been generated at random or is part of a classification scheme. While this may be true from an IT perspective, assignment of randomly generated code numbers makes it impossible to aggregate data according to related ranges of codes. This is a critical capability for providers, payers, and researchers to make meaningful use of the data.

Optimal search capability

ICD-10-PCS is designed for maximum versatility in the ability to aggregate coded data. Values belonging to the same character as defined in a section or sections can be easily compared, since they occupy the same position in a code. This provides a high degree of flexibility and functionality for data mining.

For example, the body part value 6, STOMACH, retains its meaning for all codes in the MEDICAL AND SURGICAL section that define procedures performed on the stomach. Because the body part value is dependent for its meaning on the body system in which it is found, the body system value D, GASTROINTESTINAL, must also be included in the search.

A person wishing to examine data regarding all medical and surgical procedures performed on the stomach could do so simply by searching the code range below.

0D*6***

Consistent characters and values

In the previous example, the value 6 means STOMACH only when the body system value is D, GASTROINTESTINAL. In many other cases, values retain their meaning across a much broader range of codes. This provides consistency and readability.

For example, the value 0 in the fifth character defines the approach OPEN and the value 3 in the fifth character defines the approach PERCUTANEOUS across sections 0–4 and 7–9, where applicable. As a result, all open and percutaneous procedures represented by codes in sections 0-4 and 7-9 can be compared based on a single character—approach—by conducting a query on the code ranges below.

[0–4,7-9]***0** vs. [0–4,7-9]***3**

Searches can be progressively refined by adding specific values. For example, one could search on a body system value or range of body system values, plus a body part value or range of body part values, plus a root operation value or range of root operation values.

To refine the search above, one could add the body system value for GASTROINTESTINAL and the body part value for STOMACH to limit the search to open vs. percutaneous procedures performed on the stomach:

0D*60** vs. 0D*63**

To refine the search even further and limit the comparison to open and percutaneous biopsies of the stomach, one could add the third-character value for the root operation EXCISION and the seventh-character qualifier DIAGNOSTIC, as below.

0DB60*X vs. 0DB63*X

Stability of characters and values across vast ranges of codes provides the maximum degree of functionality and flexibility for the collection and analysis of data. The search capabilities demonstrated above function equally well for all uses of healthcare data: investigating quality of care, resource utilization, risk management, conducting research, determining reimbursement, and many others.

Because the character definition is consistent, and only the individual values assigned to that character differ as needed, meaningful comparisons of data over time can be conducted across a virtually infinite range of procedures.

Code readability

ICD-10-PCS resembles a language in the sense that it is made up of semi-independent values combined by following the rules of the system, much the way a sentence is formed by combining words and following the rules of grammar and syntax. As with words in their context, the meaning of any single value is a combination of its position in the code and any preceding values on which it may be dependent.

For example, in the MEDICAL AND SURGICAL section, a body part value is always dependent for its meaning on the body system in which it is found. It cannot stand alone as a letter or a number and be meaningful. A fourth-character value of 6 by itself can mean 31 different things, but a fourth-character value of 6 in the context of a second-character value of D means one thing only—STOMACH.

On the other hand, a root operation value is not dependent on any character but the section for its meaning, and identifies a single consistent objective wherever the third character is defined as root operation. For example, the third-character value T identifies the root operation RESECTION in both the MEDICAL AND SURGICAL and OBSTETRICS sections.

The approach value also identifies a single consistent approach wherever the fifth character is defined as approach. The fifth-character value 3 identifies the approach PERCUTANEOUS in the MEDICAL AND SURGICAL section, the OBSTETRICS section, the ADMINISTRATION section, and others.

The sixth-character device value or seventh-character qualifier value identifies the same device or qualifier in the context of the body system where it is found. Although there may be consistencies across body systems or within whole sections, this is not true in all cases.

Values in their designated context have a precise meaning, like words in a language. As seen in the code example which began this chapter, 0LB50ZZ represents the text description of the specific procedure “Excision of right lower arm and wrist tendon, open approach.” Since ICD-10-PCS values in context have a single, precise meaning, a complete, valid code can be read and understood without its accompanying text description, much like one would read a sentence.

Chapter 2

Procedures in the Medical and Surgical section

Contents

Chapter 2

Procedures in the Medical and Surgical section

THIS CHAPTER PROVIDES reference material for the root operations in the MEDICAL AND SURGICAL section of ICD-10-PCS. The vast majority of codes reported in an inpatient setting are found in this section.

First, a table presents all root operations in the MEDICAL AND SURGICAL section, organized into logical groups. Following the table are definitions of each root operation, presented in the order shown in the table. Material on each root operation includes

- Definition, explanation, and examples of the root operation
- Coding notes as needed
- A representative procedure excerpt for each root operation, followed by the correct code for the procedure. The code is provided in table excerpt format, along with explanatory notes as needed.
- Coding exercises that provide example procedures and their corresponding ICD-10-PCS codes, with explanatory notes as needed

Root operation groups

The MEDICAL AND SURGICAL root operations are divided into groups that share similar attributes. These groups, and the root operations in each, are listed in the table below. Subsequent pages of this chapter provide a definition of each root operation in a group.

Root operation	Objective of procedure	Site of procedure	Example
Root operations that take out some/all of a body part			
Excision	Cutting out/off without replacement	Some of a body part	Breast lumpectomy
Resection	Cutting out/off without replacement	All of a body part	Total mastectomy
Detachment	Cutting out/off without replacement	Extremity only, any level	Amputation above elbow
Destruction	Eradicating without replacement	Some/all of a body part	Fulguration of endometrium
Extraction	Pulling out or off without replacement	Some/all of a body part	Suction D&C
Root operations that take out solids/fluids/gases from a body part			
Drainage	Taking/letting out fluids/gases	Within a body part	Incision and drainage
Extirpation	Taking/cutting out solid matter	Within a body part	Thrombectomy
Fragmentation	Breaking solid matter into pieces	Within a body part	Lithotripsy
Root operations involving cutting or separation only			
Division	Cutting into/separating a body part	Within a body part	Neurotomy
Release	Freeing a body part from constraint	Around a body part	Adhesiolysis
Root operations that put in/put back or move some/all of a body part			
Transplantation	Putting in a living body part from a person/animal	Some/all of a body part	Kidney transplant
Reattachment	Putting back a detached body part	Some/all of a body part	Reattach severed finger
Transfer	Moving, to function for a similar body part	Some/all of a body part	Skin transfer flap
Reposition	Moving, to normal or other suitable location	Some/all of a body part	Move undescended testicle

Root operation	Objective of procedure	Site of procedure	Example
Root operations that alter the diameter/route of a tubular body part			
Restriction	Partially closing orifice/lumen	Tubular body part	Gastroesophageal fundoplication
Occlusion	Completely closing orifice/lumen	Tubular body part	Fallopian tube ligation
Dilation	Expanding orifice/lumen	Tubular body part	Percutaneous transluminal coronary angioplasty (PTCA)
Bypass	Altering route of passage	Tubular body part	Coronary artery bypass graft (CABG)
Root operations that always involve a device			
Insertion	Putting in non-biological device	In/on a body part	Central line insertion
Replacement	Putting in device that replaces a body part	Some/all of a body part	Total hip replacement
Change	Exchanging device w/out cutting/ puncturing	In/on a body part	Drainage tube change
Removal	Taking out device	In/on a body part	Central line removal
Revision	Correcting a malfunctioning/displaced device	In/on a body part	Revision of pacemaker insertion
Root operations involving examination only			
Inspection	Visual/manual exploration	Some/all of a body part	Diagnostic cystoscopy
Map	Locating electrical impulses/functional areas	Brain/cardiac conduction mechanism	Cardiac electrophysiological study
Root operations that include other repairs			
Repair	Restoring body part to its normal structure	Some/all of a body part	Suture laceration
Control	Stopping/attempting to stop postprocedural bleed	Anatomical region	Post-prostatectomy bleeding
Root operations that include other objectives			
Fusion	Rendering joint immobile	Joint	Spinal fusion
Alteration	Modifying body part for cosmetic purposes without affecting function	Some/all of a body part	Face lift
Creation	Making new structure for sex change operation	Perineum	Artificial vagina/penis

Root operations that take out some or all of a body part

Five root operations represent procedures for taking out or otherwise eradicating some or all of a body part. These root operations are listed in the table below and described in detail in the pages that follow.

Root operation	Objective of procedure	Site of procedure	Example
Excision	Cutting out/off without replacement	Some of a body part	Breast lumpectomy
Resection	Cutting out/off without replacement	All of a body part	Total mastectomy
Detachment	Cutting out/off without replacement	Extremity only, any level	Amputation above elbow
Destruction	Eradicating without replacement	Some/all of a body part	Fulguration of endometrium
Extraction	Pulling out or off without replacement	Some/all of a body part	Suction D&C

Excision—Root operation B

Excision **B**	Definition	Cutting out or off, without replacement, a portion of a body part
	Explanation	The qualifier DIAGNOSTIC is used to identify excision procedures that are biopsies.
	Examples	Partial nephrectomy, liver biopsy

EXCISION is coded when a portion of a body part is cut out or off using a sharp instrument. All root operations that employ cutting to accomplish the objective allow the use of any sharp instrument, including but not limited to

- Scalpel
- Wire
- Scissors
- Bone saw
- Electrocautery tip

Coding note: Bone marrow and endometrial biopsies

Bone marrow and endometrial biopsies are not coded to the root operation EXCISION. They are coded to EXTRACTION, with the qualifier DIAGNOSTIC *(see page 2.18)*.

Example: Excision of sebaceous cyst (right buttock)

...the patient was brought in the room and placed on the table in jack knife, prone position and a spinal block was used for anesthesia. She was prepped and draped in the usual sterile manner. A digital rectal examination was performed and we did not notice any communication between mass and rectum. The mass was palpated and a radial transcerse incision was made over the mass.

Using blunt and sharp dissection the top of the mass was identified and shown to be a sebaceous cyst. The sebaceous cyst was freed from the surrounding tissue using blunt dissection. The entire cyst was removed. Hemostasis was obtained and the skin was closed using 5-0 Dexon interrupted sutures...

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	SKIN	EXCISION	BUTTOCK	EXTERNAL	NO DEVICE	NO QUALIFIER
0	H	B	8	X	Z	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Excision of malignant melanoma from skin of right ear	0HB2XZZ
Laparoscopy with excision of endometrial implant from left ovary	0UB14ZZ
Percutaneous needle core biopsy of right kidney	0TB03ZX
EGD with gastric biopsy	0DB68ZX
Open endarterectomy of left common carotid artery	03BJ0ZZ
Excision of basal cell carcinoma of lower lip	0CB1XZZ
Open excision of tail of pancreas	0FBG0ZZ
Percutaneous biopsy of right gastrocnemius muscle	0KBS3ZX
Sigmoidoscopy with sigmoid polypectomy	0DBN8ZZ
Open excision of lesion from right Achilles tendon	0LBN0ZZ

Resection—Root operation T

Resection T	Definition	Cutting out or off, without replacement, all of a body part
	Explanation	None
	Examples	Total nephrectomy, total lobectomy of lung

RESECTION is similar to EXCISION *(see page 2.9)*, except RESECTION includes all of a body part, or any subdivision of a body part that has its own body part value in ICD-10-PCS, while EXCISION includes only a portion of a body part.

Coding note: Lymph nodes

When an entire lymph node chain is cut out, the appropriate root operation is RESECTION. When a lymph node(s) is cut out, the root operation is EXCISION.

Example: Right hemicolectomy

...a vertical midline incision was used to enter the abdominal cavity. There was noted to be a mass in the region of the cecum. The mass was easily mobilized and it was felt that a right hemicolectomy was indicated. The right colon was mobilized by incising the white line of Toldt and reflecting colon medially. The loose tissue was taken down bluntly with a hand and adhesions were taken down sharply.

The colon was mobilized to the left end up to the level of the hepatic flexure. The mesentery was incised sharply with a knife and down to the level of the root of the mesentery. The mesentery of the right colon and the distal ileum was then taken down between Kellys and tied with #2-0 silk, down to the level of the takeoff vessels.

After removing the right colon specimen off the field, a primary anastomosis was planned...

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	GASTROINTEST SYSTEM	RESECTION	LARGE INTESTINE, RT	OPEN	NO DEVICE	NO QUALIFIER
0	D	T	F	0	Z	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Open resection of cecum	0DTH0ZZ
Total excision of pituitary gland, open	0GT00ZZ
Explantation of left failed kidney, open	0TT10ZZ
Open left axillary total lymphadenectomy	07T60ZZ RESECTION is coded for cutting out a chain of lymph nodes.
Laparoscopic-assisted total vaginal hysterectomy	0UT9FZZ
Right total mastectomy, open	0HTT0ZZ
Open resection of papillary muscle	02TD0ZZ The papillary muscle refers to the heart and is found in the HEART AND GREAT VESSELS body system.
Radical retropubic prostatectomy, open	0VT00ZZ
Laparoscopic cholecystectomy	0FT44ZZ
Endoscopic bilateral total maxillary sinusectomy	09TQ4ZZ, 09TR4ZZ

Detachment—Root operation 6

Detachment **6**	Definition	Cutting off all or a portion of an extremity
	Explanation	Cutting off all or part of the upper or lower extremities
	Examples	Below knee amputation, disarticulation of shoulder

DETACHMENT represents a narrow range of procedures; it is used exclusively for amputation procedures. DETACHMENT procedure codes are found only in body systems X and Y, because amputations are performed on extremities, across overlapping body layers.

Detachment qualifiers

The specific qualifiers used for DETACHMENT are dependent on the body part value.

Body Part	Qualifier Value	Definition
Upper arm and upper leg	0	High: Amputation at the proximal portion of the shaft of the humerus or femur
	1	Mid: Amputation at the middle portion of the shaft of the humerus or femur
	2	Low: Amputation at the distal portion of the shaft of the humerus or femur
Hand and foot	0	Complete
	4	Complete 1st Ray
	5	Complete 2nd Ray
	6	Complete 3rd Ray
	7	Complete 4th Ray
	8	Complete 5th Ray
	9	Partial 1st Ray
	B	Partial 2nd Ray
	C	Partial 3rd Ray
	D	Partial 4th Ray
	F	Partial 5th Ray
Complete: Amputation through the carpometacarpal joint of the hand, or through the tarsal-metatarsal joint of the foot Partial: Amputation anywhere along the shaft or head of the metacarpal bone of the hand, or of the metatarsal bone of the foot		

Body Part	Qualifier Value	Definition
Thumb, finger, or toe	0	Complete: Amputation at the metacarpophalangeal/metatarsal-phalangeal joint
	1	High: Amputation anywhere along the proximal phalanx
	2	Mid: Amputation through the proximal interphalangeal joint or anywhere along the middle phalanx
	3	Low: Amputation through the distal interphalangeal joint or anywhere along the distal phalanx

Example: Fifth toe ray amputation

…a semi-elliptical incision was made around the base of the left toe with a #15 blade without difficulty. Careful sharp dissection was made down to the bone, and care was taken to avoid the fourth toe's neurovascular bundle. There was obvious osteomyelitis of the proximal phalanx of the fifth toe and the toe itself was disarticulated, the proximal head of the fifth lower extremity metatarsal, without difficulty. Specimens were sent to pathology for culture and examination.

Next, both sharp and blunt dissection were used to adequately expose the head of the fifth metatarsal, and this was done without difficulty. A small rongeur was then used to remove the head of the fifth metatarsal, and soft spongy bone was felt beneath this area.

Examination of the patient's x-rays revealed that there was an area of cortical lucency at the base of the head of the fifth metatarsal, and the decision was made to extend the amputation to the midshaft of the fifth metatarsal, and this was done without difficulty using a rongeur. The wound was then flushed with normal saline, and bleeding viable tissue was observed throughout the wound. There was adequate flap coverage of the remaining fifth metatarsal…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	LOWER EXTREMITIES	DETACHMENT	FOOT, LEFT	OPEN	NO DEVICE	PARTIAL 5TH RAY
0	Y	6	N	0	Z	F

Coding note: Qualifier value

The surgeon uses the word "toe" to describe the amputation, but the operative report says he extends the amputation to the midshaft of the fifth metatarsal, which is the foot, so the qualifier is PARTIAL 5TH RAY.

Coding exercises

Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Amputation at right elbow level	0X6B0ZZ
Right below-knee amputation, proximal tibia/fibula	0Y6H0Z1 The qualifier HIGH here means the portion of the tib/fib closest to the knee.
Fifth ray carpometacarpal joint amputation, left hand	0X6K0Z8 A COMPLETE ray amputation is through the carpometacarpal joint.
Right leg and hip amputation through ischium	0Y620ZZ The HINDQUARTER body part includes amputation along any part of the hip bone.
DIP joint amputation of right thumb	0X6L0Z3 The qualifier LOW here means through the distal interphalangeal joint.
Right wrist joint amputation	0X6J0Z0 Amputation at the wrist joint is actually complete amputation of the hand.
Trans-metatarsal amputation of foot at left big toe	0Y6N0Z9 A PARTIAL amputation is through the shaft of the metatarsal bone.
Mid-shaft amputation, right humerus	0X680Z2
Left fourth toe amputation, mid-proximal phalanx	0Y6W0Z1 The qualifier HIGH here means anywhere along the proximal phalanx.
Right above-knee amputation, distal femur	0Y6C0Z3

Destruction—Root operation 5

Destruction **5**	Definition	Eradicating all or a portion of a body part
	Explanation	Used for the actual physical destruction of all or a portion of a body part by the direct use of energy, force or a destructive agent. None of the body part is taken out.
	Examples	Fulguration of rectal polyp, cautery of skin lesion

DESTRUCTION "takes out" a body part in the sense that it obliterates the body part so it is no longer there. This root operation defines a broad range of common procedures, since it can be used anywhere in the body to treat a variety of conditions, including:

- Skin and genital warts
- Nasal and colon polyps
- Esophageal varices
- Endometrial implants
- Nerve lesions

Example: Radiofrequency coagulation of the trigeminal nerve

…The right cheek was infiltrated dermally with Xylocaine, and a small nick in the skin 2.5 cm lateral to the corner of the mouth was performed with an 18 gauge needle. The radiofrequency needle with 2 mm exposed tip was then introduced using the known anatomical landmarks and under lateral fluoroscopy guidance into the foramen ovale.

Confirmation of the placement of the needle was done by the patient grimacing to pain and by the lateral x-ray. The first treatment, 90 seconds in length, was administered with the tip of the needle 3 mm below the clival line at a temperature of 75 degrees C.

The needle was then advanced further to the mid clival line and another treatment of similar strength and duration was also administered. Finally the third and last treatment was administered with the tip of the needle about 3 cm above the line. The needle was removed. The patient tolerated the procedure well…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	CENTRAL NERVOUS	DESTRUCTION	TRIGEMINAL NERVE	PERCUTANEOUS	NO DEVICE	NON-STEREOTACTIC
0	0	5	K	3	Z	U

Coding note: Approach value

The small nick in the skin does not constitute an open approach. It was made to accommodate the radiofrequency needle. The needle was advanced all the way to the operative site, so the correct approach value is PERCUTANEOUS.

Coding exercises

Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	**Code**
Cryotherapy of wart on left hand	0H5GXZZ
Percutaneous radiofrequency ablation of right vocal cord lesion	0C5T3ZZ
Left heart catheterization with laser destruction of arrhythmogenic focus, A-V node	02583ZZ
Cautery of nosebleed	095KXZZ
Transurethral endoscopic laser ablation of prostate	0V508ZZ
Cautery of oozing varicose vein, left calf	065Y3ZZ The approach is coded PERCUTANEOUS because that is the normal route to a vein. No mention is made of approach, because likely the skin has eroded at that spot.
Laparoscopy with destruction of endometriosis, bilateral ovaries	0U524ZZ
Laser coagulation of right retinal vessel hemorrhage, percutaneous	085G3ZZ The RETINAL VESSEL body part values are in the EYE body system.
Talc injection pleurodesis, left side	0B5P3ZZ See section 3, ADMINISTRATION, for applicable injection code.
Sclerotherapy of brachial plexus lesion, alcohol injection	01533ZZ See section 3, ADMINISTRATION, for applicable injection code.

Extraction—Root operation D

Extraction **D**	Definition	Pulling or stripping out or off all or a portion of a body part
	Explanation	The body part is pulled or stripped from its location by the use of force (e.g., manual, suction). The qualifier DIAGNOSTIC is used to identify extraction procedures that are biopsies.
	Examples	Dilation and curettage, vein stripping

EXTRACTION is coded when the method employed to take out the body part is pulling or stripping. Minor cutting, such as that used in vein stripping procedures, is included in EXTRACTION if the objective of the procedure is nevertheless met by pulling or stripping. As with all applicable ICD-10-PCS codes, cutting used to reach the procedure site is specified in the approach value.

Example: Suction dilation & curettage

...after induction of general anesthesia the patient was placed in the dorsal lithotomy position and appropriately prepped and draped. Successive dilators were placed until the cervix was adequate for insertion of the suction cannula.

Suction cannula was placed and suction curettage performed with no residual endometrial lining. The tissue was sent to pathology to rule out endometrial cancer...

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	FEMALE REPRODUCTIVE	EXTRACTION	ENDOMETRIUM	VIA NAT./ARTIF. OPENING	NO DEVICE	DIAGNOSTIC
0	U	D	B	7	Z	X

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Forceps total mouth extraction, upper and lower teeth	0CDWXZ2, 0CDXXZ2
Removal of left thumbnail	0HDQXZZ No separate body part value is given for thumbnail, so this is coded to FINGERNAIL.
Extraction of right intraocular lens without replacement, open	08DJ0ZZ
Laparoscopy with needle aspiration of ova for in-vitro fertilization	0UDN4ZZ
Non-excisional debridement of skin ulcer, right foot	0HDMXZZ
Open stripping of abdominal fascia, right side	0JD80ZZ
Hysteroscopy with D&C, diagnostic	0UDB8ZX
Liposuction for medical purposes, left upper arm	0JDF3ZZ The PERCUTANEOUS approach is inherent in the liposuction technique.
Removal of tattered right ear drum fragments with tweezers	09D77ZZ
Microincisional phlebectomy of spider veins, right lower leg	06DY3ZZ

Root operations that take out solids/fluids/gases from a body part

The table below lists the root operations that take out solids, fluids, or gases from a body part. Each is described in detail in the pages that follow.

Root operation	Objective of procedure	Site of procedure	Example
Drainage	Taking/letting out fluids/gases	Within a body part	Incision and drainage
Extirpation	Taking/cutting out solid matter	Within a body part	Thrombectomy
Fragmentation	Breaking solid matter into pieces	Within a body part	Lithotripsy

Drainage—Root operation 9

Drainage **9**	Definition	Taking or letting out fluids and/or gases from a body part
	Explanation	The qualifier DIAGNOSTIC is used to identify drainage procedures that are biopsies.
	Examples	Thoracentesis, incision and drainage

The root operation DRAINAGE is coded for both diagnostic and therapeutic drainage procedures. When drainage is accomplished by putting in a catheter, the device value DRAINAGE DEVICE is coded in the sixth character.

Example: Urinary nephrostomy catheter placement

…using fluoroscopy and sterile technique a needle was placed through the skin into a markedly dilated right renal collecting system. Guidewire was inserted and an 8 French locking catheter was positioned with the dilated right renal pelvis. It was attached to a bag and immediate drainage of urine was evident…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	URINARY	DRAINAGE	KIDNEY PELVIS, RIGHT	PERCUTANEOUS	DRAINAGE DEVICE	NO QUALIFIER
0	T	9	3	3	0	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	**Code**
Routine Foley catheter placement	0T9B70Z
Incision and drainage of external perianal abscess	0D9QXZZ
Percutaneous drainage of ascites	0W9G3ZZ This is drainage of the cavity and not the peritoneal membrane itself.
Laparoscopy with left ovarian cystotomy and drainage	0U914ZZ
Laparotomy with hepatotomy and drain placement for liver abscess, caudate lobe	0F9300Z
Right knee arthrotomy with drain placement	0S9C00Z

Procedure	Code
Thoracentesis of left pleural effusion	0W9B3ZZ This is drainage of the pleural cavity.
Phlebotomy of left median cubital vein for polycythemia vera	059F3ZZ The median cubital vein is a branch of the cephalic vein.
Percutaneous chest tube placement for right pneumothorax	0W9930Z
Endoscopic drainage of left ethmoid sinus	099V4ZZ

Extirpation—Root operation C

Extirpation C	Definition	Taking or cutting out solid matter from a body part
	Explanation	The solid matter may be an abnormal byproduct of a biological function or a foreign body. The solid matter is imbedded in a body part, or is in the lumen of a tubular body part. The solid matter may or may not have been previously broken into pieces. No appreciable amount of the body part is taken out.
	Examples	Thrombectomy, choledocholithotomy

EXTIRPATION represents a range of procedures where the body part itself is not the focus of the procedure. Instead, the objective is to remove solid material such as a foreign body, thrombus, or calculus from the body part.

Example: De-clotting of AV dialysis graft

…the right upper extremity was properly prepped and draped. Local anesthesia was used to explore the graft. A transverse incision in the previous site of the incision, 1 cm below the elbow crease, was performed. The venous limb of the graft was dissected free up to the venous anastomosis.

A small incision on the graft was performed. Then a #3 Fogarty catheter was passed on the venous side. The cephalic vein was found obstructed, not on the anastomotic site, but about 4 cm proximal to the anastomosis. A large number of clots were extracted. After the embolectomy a good back flow from the venous side was obtained.

Then the embolectomy was performed throughout the limb on the arterial side. More clots were extracted and a good arterial flow was obtained.

The procedure was concluded, closing the incision on the graft with 6-0 prolene…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	UPPER VEINS	EXTIRPATION	CEPHALIC VEIN, RIGHT	OPEN	NO DEVICE	NO QUALIFIER
0	5	C	D	0	Z	Z

Coding note: body part value

Do not code separate body parts based on the words “venous side” and “arterial side” in the procedure report. They refer to the two ends of the cephalic vein used to create the fistula.

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Removal of foreign body, right cornea	08C8XZZ
Percutaneous mechanical thrombectomy, left brachial artery	03C83ZZ
Esophagogastroscopy with removal of bezoar from stomach	0DC68ZZ
Foreign body removal, skin of left thumb	0HCGXZZ There is no specific value for thumb skin, so the procedure is coded to the hand.
Transurethral cystoscopy with removal of bladder stone	0TCB8ZZ
Forceps removal of foreign body in right nostril	09CKXZZ Nostril is coded to the NOSE body part value.
Laparoscopy with excision of old suture from mesentery	0DCV4ZZ
Incision and removal of right lacrimal duct stone	08CX0ZZ
Non-incisional removal of intraluminal foreign body from vagina	0UCG7ZZ The approach EXTERNAL is also a possibility. It is assumed here that since the patient went to the doctor to have the object removed, that it was not in the vaginal orifice.
Open excision of retained sliver, subcutaneous tissue of left foot	0JCR0ZZ

Fragmentation—Root operation F

Fragmentation F	Definition	Breaking solid matter in a body part into pieces
	Explanation	The solid matter may be an abnormal byproduct of a biological function or a foreign body. Physical force (e.g., manual, ultrasonic) applied directly or indirectly through intervening body parts is used to break the solid matter into pieces. The pieces of solid matter are not taken out, but are eliminated or absorbed through normal biological functions.
	Examples	Extracorporeal shockwave lithotripsy, transurethral lithotripsy

FRAGMENTATION is coded for procedures to break up, but not remove, solid material such as a calculus or foreign body. This root operation includes both direct and extracorporeal FRAGMENTATION procedures.

Example: ESWL of left kidney

With the patient having been identified, under satisfactory IV sedation and using the MFL 1000 for extracorporeal shock wave lithotripsy, 1000 shocks were delivered to the stone in the lower pole of the left kidney, and 800 shocks were delivered to the stone in the upper pole of the same, with change in shape and density of the stone indicating fragmentation. The patient tolerated the procedure well...

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	URINARY	FRAGMENT.	KIDNEY PELVIS, LEFT	EXTERNAL	NO DEVICE	NO QUALIFIER
0	T	F	4	X	Z	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Extracorporeal shock-wave lithotripsy (ESWL), bilateral ureters	0TF6XZZ, 0TF7XZZ The bilateral ureter body part value is not available for the root operation FRAGMENTATION, so the procedures are coded separately.
Endoscopic Retrograde Cholangiopancreatography (ERCP) with lithotripsy of common bile duct stone	0FF98ZZ ERCP is performed through the mouth to the biliary system via the duodenum, so the approach value is VIA NATURAL OR ARTIFICIAL OPENING ENDOSCOPIC.
Thoracotomy with crushing of pericardial calcifications	02FN0ZZ
Transurethral cystoscopy with fragmentation of bladder calculus	0TFB8ZZ
Hysteroscopy with intraluminal lithotripsy of left fallopian tube calcification	0UF68ZZ

Root operations involving cutting or separation only

The table below lists the root operations that cut or separate a body part. Each is described in detail in the pages that follow.

Root operation	Objective of procedure	Site of procedure	Example
Division	Cutting into/separating a body part	Within a body part	Neurotomy
Release	Freeing a body part from constraint	Around a body part	Adhesiolysis

Division—Root operation 8

Division		
8	Definition	Separating, without taking out, a body part
	Explanation	All or a portion of the body part is separated into two or more portions.
	Examples	Spinal cordotomy, osteotomy

The root operation DIVISION is coded when the objective of the procedure is to cut into, transect, or otherwise separate all or a portion of a body part. When the objective is to cut or separate the area around a body part, the attachments to a body part, or between subdivisions of a body part that are causing abnormal constraint, then the root operation RELEASE is coded instead.

Example: Anal sphincterotomy

Manual examination of the rectum and anus was done, and examination showed that the patient has an anterior anal fissure. For that reason, lateral sphincterotomy was done at the 3 o'clock position using the closed approach, dividing only the internal sphincter using the #11 blade...

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	GASTROINTEST. SYSTEM	DIVISION	ANAL SPHINCTER	PERCUTANEOUS	NO DEVICE	NO QUALIFIER
0	D	8	R	3	Z	Z

Coding note: Approach value

This is coded to the PERCUTANEOUS approach, because the procedure report says that the sphincterotomy was done using the closed approach, dividing only the internal sphincter.

Coding exercises

Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Division of right foot tendon, percutaneous	0L8V3ZZ
Left heart catheterization with division of bundle of HIS	02883ZZ
Open osteotomy of capitate, left hand	0P8N0ZZ The capitate is one of the carpal bones of the hand.
EGD with sphincterotomy of pylorus	0D878ZZ
Sacral rhizotomy for pain control, percutaneous	018R3ZZ

Release—Root operation N

Release	Definition	Freeing a body part
N	Explanation	Eliminating an abnormal constraint of a body part by cutting or by use of force. Some of the restraining tissue may be taken out but none of the body part is taken out.
	Examples	Adhesiolysis, carpal tunnel release

The objective of procedures represented in the root operation RELEASE is to free a body part from abnormal constraint. RELEASE procedures are coded to the body part being freed. The procedure can be performed on the area around a body part, on the attachments to a body part, or between subdivisions of a body part that are causing the abnormal constraint.

Example: Release of median nerve

…the right arm was scrubbed with Betadine and prepped and draped in the usual sterile fashion. A well-padded tourniquet was fixed to the right proximal arm but not inflated until after draping. After draping, the right arm was exsanguinated with a combination of elevation and an Esmarch bandage, placing a sponge in the palm. The tourniquet was inflated to 250.

A transverse incision was made at the level of the proximal wrist crease between the palmaris longus and the flexor carpi ulnaris sharply through the skin with a knife, and subcutaneous tissue was dissected by blunt spreading.

The volar fascia was identified and a transverse incision was made sharply with a knife. The flat synovial retractor was pushed through the underneath of the transverse carpal ligament, removing synovium from beneath the ligament.

The entire carpal tunnel and the fat pad distally was visualized. The blade was inserted into the carpal tunnel, was elevated at the distal edge of the transverse carpal ligament, and was pulled proximally, spreading and cutting through the transverse carpal ligament.

It was visualized that the entire median nerve had been released, and that configuration of the end of the transverse carpal ligament was a rectangle, denoting that both the deep and the superficial fibers had been cut.

The wound was then copiously irrigated with saline…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	PERIPHERAL NERVOUS	RELEASE	MEDIAN NERVE	OPEN	NO DEVICE	NO QUALIFIER
0	1	N	5	0	Z	Z

Coding note: body part value

The body part value assigned is the structure released and not the structure cut to obtain the release, where the two differ. The transverse carpal ligament was cut to release the median nerve and not for its own sake.

Coding exercises

Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	**Code**
Laparotomy with exploration and adhesiolysis of right ureter	0TN60ZZ
Incision of scar contracture, right elbow	0HNDXZZ The skin of the elbow region is coded to the lower arm.
Frenulotomy for treatment of tongue-tie syndrome	0CN7XZZ The frenulum is coded to the body part value TONGUE.
Right shoulder arthroscopy with coracoacromial ligament release	0MN14ZZ
Mitral valvulotomy for release of fused leaflets, open approach	02NG0ZZ
Percutaneous left Achilles tendon release	0LNP3ZZ
Laparoscopy with lysis of peritoneal adhesions	0DNW4ZZ
Manual rupture of right shoulder joint adhesions under general anesthesia	0RNJXZZ
Open posterior tarsal tunnel release	01NG0ZZ The nerve released in the posterior tarsal tunnel is the tibial nerve.
Laparoscopy with freeing of left ovary and fallopian tube	0UN14ZZ, 0UN64ZZ

Root operations that put in/put back or move some/all of a body part

The table below lists the root operations that put in, put back, or move some or all of a body part. Each is described in detail in the pages that follow.

Root operation	Objective of procedure	Site of procedure	Example
Transplantation	Putting in a living body part from a person/animal	Some/all of a body part	Kidney transplant
Reattachment	Putting back a detached body part	Some/all of a body part	Reattach finger
Transfer	Moving a body part to function for a similar body part	Some/all of a body part	Skin transfer flap
Reposition	Moving a body part to normal or other suitable location	Some/all of a body part	Move undescended testicle

Transplantation—Root operation Y

Transplantation Y	Definition	Putting in or on all or a portion of a living body part taken from another individual or animal to physically take the place and/or function of all or a portion of a similar body part
	Explanation	The native body part may or may not be taken out, and the transplanted body part may take over all or a portion of its function.
	Examples	Kidney transplant, heart transplant

A small number of procedures is represented in the root operation TRANSPLANTATION and includes only the body parts currently being transplanted. Qualifier values specify the genetic compatibility of the body part transplanted.

Example: Right kidney transplant (syngeneic)

…the abdomen was sterilely prepped and draped in the usual fashion and incision in the right flank, the Gibson technique, performed. In doing so the right pelvis was entered and Bookwalter retractor appropriately positioned to provide exposure of the external iliac artery and vein.

The artery was placed on vessel loop retraction. We then proceeded with the kidney transplant, and the kidney which was trimmed on the back table was brought into the field. The right renal vein was cut short without reconstruction of the inferior vena cava, and single ureter was identified. Kidney was brought up in an ice blanket and an end-to-end anastomosis was performed in the usual fashion with 5-0 Prolene between donor renal vein and external iliac vein on the right.

The long renal artery was brought into view, and end-to-side anastomosis performed in the usual fashion with 5-0 Prolene.

We then turned our attention to performing the neoureterocystostomy after appropriate positioning of the graft and evaluation of the vessels.

After the anastomosis was completed there was no evidence of leak. A Blake drain was brought out through a stab incision and the tip of the drain placed near the neoureterocystostomy and both wounds were closed. The infrainguinal wound was closed with running 3-0 Vicryl and the kidney transplant wound was closed with #1 PDS…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	URINARY	TRANSPLANT.	KIDNEY, RIGHT	OPEN	NO DEVICE	SYNGENEIC
0	T	Y	0	0	Z	1

Coding note: bone marrow transplant

Bone marrow transplant procedures are coded in section 3 ADMINISTRATION to the root operation 2 TRANSFUSION.

Coding exercises

Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	**Code**
Left cornea transplant using organ donor matched cornea	08Y9XZ0
Orthotopic heart transplant using porcine heart	02YA0Z2 The donor heart comes from an animal (pig), so the qualifier value is ZOOPLASTIC.
Right lung transplant, open, using organ donor match	0BYK0Z0
Transplant of large intestine, organ donor match	0DYE0Z0
Left kidney/pancreas organ bank transplant	0FYG0Z0, 0TY10Z0

Reattachment—Root operation M

Reattachment M	Definition	Putting back in or on all or a portion of a separated body part to its normal location or other suitable location
	Explanation	Vascular circulation and nervous pathways may or may not be reestablished.
	Examples	Reattachment of hand, reattachment of avulsed kidney

Procedures coded to REATTACHMENT include putting back a body part that has been cut off or avulsed. Nerves and blood vessels may or may not be reconnected in a REATTACHMENT procedure.

Example: Complex reattachment, left index finger

A sharp debridement of grossly contaminated tissue was carried out. It was noted that the extensor mechanism distal to the PIP joint had been lost. There were circumferential lacerations about the finger, save for a cutaneous bridge and ulnar vascular pedicle present at the PIP level.

Nonviable bony fragments were removed and then the distal portion of the PIP joint was reshaped with removal of cartilage using double- rongeurs. It was noted that the fractures through the proximal phalanx extended longintudinally. Stabilization was then carried out, with 0.062 K-wire brought down through the distal finger, out through the fingertip, and then back into the proximal phalanx centrally.

The A2 pulley was restored, using figure of eight interrupted sutures of 4 and 5-0 Vicryl, reapproximating the flexor tendons. The extensor mechanisms and tendons were repaired using 4 and 5-0 Vicryl, and anchored to the periosteum on the middle phalanx. A digital nerve was then carried out on the radial aspect of the digit at the PIP joint level using interrupted sutures of 9-0 Ethilon beneath the microscope.

At this point, the skin was trimmed, removing skin margins, and then multiple lacerations were closed with 5-0 Prolene…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	UPPER EXTREMITIES	REATTACHMENT	INDEX FINGER, LEFT	OPEN	NO DEVICE	NO QUALIFIER
0	X	M	P	0	Z	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Replantation of avulsed scalp	0HM0XZZ
Reattachment of severed right ear	09M0XZZ
Reattachment of traumatic left gastrocnemius avulsion, open	0KMT0ZZ
Closed replantation of three avulsed teeth, lower jaw	0CMXXZ1
Reattachment of severed left hand	0XMK0ZZ

Transfer—Root operation X

Transfer X	Definition	Moving, without taking out, all or a portion of a body part to another location to take over the function of all or a portion of a body part
	Explanation	The body part transferred remains connected to its vascular and nervous supply.
	Examples	Tendon transfer, skin pedicle flap transfer

The root operation TRANSFER is used to represent procedures where a body part is moved to another location without disrupting its vascular and nervous supply. In select musculoskeletal body systems, a qualifier is used to specify procedures involving composite tissue transfers, such as musculocutaneous flap transfer.

Example: Fasciocutaneous flap from scalp to cheek

…development of the plane of dissection was completed into the superficial temporal fascia. Development of subgaleal dissection posteriorly was then completed, a distance of 7-8 cm, with hemostasis by electrocautery.

The flaps were advanced to the cheek defect and secured with 2-0 inverted PDS sutures and 3-0 inverted Monocryl…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	SUBCU. TISSUE AND FASCIA	TRANSFER	SCALP	OPEN	NO DEVICE	SKIN, SUBCU. AND FASCIA
0	J	X	0	0	Z	C

Coding note: body system value

The body system value describes the deepest tissue layer in the flap. The qualifier can be used to describe the other tissue layers, if any, being transferred.

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Right hand open palmaris longus tendon transfer	0LX70ZZ
Endoscopic radial to median nerve transfer	01X64Z5
Fasciocutaneous flap closure of left thigh, open	0JXM0ZC The qualifier identifies the body layers in addition to fascia included in the procedure.
Transfer left index finger to left thumb position, open	0XXP0ZM
Percutaneous fascia transfer to fill defect, anterior neck	0JX43ZZ
Trigeminal to facial nerve transfer, percutaneous endoscopic	00XK4ZM
Endoscopic left leg flexor hallucis longus tendon transfer	0LXP4ZZ
Right scalp advancement flap to right temple	0HX0XZZ
Bilateral TRAM pedicle flap reconstruction status post mastectomy, muscle only, open	0KXK0ZZ, 0KXL0ZZ The transverse rectus abdominus muscle (TRAM) flap is coded for each flap developed.
Skin transfer flap closure of complex open wound, left lower back	0HX6XZZ

Reposition—Root operation S

Reposition S	Definition	Moving to its normal location or other suitable location all or a portion of a body part
	Explanation	The body part is moved to a new location from an abnormal location, or from a normal location where it is not functioning correctly. The body part may or may not be cut out or off to be moved to the new location.
	Examples	Reposition of undescended testicle, fracture reduction

REPOSITION represents procedures for moving a body part to a new location. The range of REPOSITION procedures includes moving a body part to its normal location, or moving a body part to a new location to enhance its ability to function.

Example: Reposition of undescended right testicle from pelvic region to scrotum

…Following satisfactory induction of general anesthesia, an incision was made in the inguinal region and dissection carried down to the pelvic cavity, where the right testis was located and mobilized.

The spermatic cord was located and freed from surrounding tissue, and its length judged to be sufficient.

A one centimeter incision was made in the scrotum and a pouch created in the usual fashion. The right testicle was mobilized down through the inguinal canal into the scrotum, and stitched in place.

Meticulous hemostasis was obtained, and the incisions closed in layers…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	MALE REPRODUCTIVE	REPOSITION	TESTIS, RIGHT	OPEN	NO DEVICE	NO QUALIFIER
0	V	S	9	0	Z	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Open fracture reduction, right tibia	0QSG0ZZ
Laparoscopy with gastropexy for malrotation	0DS64ZZ
Left knee arthroscopy with reposition of anterior cruciate ligament	0MSP4ZZ
Open transposition of ulnar nerve	01S40ZZ
Closed reduction with percutaneous internal fixation of right femoral neck fracture	0QS634Z

Root operations that alter the diameter/route of a tubular body part

The table below lists the root operations that alter the diameter or route of a tubular body part. Tubular body parts are defined in ICD-10-PCS as those hollow body parts that provide a route of passage for solids, liquids, or gases. They include the cardiovascular system, and body parts such as those contained in the gastrointestinal tract, genitourinary tract, biliary tract, and respiratory tract.

Each root operation is described in detail in the pages that follow.

Root operation	Objective of procedure	Site of procedure	Example
Restriction	Partially closing orifice/ lumen	Tubular body part	Gastroesophageal fundoplication
Occlusion	Completely closing orifice/ lumen	Tubular body part	Fallopian tube ligation
Dilation	Expanding orifice/lumen	Tubular body part	Percutaneous transluminal coronary angioplasty (PTCA)
Bypass	Altering route of passage	Tubular body part	Coronary artery bypass graft (CABG)

Restriction—Root operation V

Restriction **V**	Definition	Partially closing an orifice or the lumen of a tubular body part
	Explanation	The orifice can be a natural orifice or an artificially created orifice.
	Examples	Esophagogastric fundoplication, cervical cerclage

The root operation RESTRICTION is coded when the objective of the procedure is to narrow the diameter of a tubular body part or orifice. RESTRICTION includes both intraluminal or extraluminal methods for narrowing the diameter.

Example: Laparoscopic gastroesophageal fundoplication

…Insufflation was accomplished through a 5 infraumbilical incision. Five separate 5 mm ports were placed under direct visualization other than the initial port. Laparoscopy revealed a large hiatal hernia. Electrocautery was used to free up adhesions from the hernia sac to the stomach.

Next, the fundus which had been mobilized was brought down into the stomach and it was felt there was enough mobilization to perform a fundoplication. A generous loose fundoplication was then performed by wrapping the fundus around the esophagus. Interrupted 0 Ethibond sutures were used to secure the stomach in this fashion.

There was generally good hemostasis throughout the case. All instruments were removed and ports closed…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	GASTROINTEST. SYSTEM	RESTRICTION	ESOPHAGOGAST JUNCTION	PERCUTANEOUS ENDOSCOPIC	NO DEVICE	NO QUALIFIER
0	D	V	4	4	Z	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Trans-vaginal intraluminal cervical cerclage	0UVC7DZ
Thoracotomy with banding of left pulmonary artery using extraluminal device	02VR0CZ
Restriction of thoracic duct with intraluminal stent, percutaneous	07VK3DZ
Craniotomy with clipping of cerebral aneurysm	03VG0CZ A clip is placed lengthwise on the outside wall of the widened portion of the vessel.
Non-incisional, trans-nasal placement of restrictive stent in right lacrimal duct	08VX7DZ

Occlusion—Root operation L

Occlusion **L**	Definition	Completely closing an orifice or the lumen of a tubular body part
	Explanation	The orifice can be a natural orifice or an artificially created orifice.
	Examples	Fallopian tube ligation, ligation of inferior vena cava

The root operation OCCLUSION is coded when the objective of the procedure is to close off a tubular body part or orifice. OCCLUSION includes both intraluminal or extraluminal methods of closing off the body part. Division of the tubular body part prior to closing it is an integral part of the OCCLUSION procedure.

Example: Uterine artery embolization

…catheter was advanced over a 0.18 Terumo gold guidewire and advanced several centimeters superselectively into the left uterine artery. Contrast injection was performed here, confirming filling of the uterine artery and subsequent opacification of large vascular structures in the uterus compatible with uterine fibroids.

A syringe and a half of 500-700 micron biospheres was then instilled slowly through the catheter, and at the conclusion of this infusion there was cessation of flow through the uterine artery.

The catheter was then removed and hemostasis achieved…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	LOWER ARTERIES	OCCLUSION	COMMON ILIAC ARTERY, LEFT	PERCUTANEOUS	INTRALUMINAL DEVICE	NO QUALIFIER
0	4	L	D	3	D	Z

Coding note: body part value

Because the uterine artery is not identified as a separate body part value, it is coded to the closest proximal branch identified as a body part value (Guideline B4.12)

For the complete list of draft coding guidelines, please refer to appendix B.

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Percutaneous ligation of esophageal vein	06L33ZZ
Percutaneous embolization of left internal carotid-cavernous fistula	03LL3DZ
Laparoscopy with bilateral occlusion of fallopian tubes using Hulka extraluminal clips	0UL74CZ
Open suture ligation of failed AV graft, left brachial artery	03L80ZZ
Percutaneous embolization of vascular supply, intracranial meningioma	03LG3DZ

Dilation—Root operation 7

Dilation **7**	Definition	Expanding an orifice or the lumen of a tubular body part
	Explanation	The orifice can be a natural orifice or an artificially created orifice. Accomplished by stretching a tubular body part using intraluminal pressure or by cutting part of the orifice or wall of the tubular body part.
	Examples	Percutaneous transluminal angioplasty, pyloromyotomy

The root operation DILATION is coded when the objective of the procedure is to enlarge the diameter of a tubular body part or orifice. DILATION includes both intraluminal or extraluminal methods of enlarging the diameter. A device placed to maintain the new diameter is an integral part of the DILATION procedure, and is coded to a sixth-character device value in the DILATION procedure code.

Example: PTCA of left anterior descending

…under 1% Lidocaine local anesthesia, the right femoral artery was entered by the Seldinger technique and a #7 French sheath was placed. A Judkins left guiding catheter was advanced to the left coronary ostium and using a .014 Entrée wire and a 2.5 x 30 mm Panther balloon, it was easily placed across the lesion in the left anterior descending.

The balloon was inflated times two for five minutes for up to 9 atmospheres. Angiography demonstrated an excellent result…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	HEART AND GR.VESSELS	DILATION	CORONARY ART., ONE SITE	PERCUTANEOUS	NO DEVICE	NO QUALIFIER
0	2	7	0	3	Z	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
ERCP with balloon dilation of common bile duct	0F798ZZ
PTCA of two coronary arteries, LAD with stent placement, RCA with no stent	02703DZ, 02703ZZ A separate procedure is coded for each artery dilated, since the device value differs for each artery.
Cystoscopy with intraluminal dilation of bladder neck stricture	0T7C8ZZ
Open dilation of old anastomosis, left femoral artery	047L0ZZ
Dilation of upper esophageal stricture, direct visualization, with Bougie sound	0D717ZZ
PTA of right brachial artery stenosis	03773ZZ
Trans-nasal dilation and stent placement in right lacrimal duct	087X7DZ
Hysteroscopy with balloon dilation of bilateral fallopian tubes	0U778ZZ
Tracheoscopy with intraluminal dilation of tracheal stenosis	0B718ZZ
Cystoscopy with dilation of left ureteral stricture, with stent placement	0T778DZ

Bypass—Root operation 1

Bypass	Definition	Altering the route of passage of the contents of a tubular body part
1	Explanation	Rerouting contents around an area of a body part to another distal (downstream) area in the normal route; rerouting the contents to another different but similar route and body part; or to an abnormal route and another dissimilar body part. It includes one or more concurrent anastomoses with or without the use of a device such as autografts, tissue substitutes and synthetic substitutes.
	Examples	Coronary artery bypass, colostomy formation

BYPASS is coded when the objective of the procedure is to reroute the contents of a tubular body part. The range of BYPASS procedures includes normal routes such as those made in coronary artery bypass procedures, and abnormal routes such as those made in colostomy formation procedures.

Example: Aorto-bifemoral bypass graft

…the patient was prepped and draped, and groin incisions were opened. The common femoral vein and its branches were isolated and Teflon tapes were placed around the vessels.

The aorta and iliacs were mobilized. Bleeding points were controlled with electrocautery and Liga clips. Tapes were placed around the vessel, the vessel measured, and the aorta was found to be 12 mm. A 12 x 7 bifurcated microvelour graft was then preclotted with the patient's own blood.

An end-to-end anastomosis was made on the aorta and the graft using a running suture of 2-0 Prolene. The limbs were taken down through tunnels noting that the ureters were anterior, and at this point an end-to-side anastomosis was made between the graft and the femoral arteries with running suture of 4-0 Prolene.

The inguinal incisions were closed…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	LOWER ARTERIES	BYPASS	ABDOMINAL AORTA	OPEN	SYNTHETIC SUBSTITUTE	BIL. FEMORAL ARTERIES
0	4	1	0	0	J	K

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Open gastric bypass with Roux-en-Y limb to jejunum	0D160ZA
Right temporal artery to intracranial artery bypass using goretex graft, open	031S0JG
Tracheostomy formation with tracheostomy tube placement, percutaneous	0B113F4
PICVA (Percutaneous in-situ coronary venous arterialization) of single coronary artery	02103D4
Open left femoral-popliteal artery bypass using cadaver vein graft	041L0KL
Shunting of intrathecal cerebrospinal fluid to peritoneal cavity using synthetic shunt	00160J6
Colostomy formation, open, transverse colon to abdominal wall	0D1L0Z4
Open urinary diversion, left ureter, using ileal conduit to skin	0T170ZC
CABG of LAD using left internal mammary artery, open off-bypass	02100Z9
Open pleuroperitoneal shunt, right pleural cavity, using synthetic device	0W190JG

Root operations that always involve a device

The table below lists the root operations that always involve a device. Each is described in detail in the pages that follow.

Root operation	Objective of procedure	Site of procedure	Example
Insertion	Putting in non-biological device	In/on a body part	Central line insertion
Replacement	Putting in device that replaces a body part	Some/all of a body part	Total hip replacement
Change	Exchanging device w/out cutting/ puncturing	In/on a body part	Drainage tube change
Removal	Taking out device	In/on a body part	Central line removal
Revision	Correcting a malfunctioning/ displaced device	In/on a body part	Revision of pacemaker insertion

Insertion—Root operation H

Insertion H	Definition	Putting in a non-biological device that monitors, assists, performs or prevents a physiological function but does not physically take the place of a body part
	Explanation	None
	Examples	Insertion of radioactive implant, insertion of central venous catheter

The root operation INSERTION represents those procedures where the sole objective is to put in a device without doing anything else to a body part. Procedures typical of those coded to INSERTION include putting in a vascular catheter, a pacemaker lead, or a tissue expander.

Example: Port-a-cath placement

…the right chest and neck were prepped and draped in the usual manner and 10 cc's of 1% Lidocaine were injected in the right infraclavicular area.

The right subclavian vein was then punctured and a wire was passed through the needle into the superior vena cava. This was documented by fluoroscopy. Introducer kit was introduced into the subclavian vein and the Port-a-cath was placed through the introducer and by fluoroscopy was placed down to the superior vena cava.

The pocket was then made over the right pectoralis major muscle, superior to the breast, and the Port-a-cath reservoir was placed into this pocket and tacked down with #0 Prolene sutures.

The catheter was then tunneled through a subcutaneous tunnel to this receptacle. Hemostasis was achieved and the subcutaneous tissue closed…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	HEART AND GR. VESSELS	INSERTION	SUPERIOR VENA CAVA	PERCUTANEOUS	INFUSION DEVICE	NO QUALIFIER
0	2	H	V	3	3	Z

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	SUBCU.TISSUE AND FASCIA	INSERTION	CHEST	OPEN	RESERVOIR	NO QUALIFIER
0	J	H	6	0	W	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	**Code**
Percutaneous insertion of spinal neurostimulator lead, lumbar spinal cord	00HY3MZ
Percutaneous placement of pacemaker lead in left atrium	02H73MZ
Open placement of dual chamber pacemaker generator in chest wall	0JH60P2
Percutaneous placement of venous central line in right internal jugular	05HM33Z
Open insertion of multiple channel cochlear implant, left ear	09HE0S3
Percutaneous placement of Swan-Ganz catheter in superior vena cava	02HV32Z The Swan-Ganz catheter is coded to the device value MONITORING DEVICE because it monitors pulmonary artery output.
Bronchoscopy with insertion of brachytherapy seeds, right main bronchus	0BH381Z
Placement of intrathecal infusion pump for pain management, percutaneous	0JH733Z The device resides principally in the subcutaneous tissue of the back, so it is coded to body system J.
Open placement of bone growth stimulator, left femoral shaft	0QH90MZ
Cystoscopy with placement of brachytherapy seeds in prostate gland	0VH081Z

Replacement—Root operation R

Replacement R	Definition	Putting in or on biological or synthetic material that physically takes the place of all or a portion of a body part
	Explanation	The biological material is non-living, or the biological material is living and from the same individual. The body part may have been previously taken out, previously replaced, or may be taken out concomitantly with the Replacement procedure. If the body part has been previously replaced, a separate Removal procedure is coded for taking out the device used in the previous replacement.
	Examples	Total hip replacement, free skin graft

The objective of procedures coded to the root operation REPLACEMENT is to put in a device that takes the place of some or all of a body part. REPLACEMENT encompasses a wide range of procedures, from joint replacements to grafts of all kinds.

Example: Prosthetic lens implantation

…a superior peritomy was made on the left eye and adequate hemostasis was achieved using eraser cautery. A posterior one-half thickness groove was placed posterior to the blue line. This was beveled forward toward clear cornea.

The anterior chamber was entered at the 11:30 position with a blade. The eye was filled with viscoelastic substance. A can-opener type capsulotomy was performed with a cystotome. Hydrodissection was carried out and the lens was rocked gently with a cystotome to loosen it from the cortex.

The wound was then opened with corneal scleral scissors. The lens was prolapsed in the anterior chamber and removed. The anterior chamber was then temporarily closed with 8-0 Vicryl sutures and cortical clean-up was performed.

One of the sutures was removed and a posterior chamber intraocular lens (Alcon model #MZ50BD) was inspected, rinsed, and placed into a capsular bag. Miochol was then instilled into the anterior chamber. The conjunctiva was pulled over the incision and cauterized into place…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	EYE	REPLACEMENT	LENS, LEFT	OPEN	SYNTHETIC SUBSTITUTE	NO QUALIFIER
0	8	R	K	0	J	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Full-thickness skin graft to right lower arm, autograft (do not code graft harvest for this exercise)	0HRDX73
Excision of necrosed left femoral head with bone bank bone graft to fill the defect, open	0QR70KZ
Autograft nerve graft to right median nerve, percutaneous endoscopic (do not code graft harvest for this exercise)	01R547Z
Bilateral mastectomy with concomitant breast implants, open	0HRV0JZ
Excision of abdominal aorta with goretex graft replacement, open	04R00JZ
Total right knee arthroplasty with insertion of total knee prosthesis	0SRC0JZ
Abdominal wall herniorrhaphy, open, using synthetic mesh	0WRF0JZ
Tendon graft to right ankle using cadaver graft, open	0LRS0KZ
Mitral valve replacement using porcine valve, open	02RG08Z
Percutaneous phacoemulsification of right eye cataract with prosthetic lens insertion	08RJ3JZ

Change—Root operation 2

Change 2	Definition	Taking out or off a device from a body part and putting back an identical or similar device in or on the same body part without cutting or puncturing the skin or a mucous membrane
	Explanation	None
	Examples	Urinary catheter change, gastrostomy tube change

The root operation CHANGE represents only those procedures where a similar device is exchanged without making a new incision or puncture. Typical CHANGE procedures include exchange of drainage devices and feeding devices.

Coding note: Change In the root operation CHANGE, general body part values are used when the specific body part value is not in the table

Example: Percutaneous endoscopic gastrostomy (PEG) tube exchange

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	GASTROINTEST. SYSTEM	CHANGE	UPPER INTEST. TRACT	EXTERNAL	FEEDING DEVICE	NO QUALIFIER
0	D	2	0	X	U	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Exchange of drainage tube from right hip joint	0S2YX0Z
Tracheostomy tube exchange	0B21XFZ
Change chest tube for left pneumothorax	0W2BX0Z
Exchange of cerebral ventriculostomy drainage tube	0020X0Z
Foley urinary catheter exchange	0T2BX0Z This is coded to DRAINAGE DEVICE because urine is being drained.

Removal—Root operation P

Removal **P**	Definition	Taking out or off a device from a body part
	Explanation	If taking out a device and putting in a similar device is performed with an external approach, the procedure is coded to the root operation CHANGE. Otherwise, the procedure for taking out the device is coded to the root operation REMOVAL and the procedure for putting in the new device is coded to the root operation performed.
	Examples	Drainage tube removal, cardiac pacemaker removal

REMOVAL represents a much broader range of procedures than those for removing the devices contained in the root operation INSERTION. A procedure to remove a device is coded to REMOVAL if it is not an integral part of another root operation, and regardless of the approach or the original root operation by which the device was put in.

Coding note: Removal

In the root operation REMOVAL, general body part values are used when the specific body part value is not in the table

Example: Removal of right forearm external fixator

…the right upper extremity was prepped and draped in a sterile fashion. A tourniquet was placed at 250 mm of pressure.

The external fixator was removed using the appropriate wrench. The four pins in the ulna were then removed manually, as well as with the drill. The wounds were irrigated with antibiotic solution and a sterile dressing applied…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	UPPER BONES	REMOVAL	ULNA, RIGHT	EXTERNAL	EXTERNAL FIXATION	NO QUALIFIER
0	P	P	K	X	5	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Open removal of lumbar sympathetic neurostimulator	01PY0MZ
Non-incisional removal of Swan-Ganz catheter from right pulmonary artery	02PYX2Z
Laparotomy with removal of pancreatic drain	0FPG00Z
Extubation, endotracheal tube	0BP1XEZ
Non-incisional PEG tube removal	0DP6XUZ
Transvaginal removal of extraluminal cervical cerclage	0UPD7CZ
Incision with removal of K-wire fixation, right first metatarsal	0QPN04Z
Cystoscopy with retrieval of left ureteral stent	0TP98DZ
Removal of nasogastric drainage tube for decompression	0DP6X0Z
Removal of external fixator, left radial fracture	0PPJX5Z

Revision—Root operation W

Revision **W**	Definition	Correcting, to the extent possible, a malfunctioning or displaced device
	Explanation	Revision can include correcting a malfunctioning or displaced device by taking out or putting in components of the device such as a screw or pin.
	Examples	Adjustment of pacemaker lead, adjustment of hip prosthesis

REVISION is coded when the objective of the procedure is to correct the positioning or function of a previously placed device. A complete re-do of the original root operation is coded to the root operation performed.

Coding note: Revision

In the root operation REVISION, general body part values are used when the specific body part value is not in the table

Example: Revision of artificial anal sphincter

…Proceeding through a suprapubic incision, this was then extended after injecting local anesthetic, thereby exposing the underlying tubing, which was then delivered through the suprapubic region.

Meticulous hemostasis was achieved using electrocautery. At that point the pump device was then repositioned in the left lower quadrant abdominal wall region. The tubing was reinserted using dilators, and the skin reapproximated using 2-0 Vicryl sutures. Sterile dressing was then applied…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	GASTROINTEST. SYSTEM	REVISION	ANUS	OPEN	ARTIFICIAL SPHINCTER	NO QUALIFIER
0	D	W	Q	0	L	Z

Coding exercises

Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	**Code**
Reposition of Swan-Ganz catheter in superior vena cava	02WYX2Z
Open revision of right hip replacement, with readjustment of prosthesis	0SW90JZ
Adjustment of position, pacemaker lead in left ventricle, percutaneous	02WA3MZ
External repositioning of foley catheter to bladder	0TWBX0Z
Revision of VAD reservoir placement in chest wall, causing patient discomfort, open	0JWT0WZ

Root operations involving examination only

The table below lists the root operations that involve examination of a body part. Each is described in detail in the pages that follow.

Root operation	Objective of procedure	Site of procedure	Example
Inspection	Visual/manual exploration	Some/all of a body part	Diagnostic cystoscopy
Map	Location electrical impulses/ functional areas	Brain/cardiac conduction mechanism	Cardiac electrophysiological study

Inspection—Root operation J

Inspection **J**	Definition	Visually and/or manually exploring a body part
	Explanation	Visual exploration may be performed with or without optical instrumentation. Manual exploration may be performed directly or through intervening body layers.
	Examples	Diagnostic arthroscopy, exploratory laparotomy

The root operation INSPECTION represents procedures where the sole objective is to examine a body part. Procedures that are discontinued without any other root operation being performed are also coded to INSPECTION.

Example: Diagnostic colposcopy with examination of cervix

…Colposcopy was done which revealed pseudo-white areas at 2 o'clock and 6 o'clock on the cervix, with abnormal cells and irregular white borders noted on both…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	FEMALE REPRODUCTIVE	INSPECTION	CERVIX	VIA NAT./ARTIF. OPENING ENDO	NO DEVICE	NO QUALIFIER
0	U	J	C	8	Z	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	**Code**
Thoracotomy with exploration of right pleural cavity	0WJ90ZZ
Diagnostic laryngoscopy	0CJS8ZZ
Exploratory arthrotomy of left knee	0SJD0ZZ
Colposcopy with diagnostic hysteroscopy	0UJ98ZZ
Digital rectal exam	0DJP7ZZ
Diagnostic arthroscopy of right shoulder	0RJJ4ZZ
Endoscopy of bilateral maxillary sinus	09JQ4ZZ, 09JR4ZZ
Laparotomy with palpation of liver	0FJ00ZZ
Transurethral diagnostic cystoscopy	0TJB8ZZ
Colonoscopy, abandoned at sigmoid colon	0DJN8ZZ

Map—Root operation K

Map **K**	Definition	Locating the route of passage of electrical impulses and/or locating functional areas in a body part
	Explanation	Applicable only to the cardiac conduction mechanism and the central nervous system
	Examples	Cardiac mapping, cortical mapping

MAPPING represents a very narrow range of procedures. Procedures include only cardiac mapping and cortical mapping.

Example: Cardiac mapping

…under sterile technique arterial sheath was placed in the right femoral artery. The electrical catheter was advanced up the aorta and into the left atrium under fluoroscopic guidance and mapping commenced. After adequate recordings were obtained the catheter was withdrawn and hemostasis achieved with manual pressure on the right femoral artery…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	HEART AND GR. VESSELS	MAP	CONDUCTION MECHANISM	PERCUTANEOUS	NO DEVICE	NO QUALIFIER
0	2	K	8	3	Z	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	**Code**
Percutaneous mapping of basal ganglia	00K83ZZ
Heart catheterization with cardiac mapping	02K83ZZ
Intraoperative whole brain mapping via craniotomy	00K00ZZ
Mapping of left cerebral hemisphere, percutaneous endoscopic	00K74ZZ
Intraoperative cardiac mapping during open heart surgery	02K80ZZ

Root operations that define other repairs

The table below lists the root operations that define other repairs. CONTROL describes the effort to locate and stop postprocedural hemorrhage. REPAIR is described in detail in the pages that follow.

Root operation	Objective of procedure	Site of procedure	Example
Control	Stopping/attempting to stop postprocedural bleed	Anatomical region	Post-prostatectomy bleeding control
Repair	Restoring body part to its normal structure	Some/all of a body part	Suture laceration

Control—Root operation 3

Control	Definition	Stopping, or attempting to stop, postprocedural bleeding
3	Explanation	The site of the bleeding is coded as an anatomical region and not to a specific body part.
	Examples	Control of post-prostatectomy hemorrhage, control of post-tonsillectomy hemorrhage

CONTROL is used to represent a small range of procedures performed to treat postprocedural bleeding. If performing BYPASS, DETACHMENT, EXCISION, EXTRACTION, REPOSITION, REPLACEMENT, or RESECTION is required to stop the bleeding, then CONTROL is not coded separately.

Coding note: Control

CONTROL includes irrigation or evacuation of hematoma done at the operative site. Both irrigation and evacuation may be necessary to clear the operative field and effectively stop the bleeding.

Example: Re-opening of laparotomy site with ligation of arterial bleeder

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	ANATOMICAL REGIONS, GEN.	CONTROL	PERITONEAL CAVITY	OPEN	NO DEVICE	NO QUALIFIER
0	W	3	G	0	Z	Z

Coding exercises

Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	**Code**
Hysteroscopy with cautery of post-hysterectomy oozing and evacuation of clot	0W3R8ZZ
Open exploration and ligation of post-op arterial bleeder, left forearm	0X3F0ZZ
Control of post-operative retroperitoneal bleeding via laparotomy	0W3H0ZZ
Reopening of thoracotomy site with drainage and control of post-op hemopericardium	0W3C0ZZ
Arthroscopy with drainage of hemarthrosis at previous operative site, right knee	0Y3F4ZZ

Repair—Root operation Q

Repair **Q**	Definition	Restoring, to the extent possible, a body part to its normal anatomic structure and function
	Explanation	Used only when the method to accomplish the repair is not one of the other root operations
	Examples	Herniorrhaphy, suture of laceration

The root operation REPAIR represents a broad range of procedures for restoring the anatomic structure of a body part such as suture of lacerations. REPAIR also functions as the "not elsewhere classified (NEC)" root operation, to be used when the procedure performed does not meet the definition of one of the other root operations. Fixation devices are included for procedures to repair the bones and joints.

Example: Left open inguinal herniorrhaphy

…an incision in the left groin extending on the skin from the internal to the external inguinal ring was made. The external oblique aponeurosis was exposed.

The hernia sac was then ligated at the internal ring with non-dissolving sutures. A hernia repair was then performed. The internal oblique fascia was sutured in interrupted stitches to the ilio-pubic fascia. The spermatic cord was then returned to its anatomical position.

The external oblique aponeurosis was then repaired in interrupted sutures. Complete hemostasis was obtained, and the skin closed…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	LOWER EXTREMITIES	REPAIR	INGUINAL REGION, LEFT	OPEN	NO DEVICE	NO QUALIFIER
0	Y	Q	6	0	Z	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Suture repair of left radial nerve laceration	01Q60ZZ The approach value is OPEN, though the surgical exposure may have been created by the wound itself.
Laparotomy with suture repair of blunt force duodenal laceration	0DQ90ZZ
Perineoplasty with repair of old obstetric laceration, open	0WQN0ZZ
Suture repair of right biceps tendon laceration, open	0LQ30ZZ
Closure of abdominal wall stab wound	0WQF0ZZ

Root operations that define other objectives

The last three root operations in the MEDICAL AND SURGICAL section, FUSION, ALTERATION, and CREATION, describe procedures performed for three distinct reasons. Beyond that they have little in common. A FUSION procedure puts a dysfunctional joint out of service rather than restoring function to the joint. ALTERATION encompasses a whole range of procedures that share only the fact that they are done to improve the way the patient looks. CREATION represents only two very specific sex change operations.

Root operation	Objective of procedure	Site of procedure	Example
Fusion	Rendering joint immobile	Joint	Spinal fusion
Alteration	Modifying body part for cosmetic purposes without affecting function	Some/all of a body part	Face lift
Creation	Making new structure for sex change operation	Perineum	Artificial vagina/penis

Fusion—Root operation G

Fusion G	Definition	Joining together portions of an articular body part rendering the articular body part immobile
	Explanation	The body part is joined together by fixation device, bone graft, or other means.
	Examples	Spinal fusion, ankle arthrodesis

A limited range of procedures is represented in the root operation FUSION, because fusion procedures are by definition only performed on the joints. Qualifier values are used to specify whether a vertebral joint fusion is anterior or posterior.

Example: Anterior cervical fusion C-2 through C-4 with bone bank graft

…after skull tong traction was applied, incision was made in the left neck, and Gardner retractors placed to separate the intervertebral muscles at the C-2 through C-4 levels.

Using the drill, a trough was incised on the anterior surface of the C-2 vertebra, and the C-2/C-3 space evacuated with a rongeur, and the accompanying cartilage removed. This procedure was then repeated at the C-3/C-4 level.

Bone bank patella strut graft was trimmed with a saw and fashioned to fit the C-2/C-3 interspace. After adequate adjustments in the size and shape had been made, the graft was tapped securely into place. The procedure was repeated for the C-3/C-4 level.

X-rays revealed good alignment and final position. Traction was gradually decreased to maintain position. Retractors were removed and the fascia was reapproximated with 0 Vicryl…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	UPPER JOINTS	FUSION	CERVICAL VERTEB JT, 2-6	OPEN	NONAUTOLOG TISSUE SUBST	ANTERIOR
0	R	G	2	0	K	0

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Radiocarpal fusion of left hand with internal fixation, open	0RGP04Z
Posterior spinal fusion at L1-L3 level with BAK cage interbody fusion device, open	0SG1041
Intercarpal fusion of right hand with bone bank bone graft, open	0RGQ0KZ
Sacrococcygeal fusion with bone graft from same operative site, open	0SG507Z
Interphalangeal fusion of left great toe, percutaneous pin fixation	0SGQ34Z

Alteration—Root operation 0

Alteration 0	Definition	Modifying the natural anatomic structure of a body part without affecting the function of the body part
	Explanation	Principal purpose is to improve appearance
	Examples	Face lift, breast augmentation

ALTERATION is coded for all procedures performed solely to improve appearance. All methods, approaches, and devices used for the objective of improving appearance are coded here.

Coding note: Alteration

Because some surgical procedures can be performed for either medical or cosmetic purposes, coding for ALTERATION requires diagnostic confirmation that the surgery is in fact performed to improve appearance.

Example: Cosmetic blepharoplasty

…attention was turned to the redundant upper eyelid skin. The ellipse of skin as marked preoperatively was excised bilaterally.

The medial and lateral fat compartments were open bilaterally. The medial compartment had severe fatty excess and periorbital fat herniation. This was resected. The lateral fat compartment was opened and the lateral fat tailored as well.

Subdermal closure was performed with interrupted 3-0 sutures bilaterally. The skin was closed…

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	EYE	ALTERATION	UPPER EYELID, LEFT	OPEN	NO DEVICE	NO QUALIFIER
0	8	0	P	0	Z	Z

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	EYE	ALTERATION	UPPER EYELID, RIGHT	OPEN	NO DEVICE	NO QUALIFIER
0	8	0	N	0	Z	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Cosmetic face lift, open, no other information available	0W020ZZ
Bilateral breast augmentation with silicone implants, open	0H0V0JZ
Cosmetic rhinoplasty with septal reduction and tip elevation using local tissue graft, open	090K07Z
Abdominoplasty (tummy tuck), open	0W0F0ZZ
Liposuction of bilateral thighs	0J0L3ZZ, 0J0M3ZZ

Creation—Root operation 4

Creation **4**	Definition	Making a new structure that does not physically take the place of a body part
	Explanation	Used only for sex change operations where genitalia are made
	Examples	Creation of vagina in a male, creation of penis in a female

CREATION is used to represent a very narrow range of procedures. Only the procedures performed for sex change operations are included here.

Coding note: Harvesting autograft tissue

If a separate procedure is performed to harvest autograft tissue, it is coded to the appropriate root operation in addition to the primary procedure.

Example: Creating a vagina in a male patient using autograft

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEDICAL AND SURGICAL	ANATOMICAL REGIONS, GEN.	CREATION	PERINEUM, MALE	OPEN	AUTOLOG. TISSUE SUBST.	VAGINA
0	W	4	M	0	7	0

Coding exercises

Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Creation of penis in female patient using tissue bank donor graft	0W4N0K1
Creation of vagina in male patient using synthetic material	0W4M0J0

Chapter 3

Procedures in the Medical and Surgical-related sections

Contents

Chapter 3

Procedures in the Medical and Surgical-related sections

THIS CHAPTER PROVIDES reference material for procedure codes in sections 1–9 of ICD-10-PCS. These nine sections define procedures related to the MEDICAL AND SURGICAL section. Codes in these sections contain characters not previously defined, such as substance, function, and method.

First, a table is provided, listing the sections in order. Following the table, reference material is provided for each section, and includes

- General description of the section
- A table listing each root operation in the section, with its corresponding definition
- Coding notes as needed
- Representative examples of procedures coded in that section, in table excerpt format, with explanatory notes as needed
- Coding exercises that provide example procedures and their corresponding ICD-10-PCS codes, with explanatory notes as needed

List of Medical and Surgical-related sections of ICD-10-PCS

Nine additional sections of ICD-10-PCS include procedures related to the MEDICAL AND SURGICAL section, such as obstetrical procedures, administration of substances, and extracorporeal procedures.

Section value	Description
1	Obstetrics
2	Placement
3	Administration
4	Measurement and Monitoring
5	Extracorporeal Assistance and Performance
6	Extracorporeal Therapies
7	Osteopathic
8	Other Procedures
9	Chiropractic

Obstetrics—Section 1

The OBSTETRICS section follows the same conventions established in the MEDICAL AND SURGICAL section, with all seven characters retaining the same meaning, as shown in this example of a low forceps extraction.

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
OBSTETRICS	PREGNANCY	EXTRACTION	PRODUCTS OF CONCEPTION	VIA NAT./ARTIF. OPENING	NO DEVICE	LOW FORCEPS
1	0	D	0	7	Z	3

Root operations

There are twelve root operations in the OBSTETRICS section. Ten of these are also found in the MEDICAL AND SURGICAL section.

For the complete list of root operations and their definitions, please refer to appendix A.

The two root operations unique to OBSTETRICS are defined below.

Value	Description	Definition
A	Abortion	Artificially terminating a pregnancy
E	Delivery	Assisting the passage of the products of conception from the genital canal

Coding note: Abortion

ABORTION is subdivided according to whether an additional device such as a laminaria or abortifacient is used, or whether the abortion was performed by mechanical means.

If either a laminaria or abortifacient is used, then the approach is VIA NATURAL OR ARTIFICIAL OPENING.

All other abortion procedures are those done by mechanical means (the products of conception are physically removed using instrumentation), and the device value is Z, NO DEVICE.

Example: Transvaginal abortion using vacuum aspiration technique

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
OBSTETRICS	PREGNANCY	ABORTION	PRODUCTS OF CONCEPTION	VIA NAT./ARTIF. OPENING	NO DEVICE	NO QUALIFIER
1	0	A	0	7	Z	Z

Coding note: Delivery

DELIVERY applies only to manually-assisted, vaginal delivery and is defined as assisting the passage of the products of conception from the genital canal. Cesarean deliveries are coded in this section to the root operation EXTRACTION.

Example: Manually-assisted delivery

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
OBSTETRICS	PREGNANCY	DELIVERY	PRODUCTS OF CONCEPTION	EXTERNAL	NO DEVICE	NO QUALIFIER
1	0	E	0	X	Z	Z

Coding exercises

Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	**Code**
Abortion by dilation and evacuation following laminaria insertion	10A07ZW
Manually assisted spontaneous abortion	10E0XZZ Since the pregnancy was not artificially terminated, this is coded to DELIVERY, because it captures the procedure objective. The fact that it was an abortion will be identified in the diagnosis code.
Abortion by abortifacient insertion	10A07ZX
Bimanual pregnancy examination	10J07ZZ
Extraperitoneal c-section, low transverse incision	10D00Z2
Fetal spinal tap, percutaneous	10903ZA
Fetal kidney transplant, laparoscopic	10Y04ZS
Open in utero repair of congenital diaphragmatic hernia	10Q00ZK Diaphragm is classified to the RESPIRATORY body system in the MEDICAL AND SURGICAL section.
Laparoscopy with total excision of tubal pregnancy	10T24ZZ
Transvaginal removal of fetal monitoring electrode	10P073Z

Placement—Section 2

The PLACEMENT section follows the same conventions established in the MEDICAL AND SURGICAL section, with all seven characters retaining the same meaning, as in the example of cast change on the right forearm below.

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Region	Character 5 Approach	Character 6 Device	Character 7 Qualifier
PLACEMENT	ANATOMICAL REGIONS	CHANGE	LOWER ARM, RIGHT	EXTERNAL	CAST	NO QUALIFIER
2	W	0	C	X	2	Z

Root operations

The root operations in the PLACEMENT section include only those procedures performed without making an incision or a puncture.

Value	Description	Definition
0	Change	Taking out or off a device from a body region and putting back an identical or similar device in or on the same body region without cutting or puncturing the skin or a mucous membrane
1	Compression	Putting pressure on a body region
2	Dressing	Putting material on a body region for protection
3	Immobilization	Limiting or preventing motion of a body region
4	Packing	Putting material in a body region
5	Removal	Taking out or off a device from a body region
6	Traction	Exerting a pulling force on a body region in a distal direction

Example: Change of vaginal packing

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Region	Character 5 Approach	Character 6 Device	Character 7 Qualifier
PLACEMENT	ANATOMICAL ORIFICES	CHANGE	FEMALE GENITAL TRACT	EXTERNAL	PACKING MATERIAL	NO QUALIFIER
2	Y	0	4	X	5	Z

Example: Placement of pressure dressing on abdominal wall

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Region	Character 5 Approach	Character 6 Device	Character 7 Qualifier
PLACEMENT	ANATOMICAL REGIONS	COMPRESSION	ABDOMINAL WALL	EXTERNAL	PRESSURE DRESSING	NO QUALIFIER
2	W	1	3	X	6	Z

Example: Application of sterile dressing to head wound

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Region	Character 5 Approach	Character 6 Device	Character 7 Qualifier
PLACEMENT	ANATOMICAL REGIONS	DRESSING	HEAD	EXTERNAL	BANDAGE	NO QUALIFIER
2	W	2	0	X	4	Z

Coding note: Immobilization

The procedures to fit a device, such as splints and braces, as described in F0DZ6EZ and F0DZ7EZ, apply only to the rehabilitation setting. Splints and braces placed in other inpatient settings are coded to IMMOBILIZATION, table 2X3 in the PLACEMENT section.

Example: Placement of splint on left finger

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Region	Character 5 Approach	Character 6 Device	Character 7 Qualifier
PLACEMENT	ANATOMICAL REGIONS	IMMOBILIZATION	FINGER, LEFT	EXTERNAL	SPLINT	NO QUALIFIER
2	W	3	K	X	1	Z

Example: Placement of nasal packing

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Region	Character 5 Approach	Character 6 Device	Character 7 Qualifier
PLACEMENT	ANATOMICAL ORIFICES	PACKING	NASAL	EXTERNAL	PACKING MATERIAL	NO QUALIFIER
2	Y	4	1	X	5	Z

Example: Removal of stereotactic head frame

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Region	Character 5 Approach	Character 6 Device	Character 7 Qualifier
PLACEMENT	ANATOMICAL REGIONS	REMOVAL	HEAD	EXTERNAL	STEREOTACTIC APPARATUS	NO QUALIFIER
2	W	5	0	X	8	Z

Coding note: Traction

TRACTION in this section includes only the task performed using a mechanical traction apparatus. Manual traction performed by a physical therapist is coded to MANUAL THERAPY TECHNIQUES in section F, PHYSICAL REHABILITATION AND DIAGNOSTIC AUDIOLOGY (*see page 4.13*).

Example: Lumbar traction using motorized split-traction table

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Region	Character 5 Approach	Character 6 Device	Character 7 Qualifier
PLACEMENT	ANATOMICAL REGIONS	TRACTION	BACK	EXTERNAL	TRACTION APPARATUS	NO QUALIFIER
2	W	6	5	X	0	Z

Coding exercises

Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	**Code**
Placement of packing material, right ear	2Y42X5Z
Mechanical traction of entire left leg	2W6MX0Z
Removal of splint, right shoulder	2W5AX1Z
Placement of neck brace	2W32X3Z
Change of vaginal packing	2Y04X5Z
Packing of wound, chest wall	2W44X5Z
Sterile dressing placement to left groin region	2W27X4Z
Removal of packing material from pharynx	2Y50X5Z
Placement of intermittent pneumatic compression device, covering entire right arm	2W18X7Z
Exchange of pressure dressing to left thigh	2W0PX6Z

Administration—Section 3

The ADMINISTRATION section includes infusions, injections, and transfusions, as well as other related procedures, such as irrigation and tattooing. All codes in this section define procedures where a diagnostic or therapeutic substance is given to the patient, as in the platelet transfusion example below.

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body System	Character 5 Approach	Character 6 Substance	Character 7 Qualifier
ADMINISTRATION	CIRCULATORY	TRANSFUSION	CENTRAL VEIN	PERCUTANEOUS	PLATELETS	NONAUTO-LOGOUS
3	0	2	4	3	R	1

Root operations

Root operations in this section are classified according to the broad category of substance administered. If the substance given is a blood product or a cleansing substance, then the procedure is coded to TRANSFUSION and IRRIGATION respectively. All the other substances administered, such as anti-neoplastic substances, are coded to the root operation INTRODUCTION.

Value	Description	Definition
0	Introduction	Putting in or on a therapeutic, diagnostic, nutritional, physiological, or prophylactic substance except blood or blood products
1	Irrigation	Putting in or on a cleansing substance
2	Transfusion	Putting in blood or blood products

Example: Nerve block injection to median nerve

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body System	Character 5 Approach	Character 6 Substance	Character 7 Qualifier
ADMINISTRATION	PHYS. SYS. & ANAT. REGIONS	INTRODUCTION	PERIPHERAL NERVES	PERCUTANEOUS	REGIONAL ANESTHETIC	NO QUALIFIER
3	E	0	T	3	C	Z

Example: Flushing of eye

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body System	Character 5 Approach	Character 6 Substance	Character 7 Qualifier
ADMINISTRATION	PHYS. SYS. & ANAT. REGIONS	IRRIGATION	EYE	EXTERNAL	IRRIGATING SUBSTANCE	NO QUALIFIER
3	E	1	C	X	8	Z

Example: Transfusion of cell saver red cells into central venous line

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body System	Character 5 Approach	Character 6 Substance	Character 7 Qualifier
ADMINISTRATION	CIRCULATORY	TRANSFUSION	CENTRAL VEIN	PERCUTANEOUS	RED BLOOD CELLS	AUTOLOGOUS
3	0	2	4	3	N	0

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	**Code**
Peritoneal dialysis via indwelling catheter	3E1M39Z
Transvaginal artificial insemination	3E0P7LZ
Infusion of total parenteral nutrition via central venous catheter	3E0436Z
Esophagogastroscopy with botox injection into esophageal sphincter	3E0G8GC Botulinum toxin is a paralyzing agent with temporary effects; it does not sclerose or destroy the nerve.
Percutaneous irrigation of knee joint	3E1U38Z
Epidural injection of mixed steroid and local anesthetic for pain control	3E0S33Z This is coded to the substance value ANTI-INFLAMMATORY. The anesthetic is only added to lessen the pain of the injection.
Chemical pleurodesis using injection of tetracycline	3E0L3TZ
Transfusion of antihemophilic factor, (nonautologous) via arterial central line	30263V1
Transabdominal in-vitro fertilization, implantation of donor ovum	3E0P3Q1
Autologous bone marrow transplant via central venous line	30243G0

Measurement and Monitoring—Section 4

There are two root operations in this section, and they differ in only one respect: MEASUREMENT defines one procedure and MONITORING defines a series of procedures.

Root operations

MEASUREMENT describes a single level taken, while MONITORING describes a series of levels obtained at intervals. For example,

- A single temperature reading is considered MEASUREMENT.
- Temperature taken every half hour for 8 hours is considered MONITORING.

Instead of defining a device, the sixth character defines the physiological or physical function being tested.

Value	Description	Definition
0	Measurement	Determining the level of a physiological or physical function at a point in time
1	Monitoring	Determining the level of a physiological or physical function repetitively over a period of time

Example: External electrocardiogram (EKG), single reading

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body System	Character 5 Approach	Character 6 Function	Character 7 Qualifier
MEASUREMENT & MONITORING	PHYSIOLOGICAL SYSTEMS	MEASUREMENT	CARDIAC	EXTERNAL	ELECTRICAL ACTIVITY	NO QUALIFIER
4	A	0	2	X	4	Z

Example: Urinary pressure monitoring

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body System	Character 5 Approach	Character 6 Device	Character 7 Qualifier
MEASUREMENT & MONITORING	PHYSIOLOGICAL SYSTEMS	MONITORING	URINARY	VIA NAT./ARTIF. OPENING	PRESSURE	NO QUALIFIER
4	A	1	D	7	B	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Cardiac stress test, single measurement	4A02XM4
EGD with biliary flow measurement	4A0C85Z
Temperature monitoring, rectal	4A1G7KZ
Peripheral venous pulse, external, single measurement	4A04XJ1
Holter monitoring	4A12X45
Respiratory rate, external, single measurement	4A09XCZ
Fetal heart rate monitoring, transvaginal	4A1H7CZ
Visual mobility test, single measurement	4A07X7Z
Pulmonary artery wedge pressure monitoring from Swan-Ganz catheter	4A133B3
Olfactory acuity test, single measurement	4A08X0Z

Extracorporeal Assistance and Performance—Section 5

This section includes procedures performed in a critical care setting, such as mechanical ventilation and cardioversion. It also includes other procedures, such as hemodialysis and hyperbaric oxygen treatment. These procedures all use equipment to support a physiological function in some way, whether it is breathing, circulating the blood, or restoring the natural rhythm of the heart.

The fifth and sixth characters in this section define duration and function respectively. These characters describe the duration of the procedure and the body function being acted upon, rather than the approach and device used.

Root operations

ASSISTANCE and PERFORMANCE are two variations of the same kinds of procedures, varying only in the degree of control exercised over the physiological function.

Value	Description	Definition
0	Assistance	Taking over a portion of a physiological function by extracorporeal means
1	Performance	Completely taking over a physiological function by extracorporeal means
2	Restoration	Returning, or attempting to return, a physiological function to its original state by extracorporeal means

Coding note: Assistance

ASSISTANCE defines procedures that support a physiological function but do not take complete control of it, such as intra-aortic balloon pump to support cardiac output and hyperbaric oxygen treatment.

Example: Hyperbaric oxygenation of wound

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body System	Character 5 Duration	Character 6 Function	Character 7 Qualifier
EXTRACORP. ASSISTANCE & PERFORMANCE	PHYSIOLOGICAL SYSTEMS	ASSISTANCE	CIRCULATORY	INTERMITTENT	OXYGENATION	HYPERBARIC
5	A	0	5	1	2	1

Coding note: Performance

PERFORMANCE defines procedures where complete control is exercised over a physiological function, such as total mechanical ventilation, cardiac pacing, and cardiopulmonary bypass.

Example: Cardiopulmonary bypass in conjunction with CABG

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body System	Character 5 Duration	Character 6 Function	Character 7 Qualifier
EXTRACORP. ASSISTANCE & PERFORMANCE	PHYSIOLOGICAL SYSTEMS	PERFORMANCE	CARDIAC	CONTINUOUS	OUTPUT	NO QUALIFIER
5	A	1	2	2	1	Z

Coding note: Restoration

RESTORATION defines only external cardioversion and defibrillation procedures. Failed cardioversion procedures are also included in the definition of RESTORATION, and are coded the same as successful procedures.

Example: Attempted cardiac defibrillation, unsuccessful

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body System	Character 5 Duration	Character 6 Function	Character 7 Qualifier
EXTRACORP. ASSIST. AND PERFORMANCE	PHYSIOLOGICAL SYSTEMS	RESTORATION	CARDIAC	SINGLE	RHYTHM	NO QUALIFIER
5	A	2	2	0	4	Z

Coding exercises

Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	**Code**
Intermittent mechanical ventilation	5A0915Z
Liver dialysis, single encounter	5A1C00Z
Cardiac countershock with successful conversion to sinus rhythm	5A2204Z
IPPB (intermittent positive pressure breathing) for mobilization of secretions	5A0915Z
Renal dialysis, series of encounters	5A1D60Z
IABP (intra-aortic balloon pump) continuous	5A02210
Intra-operative cardiac pacing, continuous	5A1223Z
ECMO (extracorporeal membrane oxygenation), continuous	5A15223
Controlled mechanical ventilation (CMV), 45 hours	5A1945Z
Pulsatile compression boot with intermittent inflation	5A02115 This is coded to the function value CARDIAC OUTPUT, because the purpose of such compression devices is to return blood to the heart faster.

Extracorporeal Therapies—Section 6

Section 6, EXTRACORPOREAL THERAPIES, describes other extracorporeal procedures that are not defined by ASSISTANCE and PERFORMANCE in section 5 *(see page 3.14)*. Examples are bili-lite phototherapy, apheresis, and whole body hypothermia.

The second character contains a single general body system choice, PHYSIOLOGICAL SYSTEMS, as in the phototherapy example below. The sixth character is defined as a qualifier, but contains no specific qualifier values. The seventh-character qualifier identifies various blood components separated out in pheresis procedures.

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body System	Character 5 Duration	Character 6 Qualifier	Character 7 Qualifier
EXTRACORP. THERAPIES	PHYSIOLOGICAL SYSTEMS	PHOTOTHERAPY	SKIN	SINGLE	NO QUALIFIER	NO QUALIFIER
6	A	6	0	0	Z	Z

Root operations

The meaning of each root operation is consistent with the term as used in the medical community. DECOMPRESSION and HYPERTHERMIA have a more specialized meaning. All are defined in the table below.

Value	Description	Definition
0	Atmospheric Control	Extracorporeal control of atmospheric pressure and composition
1	Decompression	Extracorporeal elimination of undissolved gas from body fluids
2	Electromagnetic Therapy	Extracorporeal treatment by electromagnetic rays
3	Hyperthermia	Extracorporeal raising of body temperature
4	Hypothermia	Extracorporeal lowering of body temperature
5	Pheresis	Extracorporeal separation of blood products

Value	Description	Definition
6	Phototherapy	Extracorporeal treatment by light rays
7	Ultrasound Therapy	Extracorporeal treatment by ultrasound
8	Ultraviolet Light Therapy	Extracorporeal treatment by ultraviolet light
9	Shock Wave Therapy	Extracorporeal treatment by shock waves

Coding note: Decompression

DECOMPRESSION describes a single type of procedure—treatment for decompression sickness (the bends) in a hyperbaric chamber.

Example: Hyperbaric decompression treatment, single

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body System	Character 5 Duration	Character 6 Qualifier	Character 7 Qualifier
EXTRACORP. THERAPIES	PHYSIOLOGICAL SYSTEMS	DECOM-PRESSION	CIRCULATORY	SINGLE	NO QUALIFIER	NO QUALIFIER
6	A	1	5	0	Z	Z

Coding note: Hyperthermia

HYPERTHERMIA is used both to treat temperature imbalance, and as an adjunct radiation treatment for cancer. When performed to treat temperature imbalance, the procedure is coded to this section.

When performed for cancer treatment, whole-body hyperthermia is classified as a modality qualifier in section D, RADIATION ONCOLOGY *(see page 4.11)*.

Example: Whole body hypothermia treatment for temperature imbalance, series

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body System	Character 5 Duration	Character 6 Qualifier	Character 7 Qualifier
EXTRACORP. THERAPIES	PHYSIOLOGICAL SYSTEMS	HYPOTHERMIA	WHOLE BODY	MULTIPLE	NO QUALIFIER	NO QUALIFIER
6	A	4	G	1	Z	Z

Coding note: Pheresis

PHERESIS is used in medical practice for two main purposes: to treat diseases where too much of a blood component is produced, such as leukemia, or to remove a blood product such as platelets from a donor, for transfusion into a patient who needs them.

Example: Therapeutic leukapheresis, single treatment

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body System	Character 5 Duration	Character 6 Qualifier	Character 7 Qualifier
EXTRACORP. THERAPIES	PHYSIOLOGICAL SYSTEMS	PHERESIS	CIRCULATORY	SINGLE	NO QUALIFIER	LEUKOCYTES
6	A	5	5	0	Z	1

Coding note: Phototherapy

PHOTOTHERAPY to the circulatory system means exposing the blood to light rays outside the body, using a machine that recirculates the blood and returns it to the body after phototherapy.

Example: Phototherapy of circulatory system, series treatment

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body System	Character 5 Duration	Character 6 Qualifier	Character 7 Qualifier
EXTRACORP. THERAPIES	PHYSIOLOGICAL SYSTEMS	PHOTOTHERAPY	CIRCULATORY	MULTIPLE	NO QUALIFIER	NO QUALIFIER
6	A	6	5	1	Z	Z

Example: Ultraviolet light phototherapy, series treatment

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body System	Character 5 Duration	Character 6 Qualifier	Character 7 Qualifier
EXTRACORP. THERAPIES	PHYSIOLOGICAL SYSTEMS	UV LIGHT PHOTOTHERAPY	SKIN	MULTIPLE	NO QUALIFIER	NO QUALIFIER
6	A	8	0	1	Z	Z

Coding exercises

Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	**Code**
Donor thrombocytapheresis, single encounter	6A550Z2
Bili-lite UV phototherapy, series treatment	6A801ZZ
Whole body hypothermia, single treatment	6A4G0ZZ
Circulatory phototherapy, single encounter	6A650ZZ
Shock wave therapy of plantar fascia, single treatment	6A930ZZ
Antigen-free air conditioning, series treatment	6A0G1ZZ
TMS (transcranial magnetic stimulation), series treatment	6A221ZZ
Therapeutic ultrasound of peripheral vessels, single treatment	6A750ZZ
Plasmapheresis, series treatment	6A551Z3
Extracorporeal electromagnetic stimulation (EMS) for urinary incontinence, single treatment	6A210ZZ

Osteopathic—Section 7

Section 7, OSTEOPATHIC, is one of the smallest sections in ICD-10-PCS. There is a single body system, ANATOMICAL REGIONS, and a single root operation, TREATMENT.

The sixth-character methods such as LYMPHATIC PUMP and FASCIAL RELEASE are not explicitly defined in ICD-10-PCS, and rely on the standard definitions as used in this specialty.

Value	Description	Definition
0	Treatment	Manual treatment to eliminate or alleviate somatic dysfunction and related disorders

Example: Fascial release of abdomen, osteopathic treatment

Character 1 Section	Character 2 Body System	Character 3 Operation	Character 4 Body Region	Character 5 Approach	Character 6 Method	Character 7 Qualifier
OSTEOPATHIC	ANATOMICAL REGIONS	TREATMENT	ABDOMEN	EXTERNAL	FASCIAL RELEASE	NO QUALIFIER
7	W	0	9	X	1	Z

Example: General osteopathic mobilization of legs

Character 1 Section	Character 2 Body System	Character 3 Operation	Character 4 Body Region	Character 5 Approach	Character 6 Method	Character 7 Qualifier
OSTEOPATHIC	ANATOMICAL REGIONS	TREATMENT	LOWER EXTREMITIES	EXTERNAL	GENERAL MOBILIZATION	NO QUALIFIER
7	W	0	6	X	2	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedures	Code
Isotonic muscle energy treatment of right leg	7W06X8Z
Low velocity-high amplitude osteopathic treatment of head	7W00X5Z
Lymphatic pump osteopathic treatment of left axilla	7W07X6Z
Indirect osteopathic treatment of sacrum	7W04X4Z
Articulatory osteopathic treatment of cervical region	7W01X0Z

Other Procedures—Section 8

The OTHER PROCEDURES section contains codes for procedures not included in the other medical and surgical-related sections. A single root operation, OTHER PROCEDURES, is defined below.

Value	Description	Definition
0	Other Procedures	Methodologies which attempt to remediate or cure a disorder or disease

There are relatively few procedure codes in this section, for nontraditional, whole body therapies including acupuncture and meditation. There is also a code for the fertilization portion of an in-vitro
fertilization procedure.

Example: Acupuncture

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Region	Character 5 Approach	Character 6 Method	Character 7 Qualifier
OTHER PROCEDURES	ANATOMICAL REGIONS	OTHER PROCEDURES	WHOLE BODY	PERCUTANEOUS	ACUPUNCTURE	NO QUALIFIER
8	W	0	0	3	0	Z

Example: Yoga therapy

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Region	Character 5 Approach	Character 6 Method	Character 7 Qualifier
OTHER PROCEDURES	ANATOMICAL REGIONS	OTHER PROCEDURES	WHOLE BODY	EXTERNAL	YOGA THERAPY	NO QUALIFIER
8	W	0	0	X	2	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Meditation therapy	8W00X3Z

Procedure	Code
Therapeutic massage	8W00X1Z
Suture removal, abdominal wall	8W02X87
Isolation after infectious disease exposure	8W00X5Z
In-vitro fertilization, extracorporeal ovum fertilization	8W0ZX41

Chiropractic—Section 9

The CHIROPRACTIC section consists of a single body system, ANATOMICAL REGIONS, and a single root operation, MANIPULATION, defined below.

Value	Description	Definition
B	Manipulation	Manual procedure that involves a directed thrust to move a joint past the physiological range of motion, without exceeding the anatomical limit

Example: Chiropractic treatment of cervical spine, short lever specific contact

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Region	Character 5 Approach	Character 6 Method	Character 7 Qualifier
CHIROPRACTIC	ANATOMICAL REGIONS	MANIPULATION	CERVICAL	EXTERNAL	SHORT LEVER SP. CONTACT	NO QUALIFIER
9	W	B	1	X	H	Z

Example: Non-manual chiropractic manipulation of pelvis

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Region	Character 5 Approach	Character 6 Method	Character 7 Qualifier
CHIROPRACTIC	ANATOMICAL REGIONS	MANIPULATION	PELVIS	EXTERNAL	NON-MANUAL	NO QUALIFIER
9	W	B	5	X	B	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Chiropractic treatment of lumbar region using long lever specific contact	9WB3XGZ
Chiropractic manipulation of abdominal region, indirect visceral	9WB9XCZ
Chiropractic extra-articular treatment of hip region	9WB6XDZ
Chiropractic treatment of sacrum using long and short lever specific contact	9WB4XJZ
Mechanically-assisted chiropractic manipulation of head	9WB0XKZ

Chapter 4

Procedures in the ancillary sections

Contents

Chapter 4

Procedures in the ancillary sections

THIS CHAPTER PROVIDES reference material for procedure codes in the six ancillary sections of ICD-10-PCS (B–D, F–H). Codes in these sections contain characters not previously defined, such as contrast, modality qualifier and equipment.

First, a table is provided, listing the sections in order. Following the table, reference material is provided for each section, and includes

- General description of the section
- A table listing each root type in the section, with its corresponding definition (sections B, C and F only)
- Coding notes as needed
- Representative examples of procedures coded in that section, in table excerpt format, with explanatory notes as needed
- Coding exercises that provide example procedures and their corresponding ICD-10-PCS codes, with explanatory notes as needed

List of ancillary sections in ICD-10-PCS

Six ancillary sections of ICD-10-PCS include procedures such as imaging, radiation oncology, and rehabilitation.

Section value	Description
B	Imaging
C	Nuclear Medicine
D	Radiation Oncology
F	Physical Rehabilitation and Diagnostic Audiology
G	Mental Health
H	Substance Abuse Treatment

Imaging—Section B

IMAGING follows the same conventions established in the MEDICAL AND SURGICAL section (*see chapter 2*), for the section, body system, and body part characters. However, the third and fourth characters introduce definitions not used in previous sections.

- Third character defines procedure by root type, instead of root operation.
- Fifth character defines contrast if used.
- Sixth character is a qualifier that specifies an image taken without contrast followed by one with contrast.
- Seventh character is a qualifier that is not specified in this section.

Root types

The IMAGING root types are defined in the following table.

Value	Description	Definition
0	Plain Radiography	Planar display of an image developed from the capture of external ionizing radiation on photographic or photoconductive plate
1	Fluoroscopy	Single plane or bi-plane real time display of an image developed from the capture of external ionizing radiation on a fluorescent screen. The image may also be stored by either digital or analog means
2	Computerized Tomography (CT scan)	Computer reformatted digital display of multiplanar images developed from the capture of multiple exposures of external ionizing radiation
3	Magnetic Resonance Imaging (MRI)	Computer reformatted digital display of multiplanar images developed from the capture of radio-frequency signals emitted by nuclei in a body site excited within a magnetic field
4	Ultrasonography	Real time display of images of anatomy or flow information developed from the capture of reflected and attenuated high frequency sound waves

Example: X-ray of right clavicle, limited study

Character 1 Section	Character 2 Body System	Character 3 Root Type	Character 4 Body Part	Character 5 Contrast	Character 6 Qualifier	Character 7 Qualifier
IMAGING	NON-AXIAL UPPER BONES	PLAIN RADIOGRAPHY	CLAVICLE, RIGHT	NONE	NONE	NONE
B	P	0	4	Z	Z	Z

Example: Fluoroscopy of renal dialysis shunt using CO2 contrast

Character 1 Section	Character 2 Body System	Character 3 Root Type	Character 4 Body Part	Character 5 Contrast	Character 6 Qualifier	Character 7 Qualifier
IMAGING	VEINS	FLUOROSCOPY	DIALYSIS SHUNT/FISTULA	OTHER CONTRAST	NONE	NONE
B	5	1	W	Y	Z	Z

Example: CT of brain without contrast followed by high osmolar contrast

Character 1 Section	Character 2 Body System	Character 3 Root Type	Character 4 Body Part	Character 5 Contrast	Character 6 Qualifier	Character 7 Qualifier
IMAGING	CENTRAL NERVOUS	COMPUTERIZED TOMOGRAPHY	BRAIN	HIGH OSMOLAR	UNENHANCED AND ENHANCED	NONE
B	0	2	0	0	0	Z

Example: MRI of liver using Gadoteridol

Character 1 Section	Character 2 Body System	Character 3 Root Type	Character 4 Body Part	Character 5 Contrast	Character 6 Qualifier	Character 7 Qualifier
IMAGING	HEPATOBILIARY & PANCREAS	MAGNETIC RESONANCE IMAGING	LIVER	OTHER CONTRAST	NONE	NONE
B	F	3	5	Y	Z	Z

Example: Ultrasound of prostate gland

Character 1 Section	Character 2 Body System	Character 3 Root Type	Character 4 Body Part	Character 5 Contrast	Character 6 Qualifier	Character 7 Qualifier
IMAGING	MALE REPRODUCTIVE	ULTRA-SONOGRAPHY	PROSTATE AND SEMINAL VESICLES	NONE	NONE	NONE
B	V	4	9	Z	Z	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Non-contrast CT of abdomen and pelvis	BW21ZZZ
Ultrasound guidance for catheter placement, left subclavian artery	B342ZZZ
Chest X-ray, AP/PA and lateral views	BW03ZZZ
Endoluminal ultrasound of gallbladder and bile ducts	BF43ZZZ
MRI of thyroid gland, contrast unspecified	BG34YZZ
Esophageal videofluoroscopy study with oral barium contrast	BD11YZZ
Portable X-ray study of right radius/ulna shaft, standard series	BP0JZZZ
Routine fetal ultrasound, second trimester twin gestation	BY4DZZZ
CT scan of bilateral lungs, high osmolar contrast with densitometry	BB240ZZ
Fluoroscopic guidance for percutaneous transluminal angioplasty (PTA) of left common femoral artery, low osmolar contrast	B41G1ZZ

Nuclear Medicine—Section C

NUCLEAR MEDICINE is organized like the IMAGING section *(see page 4.5)*. The only significant difference is that the fifth character defines the radionuclide instead of the contrast material used in the procedure, as described below.

- The fifth character specifies the radionuclide, the radiation source used in the procedure. Choices are applicable for the root procedure type.
- The sixth and seventh characters are qualifiers, and are not specified in this section.

Root types

The third character classifies the procedure by root type instead of by root operation.

Value	Description	Definition
1	Planar Nuclear Medicine Imaging	Introduction of radioactive materials into the body for single plane display of images developed from the capture of radioactive emissions
2	Tomographic (Tomo) Nuclear Medicine Imaging	Introduction of radioactive materials into the body for three-dimensional display of images developed from the capture of radioactive emissions
3	Positron Emission Tomography (PET)	Introduction of radioactive materials into the body for three-dimensional display of images developed from the simultaneous capture, 180 degrees apart, of radioactive emissions
4	Nonimaging Nuclear Medicine Uptake	Introduction of radioactive materials into the body for measurements of organ function, from the detection of radioactive emissions

Value	Description	Definition
5	Nonimaging Nuclear Medicine Probe	Introduction of radioactive materials into the body for the study of distribution and fate of certain substances by the detection of radioactive emissions from an external source
6	Nonimaging Nuclear medicine Assay	Introduction of radioactive materials into the body for the study of body fluids and blood elements, by the detection of radioactive emissions
7	Systemic Nuclear Medicine Therapy	Introduction of unsealed radioactive materials into the body for treatment

Example: Adenosine sestamibi (technetium) planar scan of heart muscle at rest

Character 1 Section	Character 2 Body System	Character 3 Root Type	Character 4 Body Part	Character 5 Radionuclide	Character 6 Qualifier.	Character 7 Qualifier
NUCLEAR MEDICINE	HEART	PLANAR NUCLEAR IMAGING	MYOCARDIUM	TECHNETIUM 99M	NONE	NONE
C	2	1	G	1	Z	Z

Example: Technetium tomo scan of liver

Character 1 Section	Character 2 Body System	Character 3 Root Type	Character 4 Body Part	Character 5 Radionuclide	Character 6 Qualifier.	Character 7 Qualifier
NUCLEAR MEDICINE	HEPATOBILIARY AND PANCREAS	TOMO NUCLEAR IMAGING	LIVER	TECHNETIUM 99M	NONE	NONE
C	F	2	5	1	Z	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Tomo scan of right and left heart, unspecified radiopharmaceutical, qualitative gated rest	C226YZZ
Technetium pentetate assay of kidneys, ureters, and bladder	CT631ZZ
Uniplanar scan of spine using technetium oxidronate, with first pass study	CP151ZZ
Thallous chloride tomographic scan of bilateral breasts	CH22SZZ
PET scan of myocardium using rubidium	C23GQZZ
Gallium citrate scan of head and neck, single plane imaging	CW1BLZZ
Xenon gas nonimaging probe of brain	C050VZZ
Upper GI scan, radiopharmaceutical unspecified, for gastric emptying	CD15YZZ
Carbon 11 PET scan of brain with quantification	C030BZZ
Iodinated albumin nuclear medicine assay, blood plasma volume study	C763HZZ

Radiation Oncology—Section D

RADIATION ONCOLOGY contains the radiation procedures performed for cancer treatment. Character meanings are described below.

- Third character defines root type, which is the basic modality.
- Fifth character further specifies treatment modality.
- Sixth character defines the radioactive isotope used, if applicable.
- Seventh character is a qualifier, and is not specified in this section.

Root type The third character defines the treatment modality as root type. Examples are BRACHYTHERAPY and STEREOTACTIC RADIOSURGERY. Four different root types are used in this section, as listed in the table below.

Value	Description
0	Beam Radiation
1	Brachytherapy
2	Stereotactic Radiosurgery
Y	Other Radiation

Example: LDR Brachytherapy of cervix using Iridium 192

Character 1 Section	Character 2 Body System	Character 3 Root Type	Character 4 Body Part	Character 5 Modal. Qualifier	Character 6 Isotope	Character 7 Qualifier
RADIATION ONCOLOGY	FEMALE REPRODUCTIVE	BRACHY-THERAPY	CERVIX	LDR BRACHY-THERAPY	IRIDIUM 192	NONE
D	U	1	1	B	8	Z

Example: Intraoperative radiation therapy (IORT) of bladder

Character 1 Section	Character 2 Body Sys	Character 3 Root Type	Character 4 Body Part	Character 5 Modal. Qualifier	Character 6 Isotope	Character 7 Qualifier
RADIATION ONCOLOGY	URINARY SYSTEM	OTHER RADIATION	BLADDER	IORT	NONE	NONE
D	T	Y	2	C	Z	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Plaque radiation of left eye, single port	D8Y0FZZ
8 MeV photon beam radiation to brain	D0011ZZ
IORT of colon, 3 ports	DDY5CZZ
HDR Brachytherapy of prostate using Palladium 103	DV109BZ
Electron radiation treatment of right breast, custom device	DM013ZZ
Hyperthermia oncology treatment of pelvic region	DWY68ZZ
Contact radiation of tongue	D9Y57ZZ
Heavy particle radiation treatment of pancreas, four risk sites	DF034ZZ
LDR brachytherapy to spinal cord using iodine	D016B9Z
Whole body Phosphorus 32 administration with risk to hematopoetic system	DWY5GFZ

Physical Rehabilitation and Diagnostic Audiology—Section F

PHYSICAL REHABILITATION AND DIAGNOSTIC AUDIOLOGY contains character definitions unlike the other sections in ICD-10-PCS. They are described below.

- Second character is a section qualifier that specifies whether the procedure is a rehabilitation or diagnostic audiology procedure.
- Third character defines the general procedure root type.
- Fourth character defines the body system and body region combined, where applicable
- Fifth character further specifies the procedure type.
- Sixth character specifies the equipment used, if any.

Root types

This section uses the third character to classify procedures into 14 root types. They are defined in the table below.

Value	Description	Definition
0	Speech Assessment	Measurement of speech and related functions
1	Motor and/or Nerve Function Assessment	Measurement of motor, nerve, and related functions
2	Activities of Daily Living Assessment	Measurement of functional level for activities of daily living
3	Hearing Assessment	Measurement of hearing and related functions
4	Hearing Aid Assessment	Measurement of the appropriateness and/or effectiveness of a hearing device
5	Vestibular Assessment	Measurement of the vestibular system and related functions
6	Speech Treatment	Application of techniques to improve, augment, or compensate for speech and related functional impairment
7	Motor Treatment	Exercise or activities to increase or facilitate motor function
8	Activities of Daily Living Treatment	Exercise or activities to facilitate functional competence for activities of daily living

Value	Description	Definition
9	Hearing Treatment	Application of techniques to improve, augment, or compensate for hearing and related functional impairment
B	Hearing Aid Treatment	Application of techniques to improve the communication abilities of individuals with cochlear implant
C	Vestibular Treatment	Application of techniques to improve, augment, or compensate for vestibular and related functional impairment
D	Device Fitting	Fitting of a device designed to facilitate or support achievement of a higher level of function
F	Caregiver Training	Training in activities to support patient's optimal level of function

Coding note: Treatment

Treatment procedures include swallowing dysfunction exercises, bathing and showering techniques, wound management, gait training, and a host of activities typically associated with rehabilitation.

Example: Wound care treatment of left calf ulcer using pulsatile lavage

Character 1 Section	Character 2 Section Qualifier	Character 3 Root Type	Character 4 Body System & Region	Character 5 Type Qualifier	Character 6 Equipment	Character 7 Qualifier
REHABILITATION & DIAGNOSTIC AUDIOLOGY	REHABILITATION	ACTIVITIES OF DAILY LIVING TREATMENT	MUSCULOSKEL. LOWER EXTREMITY	WOUND MANAGEMENT	PHYSICAL AGENTS	NONE
F	0	8	L	5	B	Z

Coding note: Assessment

ASSESSMENTS are further classified into more than 100 different tests or methods. The majority of these focus on the faculties of hearing and speech, but others focus on various aspects of body function, and on the patient's quality of life, such as muscle performance, neuromotor development, and reintegration skills.

Example: Articulation and phonology assessment using spectrograph

Character 1 Section	Character 2 Section Qualifier	Character 3 Root Type	Character 4 Body System & Region	Character 5 Type Qualifier	Character 6 Equipment	Character 7 Qualifier
REHABILITATION & DIAGNOSTIC AUDIOLOGY	REHABILITATION	SPEECH ASSESSMENT	NONE	ARTICULATION/ PHONOLOGY	SPEECH ANALYSIS	NONE
F	0	0	Z	9	Q	Z

Coding note: Device Fitting

The fifth character used in DEVICE FITTING describes the device being fitted rather than the method used to fit the device. Detailed descriptions of the devices are provided in the reference materials, the table specific to DEVICE FITTING.

Example: Individual fitting of moveable brace, right knee

Character 1 Section	Character 2 Section Qualifier	Character 3 Root Type	Character 4 Body System & Region	Character 5 Type Qualifier	Character 6 Equipment	Character 7 Qualifier
REHABILITATION & DIAGNOSTIC AUDIOLOGY	REHABILITATION	DEVICE FITTING	NONE	DYNAMIC ORTHOSIS	ORTHOSIS	NONE
F	0	D	Z	6	E	Z

Coding note: Caregiver Training

CAREGIVER TRAINING is divided into eighteen different broad subjects taught to help a caregiver provide proper patient care.

Example: Caregiver training in feeding, no special equipment used

Character 1 Section	Character 2 Section Qualifier	Character 3 Root Type	Character 4 Body System & Region	Character 5 Type Qualifier	Character 6 Equipment	Character 7 Qualifier
REHABILITATION & DIAGNOSTIC AUDIOLOGY	REHABILITATION	CAREGIVER TRAINING	NONE	FEEDING AND EATING	NONE	NONE
F	0	F	Z	2	Z	Z

Coding exercises

Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	**Code**
Bekesy assessment using audiometer	F13Z31Z
Individual fitting of left eye prosthesis	F0DZ8UZ
Physical therapy for range of motion and mobility, patient right hip, no special equipment	F07L0ZZ
Bedside swallow assessment using assessment kit	F00ZHYZ
Caregiver training in airway clearance techniques	F0FZ8ZZ
Application of short arm cast in rehabilitation setting	F0DZ7EZ Inhibitory cast is listed in the equipment reference table under E, ORTHOSIS.

Procedure	Code
Verbal assessment of patient's pain level	F02ZFZZ
Caregiver training in communication skills using manual communication board	F0FZJMZ Manual communication board is listed in the equipment reference table under M, AUGMENTATIVE/ ALTERNATIVE COMMUNICATION.
Group musculoskeletal balance training exercises, whole body, no special equipment	F07M6ZZ Balance training is included in the MOTOR TREATMENT reference table under THERAPEUTIC EXERCISE.
Individual therapy for auditory processing using tape recorder	F09Z2KZ Tape recorder is listed in the equipment reference table under AUDIOVISUAL EQUIPMENT.

Mental Health—Section G

MENTAL HEALTH contains specific values in the third and fourth characters to describe mental health procedures. The remaining characters function as placeholders only. Character meanings are described below.

- Third character describes the mental health procedure root type.
- Fourth character further specifies the procedure type as needed.
- Second, fifth, sixth, and seventh characters do not convey specific information about the procedure. The value Z functions as a placeholder in these characters.

Root Type

The third character describes the mental health root type. There are 11 root type values in this section, as listed in the table below.

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Value	Description
1	Psychological Tests
2	Crisis Intervention
5	Individual Psychotherapy
6	Counseling
7	Family Psychotherapy
B	Electroconvulsive Therapy
C	Biofeedback
F	Hypnosis
G	Narcosynthesis
H	Group Therapy
J	Light Therapy

Example: Galvanic skin response (GSR) biofeedback

Character 1 Section	Character 2 Body System	Character 3 Root Type	Character 4 Type Qualifier	Character 5 Qualifier	Character 6 Qualifier	Character 7 Qualifier
MENTAL HEALTH	NONE	BIOFEEDBACK	OTHER BIOFEEDBACK	NONE	NONE	NONE
G	Z	C	9	Z	Z	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Cognitive-behavioral psychotherapy, individual	GZ58ZZZ
Narcosynthesis	GZGZZZZ
Light therapy	GZJZZZZ
ECT (Electroconvulsive therapy), unilateral, multiple seizure	GZB1ZZZ
Crisis intervention	GZ2ZZZZ
Neuropsychological testing	GZ13ZZZ
Hypnosis	GZFZZZZ
Developmental testing	GZ10ZZZ
Vocational counseling	GZ61ZZZ
Family psychotherapy	GZ72ZZZ

Substance Abuse Treatment—Section H

SUBSTANCE ABUSE TREATMENT is structured like a smaller version of the MENTAL HEALTH section *(see page 4.17)*. Character meanings are described below.

- Third character describes the root type.
- Fourth character is a qualifier that further classifies the root type.
- Second, fifth, sixth, and seventh characters do not convey specific information about the procedure. The value Z functions as a placeholder in these characters.

Root Types

There are seven different root type values classified in this section, as listed in the following table.

Value	Description
2	Detoxification Services
3	Individual Counseling
4	Group Counseling
5	Individual Psychotherapy
6	Family Counseling
8	Medication Management
9	Pharmacotherapy

Example: Pharmacotherapy treatment with Antabuse for alcohol addiction

Character 1 Section	Character 2 Body System	Character 3 Root Type	Character 4 Type Qualifier	Character 5 Qualifier	Character 6 Qualifier	Character 7 Qualifier
SUBSTANCE ABUSE TRMNT.	NONE	PHARMACO-THERAPY	ANTABUSE	NONE	NONE	NONE
H	Z	9	3	Z	Z	Z

Coding exercises Using the ICD-10-PCS Tables, construct the code that accurately represents the procedure performed.

Procedure	Code
Naltrexone treatment for drug dependency	HZ94ZZZ
Substance abuse treatment family counseling	HZ63ZZZ
Medication monitoring of patient on methadone maintenance	HZ81ZZZ
Individual interpersonal psychotherapy for drug abuse	HZ54ZZZ
Patient in for alcohol detoxification treatment	HZ2ZZZZ
Group motivational counseling	HZ47ZZZ
Individual 12-step psychotherapy for substance abuse	HZ53ZZZ
Post-test infectious disease counseling for IV drug abuser	HZ3CZZZ
Psychodynamic psychotherapy for drug dependent patient	HZ5CZZZ
Group cognitive-behavioral counseling for substance abuse	HZ42ZZZ

Appendix A

ICD-10-PCS definitions

Contents

Appendix A

ICD-10-PCS definitions

THIS APPENDIX CONTAINS reference tables listing the root operations and approaches used in the MEDICAL AND SURGICAL section. The first table includes the definition of each root operation, with explanation and examples. The second table includes the definition of each approach.

The root operations are listed by name in alphabetical order. The approaches are listed by approach value, in numeric order followed by alphabetical order.

Root operations

Alteration	Definition	Modifying the anatomic structure of a body part without affecting the function of the body part
	Explanation	Principal purpose is to improve appearance
	Examples	Face lift, breast augmentation
Bypass	Definition	Altering the route of passage of the contents of a tubular body part
	Explanation	Rerouting contents around an area of a body part to another distal (downstream) area in the normal route; rerouting the contents to another different but similar route and body part; or to an abnormal route and another dissimilar body part. It includes one or more concurrent anastomoses with or without the use of a device such as autografts, tissue substitutes and synthetic substitutes.
	Examples	Coronary artery bypass, colostomy formation
Change	Definition	Taking out or off a device from a body part and putting back an identical or similar device in or on the same body part without cutting or puncturing the skin or a mucous membrane
	Explanation	N/A
	Examples	Urinary catheter change, gastrostomy tube change
Control	Definition	Stopping, or attempting to stop, postprocedural bleeding
	Explanation	The site of the bleeding is coded as an anatomical region and not to a specific body part.
	Examples	Control of post-prostatectomy hemorrhage, control of post-tonsillectomy hemorrhage
Creation	Definition	Making a new structure that does not physically take the place of a body part
	Explanation	Used only for sex change operations where genitalia are made
	Examples	Creation of vagina in a male, creation of penis in a female
Destruction	Definition	Eradicating all or a portion of a body part
	Explanation	Used for the actual physical destruction of all or a portion of a body part by the direct use of energy, force or a destructive agent. None of the body part is taken out.
	Examples	Fulguration of rectal polyp, cautery of skin lesion
Detachment	Definition	Cutting off all or a portion of an extremity
	Explanation	Cutting off all or part of the upper or lower extremities
	Examples	Below knee amputation, disarticulation of shoulder
Dilation	Definition	Expanding an orifice or the lumen of a tubular body part
	Explanation	The orifice can be a natural orifice or an artificially created orifice. Accomplished by stretching a tubular body part using intraluminal pressure or by cutting part of the orifice or wall of the tubular body part.
	Examples	Percutaneous transluminal angioplasty, pyloromyotomy
Division	Definition	Separating, without taking out, a body part
	Explanation	All or a portion of the body part is separated into two or more portions.

	Examples	Spinal cordotomy, osteotomy
Drainage	Definition	Taking or letting out fluids and/or gases from a body part
	Explanation	The qualifier DIAGNOSTIC is used to identify drainage procedures that are biopsies.
	Examples	Thoracentesis, incision and drainage
Excision	Definition	Cutting out or off, without replacement, a portion of a body part
	Explanation	The qualifier DIAGNOSTIC is used to identify excision procedures that are biopsies.
	Examples	Partial nephrectomy, liver biopsy
Extirpation	Definition	Taking or cutting out solid matter from a body part
	Explanation	The solid matter may be an abnormal byproduct of a biological function or a foreign body. The solid matter is imbedded in a body part, or is in the lumen of a tubular body part. The solid matter may or may not have been previously broken into pieces. No appreciable amount of the body part is taken out.
	Examples	Thrombectomy, choledocholithotomy
Extraction	Definition	Pulling or stripping out or off all or a portion of a body part
	Explanation	The body part is pulled or stripped from its location by the use of force (e.g., manual, suction). The qualifier DIAGNOSTIC is used to identify extraction procedures that are biopsies.
	Examples	Dilation and curettage, vein stripping
Fragmentation	Definition	Breaking solid matter in a body part into pieces
	Explanation	The solid matter may be an abnormal byproduct of a biological function or a foreign body. Physical force (e.g., manual, ultrasonic) applied directly or indirectly through intervening body parts is used to break the solid matter into pieces. The pieces of solid matter are not taken out, but are eliminated or absorbed through normal biological functions.
	Examples	Extracorporeal shockwave lithotripsy, transurethral lithotripsy
Fusion	Definition	Joining together portions of an articular body part rendering the articular body part immobile
	Explanation	The body part is joined together by fixation device, bone graft, or other means.
	Examples	Spinal fusion, ankle arthrodesis
Insertion	Definition	Putting in a non-biological device that monitors, assists, performs or prevents a physiological function but does not physically take the place of a body part
	Explanation	N/A
	Examples	Insertion of radioactive implant, insertion of central venous catheter
Inspection	Definition	Visually and/or manually exploring a body part
	Explanation	Visual exploration may be performed with or without optical instrumentation. Manual exploration may be performed directly or through intervening body layers.
	Examples	Diagnostic arthroscopy, exploratory laparotomy
Map	Definition	Locating the route of passage of electrical impulses and/or locating functional areas in a body part
	Explanation	Applicable only to the cardiac conduction mechanism and the central nervous system
	Examples	Cardiac mapping, cortical mapping
Occlusion	Definition	Completely closing an orifice or the lumen of a tubular body part

	Explanation	The orifice can be a natural orifice or an artificially created orifice.
	Examples	Fallopian tube ligation, ligation of inferior vena cava
Reattachment	Definition	Putting back in or on all or a portion of a separated body part to its normal location or other suitable location
	Explanation	Vascular circulation and nervous pathways may or may not be reestablished.
	Examples	Reattachment of hand, reattachment of avulsed kidney
Release	Definition	Freeing a body part
	Explanation	Eliminating an abnormal constraint of a body part by cutting or by use of force. Some of the restraining tissue may be taken out but none of the body part is taken out.
	Examples	Adhesiolysis, carpal tunnel release
Removal	Definition	Taking out or off a device from a body part
	Explanation	If taking out a device and putting in a similar device is performed with an external approach, the procedure is coded to the root operation CHANGE. Otherwise, the procedure for taking out the device is coded to the root operation REMOVAL and the procedure for putting in the new device is coded to the root operation performed.
	Examples	Drainage tube removal, cardiac pacemaker removal
Repair	Definition	Restoring, to the extent possible, a body part to its normal anatomic structure and function
	Explanation	Used only when the method to accomplish the repair is not one of the other root operations
	Examples	Herniorrhaphy, suture of laceration
Replacement	Definition	Putting in or on biological or synthetic material that physically takes the place of all or a portion of a body part
	Explanation	The biological material is non-living, or the biological material is living and from the same individual. The body part may have been previously taken out, previously replaced, or may be taken out concomitantly with the Replacement procedure. If the body part has been previously replaced, a separate Removal procedure is coded for taking out the device used in the previous replacement.
	Examples	Total hip replacement, free skin graft
Reposition	Definition	Moving to its normal location or other suitable location all or a portion of a body part
	Explanation	The body part is moved to a new location from an abnormal location, or from a normal location where it is not functioning correctly. The body part may or may not be cut out or off to be moved to the new location.
	Examples	Reposition of undescended testicle, fracture reduction
Resection	Definition	Cutting out or off, without replacement, all of a body part
	Explanation	None
	Examples	Total nephrectomy, total lobectomy of lung
Restriction	Definition	Partially closing an orifice or the lumen of a tubular body part
	Explanation	The orifice can be a natural orifice or an artificially created orifice.
	Examples	Esophagogastric fundoplication, cervical cerclage
Revision	Definition	Correcting, to the extent possible, a malfunctioning or displaced device

	Explanation	Revision can include correcting a malfunctioning or displaced device by taking out or putting in components of the device such as a screw or pin.
	Examples	Adjustment of pacemaker lead, adjustment of hip prosthesis
Transfer	Definition	Moving, without taking out, all or a portion of a body part to another location to take over the function of all or a portion of a body part
	Explanation	The body part transferred remains connected to its vascular and nervous supply.
	Examples	Tendon transfer, skin pedicle flap transfer
Transplantation	Definition	Putting in or on all or a portion of a living body part taken from another individual or animal to physically take the place and/or function of all or a portion of a similar body part
	Explanation	The native body part may or may not be taken out, and the transplanted body part may take over all or a portion of its function.
	Examples	Kidney transplant, heart transplant

Approaches

Approach description	Definition
Open	Cutting through the skin or mucous membrane and any other body layers necessary to expose the site of the procedure
Open Endoscopic	Cutting through the skin or mucous membrane and any other body layers necessary to expose a body part, and introduction of instrumentation to reach and visualize the site of the procedure
Percutaneous	Entry, by puncture or minor incision, of instrumentation through the skin or mucous membrane and any other body layers necessary to reach the site of the procedure
Percutaneous Endoscopic	Entry, by puncture or minor incision, of instrumentation through the skin or mucous membrane and any other body layers necessary to reach and visualize the site of the procedure
Via Natural or Artificial Opening	Entry of instrumentation through a natural or artificial external opening to reach the site of the procedure
Via Natural or Artificial Opening Endoscopic	Entry of instrumentation through a natural or artificial external opening to reach and visualize the site of the procedure
Open with Percutaneous Endoscopic Assistance	Cutting through the skin or mucous membrane and any other body layers necessary to expose the site of the procedure, and entry, by puncture or minor incision, of instrumentation through the skin or mucous membrane and any other body layers necessary to aid in the performance of the procedure
External	Procedures performed directly on the skin or mucous membrane and procedures performed indirectly by the application of external force through the skin or mucous membrane

Appendix B

ICD-10-PCS draft coding guidelines

Contents

Appendix B

ICD-10-PCS draft coding guidelines

THIS APPENDIX LISTS the draft ICD-10-PCS guidelines. They are grouped into general guidelines and guidelines that apply to a section or sections. Guidelines for the Medical and Surgical section are further grouped by character. The guidelines are numbered sequentially within each category.

A. General

A.1. It is not possible to construct a procedure code from the alphabetic index. The purpose of the alphabetic index is to locate the appropriate table that contains all information necessary to construct a procedure code.

A.2. All seven characters must contain valid values to be a valid procedure code. If the documentation is incomplete for coding purposes, the physician should be queried for the necessary information.

A.3. The columns in the Tables contain the values for characters four through seven. The rows delineate the valid combinations of values. Any combination of values not contained in a single row of the Tables is invalid.

A.4. "And," when used in a code description, means "and/or."

Example: Lower Arm and Wrist Muscle means lower arm and/or wrist muscle.

Body system guidelines

B2.1. Body systems contain body part values that include contiguous body parts. These general body part values are used:

a. When a procedure is performed on the general body part as a whole.

b. When the specific body part cannot be determined.

c. In the root operations Change, Removal and Revision, when the specific body part value is not in the table.

Example: Esophagus is a general body part value; Esophagus, Upper is a specific body part value.

B2.2. Three body systems contain body part values that represent general anatomical regions, upper extremity anatomical regions, and lower extremity anatomical regions respectively. These body part values are used when a procedure is performed on body layers that span more than one body system.

Example: Debridement of skin, muscle, and bone at a procedure site is coded to the anatomical regions body systems.

Exception: Composite tissue transfers are coded to the specific body systems (Muscles or Subcutaneous Tissue and Fascia). In these body systems, qualifiers delineate the body layers involved.

B2.3. Body systems designated as upper or lower contain body parts located above or below the diaphragm respectively.

Example: Upper Veins body parts are above the diaphragm; Lower Veins body parts are below the diaphragm.

Root operation guidelines

B3.1. In order to determine the appropriate root operation, the full definition of the root operation as contained in the Tables must be applied.

B3.2. Components of a procedure necessary to complete the objective of the procedure specified in the root operation are considered integral to the procedure and are not coded separately.

Example: Resection of a joint is integral to joint replacement.

Multiple procedures

B3.3. During the same operative episode, multiple procedures are coded if:

a. The same root operation is performed on different body parts as defined by distinct values of the body part character.

   Example: Diagnostic excision of liver and pancreas are coded separately.

b. The same root operation is repeated at different body sites that are included in the same body part value.

   Example: Excision of the sartorius muscle and excision of the gracilis muscle are both included in the upper leg muscle body part value, and multiple procedures are coded. Destruction of separate skin body sites on the face are all included in the body part value Skin, Face, and multiple procedures are coded.

c. Multiple root operations with distinct objectives are performed on the same body part.

   Example: Destruction of sigmoid lesion and bypass of sigmoid colon are coded separately.

d. The intended root operation is attempted using one approach, but is converted to a different approach.

   Example: Laparoscopic cholecystectomy converted to an open cholecystectomy is coded as endoscopic Inspection and open Resection.

Discontinued procedures

B3.4. If the intended procedure is discontinued, code the procedure to the root operation performed. If a procedure is discontinued before any other root operation is performed, code the root operation Inspection of the body part or anatomical region inspected.

Example: Ureteroscopy with unsuccessful extirpation of ureteral stone is coded to Inspection of ureter.

Bypass

B3.5. Bypass procedures are coded according to the direction of flow of the contents of a tubular body part: the body part value identifies the origin of the bypass and the qualifier identifies the destination of the bypass.

Example: Bypass from stomach to jejunum, stomach (origin) is the body part and jejunum (destination) is the qualifier.

Note: Coronary arteries are coded differently. The body part value identifies the number of coronary artery sites bypassed. The qualifier identifies the origin of the bypass.

B3.6. If multiple coronary artery sites are bypassed, a separate procedure is coded for each coronary artery site that uses a different device and/or qualifier.

Example: Aortocoronary artery bypass and internal mammary coronary artery bypass are coded separately.

Control

B3.7. If an attempt to stop postprocedural bleeding is unsuccessful and requires performing Bypass, Detachment, Excision, Extraction, Reposition, Replacement, or Resection to stop the bleeding, then that root operation is coded instead of Control.

Example: Resection of spleen to stop postprocedural bleeding is coded to Resection instead of Control.

Diagnostic excision

B3.8. If a diagnostic excision (biopsy) is followed by a therapeutic excision at the same procedure site, or by resection of the body part during the same operative episode, code only the therapeutic excision or resection.

Example: Biopsy of breast followed by partial mastectomy at the same procedure site, only the partial mastectomy procedure is coded.

Inspection

B3.9. Inspection of a body part(s) integral to the performance of the procedure is not coded separately.

Example: Fiberoptic bronchoscopy with irrigation of bronchus, only the irrigation procedure is coded.

B3.10. If multiple body parts are inspected, the body part character is defined as the general body part value that identifies the entire area inspected. If no general body part value is provided, the body part character is defined as the most distal body part inspected.

Example: Laparoscopy of pelvic organs is coded to the pelvic region body part value. Cystoureteroscopy with inspection of bladder and ureters is coded to the ureter body part value.

Division and Release

B3.11. If the sole objective of the procedure is separating a nontubular body part, the root operation is Division. If the sole objective of the procedure is freeing a body part without cutting the body part, the root operation is Release.

B3.12. In the root operation Release, the body part value coded is the body part being freed and not the tissue being manipulated or cut to free the body part.

Example: Lysis of intestinal adhesions is coded to one of the intestine body part values.

Fusion of vertebral joints

B3.13. If multiple vertebral joints included in the same body part value are fused, a separate procedure is coded for each joint that uses a different device and/or qualifier. Joints between two areas of the spine (e.g., cervicothoracic vertebral joint) have their own body part values and are coded separately.

Example: Fusion of C-4/5 with fixation device and C-5/6 with bone graft are coded separately. Fusion of the C-5/6 joint and the C7-T1 joint are coded separately.

Fracture treatment

B3.14. Reduction of a displaced fracture is coded to the root operation Reposition. Treatment of a nondisplaced fracture is coded to the procedure performed.

Example: Putting a pin in a nondisplaced fracture is coded to the root operation Insertion. Casting of a nondisplaced fracture is coded to the root operation Immobilization in the Placement section.

Transplantation

B3.15. Putting in a mature and functioning living body part taken from another individual or animal is coded to the root operation Transplantation. Putting in autologous or nonautologous cells is coded to the Administration section.

Example: Putting in autologous or nonautologous bone marrow, pancreatic islet cells or stem cells is coded to the Administration section.

Body part guidelines

B4.1. If a procedure is performed on a portion of a body part that does not have a separate body part value, code the body part value corresponding to the whole body part.

Example: A procedure performed on the alveolar process of the mandible is coded to the mandible body part.

B4.2. If the prefix "peri" is used with a body part to identify the site of the procedure, the body part value is defined as the body part named.

Example: A procedure site identified as perirenal is coded to the kidney body part.

B4.3. If the procedure documentation uses a body part to further specify the site of the procedure, the body part value is defined as the body part on which the procedure is performed.

Example: A procedure site identified as the prostatic urethra is coded to the urethra body part.

Coronary arteries

B4.4. The coronary arteries are classified as a single body part. They are further specified by number of sites treated, not by name or number of arteries. Separate body part values are provided to indicate the number of sites treated, when the same procedure is performed on multiple sites in the coronary arteries.

Example: Two dilations with stents of a coronary artery are coded as dilation of Coronary Artery, Two Sites, with intraluminal device. Two dilations, one with stent and one without, are coded separately as dilation of Coronary Artery, One Site, with intraluminal device, and dilation of Coronary Artery, One Site, with no device.

Bilateral body part values

B4.5. Bilateral body part values are available for a limited number of body parts. They are included in the system on the basis of frequency and common practice. If the identical procedure is performed on contralateral body parts, and a bilateral body part value exists for that body part, a single procedure is coded using the bilateral body part value. If no bilateral body part value exists, code each procedure separately using the appropriate body part value.

Example: The identical procedure performed on both fallopian tubes is coded once using the body part value Fallopian Tube, Bilateral. The identical procedure performed on both knee joints is coded twice using the body part values Knee Joint, Right and Knee Joint, Left.

Body parts near a joint

B4.6. Procedures performed on tendons, ligaments, bursae and fascia supporting a joint are coded to the body part that is the focus of the procedure, in the respective body system. Procedures performed on joint structures are coded to the body part in the joint body systems.

Example: Repair of the anterior cruciate ligament of the knee is coded to the knee body part in the bursae and ligaments body system. Shoulder arthroscopy with shaving of articular cartilage is coded to the shoulder joint body part.

B4.7. In body systems containing skin, subcutaneous tissue, muscle, and tendon body part values, where a specific body part value does not exist for the area surrounding a joint, the corresponding body part is coded as follows:

- Shoulder is coded to Upper Arm
- Elbow is coded to Lower Arm
- Wrist is coded to Lower Arm
- Hip is coded to Upper Leg
- Knee is coded to Lower Leg

- Ankle is coded to Foot

Fingers and toes

B4.8. If a body system does not contain a separate body part value for fingers, procedures performed on the fingers are coded to the body part value for the hand. If a body system does not contain a separate body part value for toes, procedures performed on the toes are coded to the body part value for the foot.

Example: Excision of finger muscle is coded to the hand muscle body part value.

Humerus

B4.9. Procedures performed on the distal (elbow) end of the humerus are coded to the humeral shaft body part value.

Skin glands and ducts

B4.10. Procedures performed on skin and breast glands and ducts are coded to body part values in the body system Skin and Breast.

Forequarter and hindquarter

B4.11. In the anatomical regions body system containing lower extremities body parts, the body part value Forequarter describes the entire upper limb plus the scapula and clavicle, and the body part value Hindquarter describes the entire lower limb including all of the hip and the buttock.

Nerves and vessels

B4.12. Nerves and vessels that are not identified by a separate body part value are coded to the closest proximal branch identified by a body part value.

Example: A procedure performed on the mandibular branch of the trigeminal nerve is coded to the trigeminal nerve body part value.

Approach guidelines

B5.1. Procedures performed using the open approach with percutaneous endoscopic assistance are coded to approach value 0, Open.

Endoscopic assistance

Example: Laparoscopic-assisted sigmoidectomy is coded to approach value 0, Open.

B5.2. Procedures performed via natural or artificial opening with percutaneous endoscopic assistance are coded to approach value F, Via Natural or Artificial Opening with Percutaneous Endoscopic Assistance.

Example: Laparoscopic-assisted vaginal hysterectomy (LAVH) is coded to approach value F, Via Natural or Artificial Opening with Percutaneous Endoscopic Assistance.

External approach

B5.3a. Procedures performed within an orifice on structures that are visible without the aid of any instrumentation are coded to approach value X, External.

Example: Resection of tonsils is coded to approach value X, External.

B5.3b. Procedures performed indirectly by the application of external force through the intervening body layers are coded to approach value X, External.

Example: Closed reduction of fracture is coded to approach value X, External.

Indwelling device

B5.4a. Procedures performed via indwelling device are coded to approach value 3, Percutaneous.

Example: Fragmentation of kidney stone performed via percutaneous nephrostomy is coded to approach value 3, Percutaneous.

B5.4b. Procedures performed on a device, as defined in the root operations Change, Irrigation, Removal and Revision, are coded to the procedure performed.

Example: Irrigation of percutaneous nephrostomy tube is coded to the root operation Irrigation of indwelling device in the Administration section.

Device guidelines

B6.1. A device is coded only if a device remains after the procedure is completed. If no device remains, the device value No Device is coded.

B6.2. Materials such as sutures, ligatures, radiological markers and temporary post-operative wound drains are considered integral to the performance of a procedure and are not coded as devices.

B6.3. A separate procedure to put in a drainage device is coded to the root operation Drainage with the device value Drainage Device.

B6.4. If, as part of a procedure, an autograft is obtained from a different body part, a separate procedure is coded.

Example: Coronary bypass with excision of saphenous vein graft, excision of saphenous vein is coded separately.

C. Other medical and surgical-related sections (sections 1–9)

C.1. The Obstetrics section includes only the procedures performed on the products of conception. Procedures performed on the pregnant female other than the products of conception are coded to a root operation in the Medical and Surgical section.

Example: Episiotomy is coded to a root operation in the Medical and Surgical section.

Glossary

Character	One of the seven components that comprise an ICD-10-PCS procedure code
Value	Individual units defined for each character and represented by a number or letter
Procedure	The complete specification of the seven characters
Section (1st character)	Defines the general type of procedure
Body System (2nd character)	Defines the general physiological system on which the procedure is performed or anatomical region where the procedure is performed
Root Operation (3rd character)	Defines the objective of the procedure
Body Part or Region (4th character)	Defines the specific anatomical site where the procedure is performed
Approach (5th character)	Defines the technique used to reach the site of the procedure

Device (6th character) Defines the material or appliance that remains in or on the body at the end of the procedure

Qualifier (7th character) Defines an additional attribute of the procedure performed, if applicable

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