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Introduction

Coding is a complicated business. It is not enough to have a current copy of an ICD-10-PCS book—coders must have a firm enough grasp of medical terminology, anatomy, and surgical techniques to be able to translate procedure descriptions in medical records into detailed codes. ICD-10-PCS guidelines state that the physician is not responsible for changing the common procedure terminology he or she uses to document procedures so that it better matches terminology used in the coding system. Rather, the burden is on the coder, who must interpret physicians’ procedure descriptions and reflect them in the appropriate ICD-10-PCS codes. The Coders’ Desk Reference for Procedures (ICD-10-PCS) addresses this challenge.

This book provides coders, coding managers, medical staff and health care professionals, payers, educators, and students with comprehensive, clear descriptions of procedures. The goal is to enrich users’ clinical understanding of surgical procedures and how they relate to the way ICD-10-PCS classifies procedures. The result is improved coding confidence so that code selection becomes more accurate and efficient. The coding guidance in Coders’ Desk Reference for Procedures (ICD-10-PCS) is based on the official version of the ICD-10 Procedure Coding System (ICD-10-PCS) effective October 1, 2016. (Please note that this procedure coding reference is intended to be used with an official ICD-10-PCS code book.)

This desk reference is organized by common procedure nomenclature used in the hospital setting, which is linked to the related root operation tables. The procedures are described in layman’s terms, translated to ICD-10-PCS root operation terminology, and the corresponding root operation tables are identified.

Detailed descriptions using terminology coders see in medical documents, together with coding clarification and guidance and important instruction regarding ICD-10-PCS conventions, make Coders’ Desk Reference for Procedures (ICD-10-PCS) an unparalleled guidebook to code selection.

Important Message: Not all categories, subcategories, or procedures have been represented in this first edition of the Coders’ Desk Reference for Procedures (ICD-10-PCS). Additional procedures not part of the 2017 edition will gradually be incorporated into future editions.

ICD-10-PCS Overview

ICD-10-PCS has a multiaxial, seven-character, alphanumeric code structure. Each character contains up to 34 possible values. Each value represents a specific option for the general character definition. The 10 digits 0–9 and the 24 letters A–H, J–N, and P–Z may be used for each character. The letters O and I are not used so as to avoid confusion with the digits 0 and 1.

An ICD-10-PCS code is the result of a process rather than a single fixed set of digits or alphabetic characters. The process consists of combining semi-independent values from among a selection of values, according to the rules governing the construction of codes. A code is derived by choosing a specific value for each of the seven characters. Based on details about the procedure performed, values are assigned for each character specifying the section, body system, root operation, body part, approach, device, and qualifier. Because the definition of each character is also a function of its physical position in the code, the same letter or number placed in a different position in the code has a different meaning.

The seven characters that make up a complete code have specific meanings that vary for each of the 17 sections of the manual. Procedures are divided into sections that identify the general type of procedure (e.g., Medical and Surgical, Obstetrics, Imaging). The first character of the procedure code always specifies the section. The second through seventh characters have the same meaning within each section but may mean different things in other sections. In all sections, the third character specifies the general type, or root operation, of procedure performed (e.g., Resection, Transfusion, Fluoroscopy), while the other characters give additional information such as the body part and approach.

ICD-10-PCS Index

Codes may be found in the index based on the general type of procedure (e.g., Resection, Transfusion, Fluoroscopy), or a more commonly used term (e.g., Appendectomy). For example, the code for percutaneous intraluminal dilation of the coronary arteries with an intraluminal device can be found in the ICD-10-PCS index under “Dilation” or a synonym for dilation (e.g., “Angioplasty”). The index then specifies the first three or four values of the code or directs the user to see another term.

The user can use the alphabetic index to locate the appropriate table containing all the information necessary to construct a procedure code. The PCS tables should always be consulted to find the most appropriate valid code. Coders may choose a valid code directly from the tables; they do not have to consult the index before proceeding to the tables to complete the code.
Main Terms
The alphabetic index reflects the structure of the tables. The index:
- is based on the value of the third character
- contains common procedure terms
- lists anatomic sites
- uses device terms

The main terms in the alphabetic index are root operations, root procedure types, or common procedure names. The index provides at least the first three or four values of the code, and some entries may provide complete valid codes. However, the user should always consult the appropriate table to verify that the most appropriate valid code has been selected.

For the Medical and Surgical and related sections, the root operation values are used as main terms in the index. The subterms under the root operation main terms are body parts. For the Ancillary section of the code tables, the main terms in the index are the general type of procedure performed.

The second type of term in the index uses common procedure names, such as “appendectomy” or “fundoplication.” These common terms are listed as main terms with a “see” reference noting the PCS root operations that are possible valid code tables based on the objective of the procedure.

Use Reference
The index also lists anatomic sites from the Body Part Key and device terms from the Device Key. These terms are listed with “use” references, which are additional references to the terms located in the appendix keys. The term provided is the body part value or device value to be selected when constructing a procedure code using the code tables. This type of index reference does not direct the user to another term in the index, but provides guidance regarding character value selection. Therefore, “use” references generally do not refer to specific valid code tables.

ICD-10-PCS Code Tables
ICD-10-PCS contains 17 sections of code tables organized by general type of procedure. Each table is composed of rows that specify the valid combinations of code values. In most sections of the coding system, the upper portion of each table contains a description of the first three characters of the procedure code. In the Medical and Surgical section, for example, the first three characters contain the name of the section, the body system, and the root operation performed. The four columns in the table specify the last four characters. In the Medical and Surgical section, they are labeled body part, approach, device and qualifier, respectively. Each row in the table specifies the valid combination of values for characters 4 through 7. All seven characters must be specified to form a valid code.

Note that the code must be constructed with a combination of values within the same row of the table. A combination of values from different rows of the same table will result in an invalid code.

Format
Coders’ Desk Reference for Procedures (ICD-10-PCS) is divided into convenient sections for easy use. The basic format of the book provides clinical coding support with illustrations, narratives, and other resources that help the user work from the medical record. The book begins with special chapters that provide detailed information on coding guidelines and conventions relating to ICD-10-PCS procedure coding, as well as common abbreviations, acronyms, and symbols, eponyms, and surgical terms found in the medical record. It then follows the organization of ICD-10-PCS, looking at procedures and their associated ICD-10-PCS root operation tables. Due to the significant expansion of the number of ICD-10-PCS codes, it is impossible to include a description of every procedure. Included are representative examples of procedures, organized by section and subsection.

List of Illustrations
This is a list of illustrations by procedure name with a cross-reference to the appropriate page.

ICD-10-PCS Official Guidelines for Coding and Reporting 2017
For the new coder, and even for the veteran, this chapter provides an overview and detailed instructions on ICD-10-PCS coding guidelines and conventions.

ICD-10-PCS Root Operation Definitions
This resource is a compilation of all root operations in the Medical and Surgical-Related sections of the ICD-10-PCS manual. It provides a definition and in some cases a more detailed explanation of the root operation to better reflect its purpose or objective. Examples of related procedures may also be provided.

Abbreviations, Acronyms, and Symbols
The medical profession has its own shorthand for documentation. Here, acronyms, abbreviations, and symbols commonly seen on operative reports or medical charts are listed for easy reference.

Procedure Eponyms
In the medical record, procedures are often documented by their common name or eponym (such as Billroth’s operation I). Eponyms honor the developer of a procedure or test but do little to clarify what the procedure is. ICD-10-PCS does not cross-reference eponyms even though they are commonly noted in medical documentation. Our editors have researched the procedure eponyms in the volume 3 index of the ICD-9 book and identified the associated ICD-10-PCS
Introduction

three- and sometimes four-character tables. The three-character description references the root operation and body system; the four-character description specifies the root operation and body part, when applicable.

Surgical Terms
Operative reports contain words and phrases that not only communicate the importance and urgency of surgery, but also describe the techniques. The Coders’ Desk Reference for Procedures (ICD-10-PCS) glossary of surgical terms includes the terms operative reports most commonly use to describe techniques and tools.

Procedures
The first section of the desk reference, Medical and Surgical, contains the majority of procedures typically reported in an inpatient setting.

The next section is Medical and Surgical-Related sections, with subsections as listed below:

• Obstetrics
• Placement
• Administration
• Measurement and Monitoring
• Extracorporeal Assistance and Performance
• Extracorporeal Therapies
• Osteopathic
• Other Procedures
• Chiropractic

Next is the Ancillary section, which contains subsections for Imaging, Nuclear Medicine, and Radiation Therapy. Codes in these sections contain character values for contrast, modality qualifier, and equipment.

Last is the New Technology section, which contains codes identifying procedures requested via the new technology application process, and codes that capture new technologies not currently classified in ICD-10-PCS.

This section may include medical and surgical procedures, medical and surgical-related procedures, or ancillary procedures that are currently designated as new technology.

Alphabetic Index
The “Alphabetic Index” enables the user to look up a procedure by principal procedure or keyword, such as “Bypass,” followed by descriptive terms, such as “Extracranial-Intracranial.” “See also” notes are cross-referenced terms within the desk reference that provide additional information.

How to Use Coders’ Desk Reference for Procedures (ICD-10-PCS)
The Coders’ Desk Reference for Procedures (ICD-10-PCS) organizes the procedures first by section (Medical Surgical, Medical Surgical-Related, Ancillary, etc.), then by subsection, and then alphabetically by procedure name, using common procedure nomenclature. Use the “Alphabetic Index” to look up a procedure by the term, procedure, or keyword. Use “see also” references to identify descriptions of other procedures that may provide additional information.

Each procedure is linked to the related root operation table or tables, including the pertinent body system and root operations. Depending on the procedure, there may also be references to body part, approach, device, and qualifier. Except for the root operation table references, this book provides no character values or complete codes. The ICD-10-PCS code book tables should always be consulted to find the complete, most appropriate valid code.

Following is a brief explanation of the elements on a sample page. Each procedure is different, and not all elements are included in every procedure. The structure may differ slightly in the Medical and Surgical-Related and Ancillary sections from the Medical and Surgical section. For example in some sections, instead of Approach, the value will be specified as Duration, or instead of Device, the value will be Substance.
# Procedure Eponyms

<table>
<thead>
<tr>
<th>Eponym</th>
<th>Description</th>
<th>ICD-10-PCS Table Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbe</td>
<td>Vaginal construction — creation of vaginal canal (vaginoplasty) without graft or prosthesis</td>
<td>0UQG Repair Vagina</td>
</tr>
<tr>
<td>Abbe</td>
<td>Vaginal construction — creation of vaginal canal (vaginoplasty) with graft or prosthesis</td>
<td>0UUG Supplemen Vagina</td>
</tr>
<tr>
<td>AbioCor*</td>
<td>Implantation of total internal biventricular heart replacement system</td>
<td>02RK Replacement Ventricle, Right</td>
</tr>
<tr>
<td></td>
<td></td>
<td>02RL Replacement Ventricle, Left</td>
</tr>
<tr>
<td>Aburel</td>
<td>Intra-amniotic injection of abortifacient for abortion</td>
<td>18A Abortion Pregnancy</td>
</tr>
<tr>
<td>Adams</td>
<td>Excision of palmar fascia for release of Dupuytren’s contracture</td>
<td>0JB Excision Subcutaneous Tissue and Fascia</td>
</tr>
<tr>
<td>Adams</td>
<td>Advancement of round ligament(s) of uterus</td>
<td>0US9 Reposition Uterus</td>
</tr>
<tr>
<td>Adams</td>
<td>Crushing of nasal septum</td>
<td>09SM Reposition Nasal Septum</td>
</tr>
<tr>
<td>AESOP*</td>
<td>Robotic assisted procedures — Automated Endoscopic System for Optimal Positioning</td>
<td>8E0 Other Procedures Physiological Systems and Anatomical Regions</td>
</tr>
<tr>
<td>Albee</td>
<td>Bone peg, femoral neck. Graft for slipping patella. Sliding inlay graft, tibia</td>
<td>0QU Suppment Lower Bones</td>
</tr>
<tr>
<td>Albert</td>
<td>Arthrodeis, knee</td>
<td>0SG Fusion Lower Joints</td>
</tr>
<tr>
<td>Aldridge (-Studdiford)</td>
<td>Urethral sling</td>
<td>0TSD Reposition Urethra</td>
</tr>
<tr>
<td>Alexander</td>
<td>Shortening of round ligaments of uterus</td>
<td>0US9 Reposition Uterus</td>
</tr>
<tr>
<td>Alexander-Adams</td>
<td>Shortening of round ligaments of uterus</td>
<td>0US9 Reposition Uterus</td>
</tr>
<tr>
<td>Almoor</td>
<td>Extrapetrosal drainage</td>
<td>099 Drainage Ear, Nose, Sinus</td>
</tr>
<tr>
<td>Altemeier</td>
<td>Perineal rectal pull-through operation</td>
<td>0DTP Resection Rectum</td>
</tr>
<tr>
<td>Ammon</td>
<td>Dacryocystotomy incision (for drainage) of a lacrimal sac</td>
<td>089 Drainage Eye</td>
</tr>
<tr>
<td>Anderson</td>
<td>Tibial lengthening</td>
<td>0Q8 Division Lower Bones</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0QR Replacement Lower Bones</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0QU Supplement Lower Bones</td>
</tr>
<tr>
<td>Anderson-Hynes</td>
<td>Pyeloplasty</td>
<td>0TQ Repair Urinary System</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0TS Reposition Urinary System</td>
</tr>
<tr>
<td>Anel</td>
<td>Dilatation of lacrimal duct</td>
<td>087X Dilation Lacrimal Duct, Right</td>
</tr>
<tr>
<td></td>
<td></td>
<td>087Y Dilation Lacrimal Duct, Left</td>
</tr>
<tr>
<td>Arslan</td>
<td>Fenestration of inner ear</td>
<td>09QD Repair Inner Ear, Right</td>
</tr>
<tr>
<td></td>
<td></td>
<td>09QE Repair Inner Ear, Left</td>
</tr>
<tr>
<td>Asai</td>
<td>Laryngoplasty</td>
<td>0CQS Repair Larynx</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0CRS Replacement Larynx</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0CUS Supplement Larynx</td>
</tr>
<tr>
<td>Baffes</td>
<td>Interatrial transposition of venous return</td>
<td>02U5 Supplement Atrial Septum</td>
</tr>
<tr>
<td>Baffle</td>
<td>Atrial/interatrial/infra-atrial transposition of venous return</td>
<td>02U5 Supplement Atrial Septum</td>
</tr>
<tr>
<td>Baldy-Webster</td>
<td>Uterine suspension</td>
<td>0US9 Reposition Uterus</td>
</tr>
</tbody>
</table>
Angioplasty, Percutaneous Transluminal Coronary (PTCA)

**Body System**
Heart and Great Vessels

**PCS Root Operation**
Dilation

**Root Operation Table**
027  Dilation, Heart and Great Vessels

**Body Parts**
Coronary Artery, One Artery
Coronary Artery, Two Arteries
Coronary Artery, Three Arteries
Coronary Artery, Four or More Arteries

**Approach**
Percutaneous

**Device**
No Device

**Qualifiers**
Bifurcation
No Qualifier

**Description**
Percutaneous transluminal coronary angioplasty (PTCA), also known as balloon angioplasty, coronary angioplasty, or percutaneous coronary angioplasty, is a minimally invasive procedure using a balloon to expand blocked or narrowed coronary arteries. Coronary artery disease is the narrowing or blockage of the coronary arteries caused by atherosclerosis, which is the buildup of plaque consisting of cholesterol, fatty deposits, calcium, and fibrin on the inner walls of the coronary arteries. This plaque may partially or totally block the blood flow through the coronary artery. This decreased blood flow starves the heart of the oxygen and nutrients it needs to function properly. If the oxygen supply to the heart muscle is reduced, a heart attack may occur.

In the PTCA procedure, the physician makes a small incision in the arm or leg and places two catheters. A catheter is inserted through the femoral, radial, or brachial artery and a second catheter with a balloon tip is threaded up to the heart. The physician inflates the balloon at the tip of the second catheter to flatten plaque obstructing the artery against the walls of the artery. If sufficient results are not obtained after the first inflation, the physician may reinflate the balloon for a longer period of time or at greater pressure. The catheter is removed, and pressure is placed over the incision for 20 to 30 minutes to stem bleeding. The patient is observed for a period afterward.

PTCA is reported with the root operation Dilation, which describes expanding an orifice or the lumen of a tubular body part. No device is reported, as the balloon is removed at the conclusion of the procedure. The qualifier Bifurcation is reported when the intervention is performed for stenoses (narrowing) located in a main coronary artery and an adjoining side-branch vessel called a bifurcation blockage or bifurcation lesion.

**Focus Point**
The coronary arteries are classified as a single body part that is further specified by the number of arteries treated.
Separate the number of arteries treated in the same manner. Assign the Coronary Artery body part value based on this number. Assign additional code(s) for arteries treated with a different device or qualifier value.

**Coding Guidance**
AHA: 2015, 4Q, 18; 2015, 3Q, 8; 2015, 2Q, 3; 2014, 2Q, 4
Cystectomy (Bladder)

Body System
Urinary System

PCS Root Operations
Excision
Resection

Root Operation Tables
0TB  Excision, Urinary System
0TT  Resection, Urinary System

Body Part
Bladder

Approaches
Open
Percutaneous Endoscopic
Via Natural or Artificial Opening
Via Natural or Artificial Opening Endoscopic

Qualifiers
Diagnosis (Excision)
No Qualifier

Description
A cystectomy is a surgical procedure commonly used to treat bladder cancer. This procedure may involve removing all or part of the bladder.

Excision
The removal of a portion of diseased or damaged bladder tissue is reported with the root operation Excision. Using an Open approach, the physician makes an incision in the skin above the pubic bone and cuts the corresponding muscles, fat, and fibrous membranes (fascia) to access the bladder. The bladder and the major vesical blood vessels are mobilized, and the physician incises the bladder wall to access the diseased or damaged bladder tissue. After removing the tissue, the physician inserts catheters into the bladder and sutures the bladder tissues. The physician performs layered closure and inserts a drain tube, bringing it out through a separate stab incision in the skin. The cystectomy procedure may be complicated because of prior administration of radiation, a previous surgery, or difficult access to the diseased or damaged bladder tissue.

The approach may also be Via Natural or Artificial Opening Endoscopic. The physician examines the urinary collecting system with a cystourethroscope passed through the urethra into the bladder and excises a tumor, lesion, or other tissue of the bladder. The physician removes the instruments and cystourethroscope.

Resection
The root operation Resection is reported when a total cystectomy is performed. Using an Open approach to access the bladder, the physician makes an incision in the skin of the lower abdomen and cuts the corresponding muscles, fat, and fibrous membranes (fascia). In some cases, the physician dissects and ties (ligates) the hypogastric and vesical vessels and severs the bladder from the urethra, rectum, surrounding peritoneum, vas deferens, and prostate (if applicable). After removing the bladder and controlling bleeding, the physician inserts drain tubes and performs layered closure. In other cases, the physician bilaterally removes the pelvic lymph nodes.

In a Percutaneous Endoscopic approach, several small incisions along with laparoscope are used to access the bladder. The Percutaneous Endoscopic approach employs the same principles as the Open approach.

Focus Point
In a radical cystectomy, the surgery may involve removal of the bilateral pelvic lymph nodes, bladder, and, in some cases, the urethra. In men, the prostate gland and seminal vesicles may also be removed and in women, the uterus and ovaries, if present. Code separately any organs or structures that are actually removed and for which there is a distinctly defined body part.

Focus Point
ICD-10-PCS code assignment depends on the objective of the procedure (therapeutic or diagnostic). If a partial bladder excision (cystectomy) is documented as both therapeutic and diagnostic, both the biopsy (diagnostic) and the more definitive (therapeutic) treatment may be reported, according to ICD-10-PCS guideline B3.4b. However, surgical specimens are routinely sent to pathology for study without necessarily being considered diagnostic. If the documentation is unclear, query the physician.
**Insertion, Spinal Stabilization Device**

**Body Systems**  
Upper Joints  
Lower Joints  

**PCS Root Operation**  
Insertion  

**Root Operation Tables**  
0RH Insertion, Upper Joints  
0SH Insertion, Lower Joints  

**Body Parts**  
Cervical Vertebral Joint  
Cervicothoracic Vertebral Joint  
Thoracic Vertebral Joint  
Thoracolumbar Vertebral Joint  
Lumbar Vertebral Joint  
Lumbosacral Joint  

**Approaches**  
Open  
Percutaneous  

**Devices**  
Spinal Stabilization Device, Interspinous Process  
Spinal Stabilization Device, Pedicle-Based  
Spinal Stabilization Device, Facet Replacement  

**Description**  
Although spinal fusion has been the gold standard for the treatment of many pathologies of the spine, newer technologies are being continually tested and reviewed. Spinal stabilization devices, all relatively newer technologies, are constantly being updated and are most often used in the lumbar spine. A spinal stabilization device provides stability while allowing for some movement within the affected area of the spine. The root operation Insertion is used to report the use of these devices along with the appropriate device value.

There are three types of spinal stabilization devices, each reported with a specific PCS device value:

- **Spinal Stabilization Device, Interspinous Process.** These devices act as spacers that open up space for nerve endings to pass through and are used to decompress spinal stenosis in lieu of spinal fusion.

- **Spinal Stabilization Device, Pedicle-Based.** These devices use flexible, movable, and even inflatable rods inserted into the pedicles to stabilize the spine. One of the most frequently employed systems currently in use is Dynesys, which uses screws and cords. It is used both adjunct to fusion and as a stand-alone procedure.

- **Spinal Stabilization Device, Facet Replacement.** These devices are used to reduce facet pain from spinal stenosis and replace facet joints while maintaining spinal movement.

**Focus Point**  
**Code separately any concurrent spinal fusion procedure.**
Liver cancer may be treated by delivering antineoplastic substances directly to the tumor site via a catheter inserted into the hepatic artery. This delivery method minimizes side-effects like nausea and vomiting, and maximizes the cancer-killing properties of the drugs. Antineoplastic substances may be combined with embolic material that not only destroys cancer cells but also cuts off the blood supply to the tumor. Delivery of an antineoplastic substance alone is referred to as hepatic artery infusion (HAI), while delivery of both an antineoplastic and embolic material is referred to as chemoembolization. Chemoembolization requires two codes, one from the Administration section to report the introduction of the antineoplastic and embolic material and a second from the Medical/Surgical section to report the embolization procedure. The Introduction component is described here. Introduction is defined as putting in or on a therapeutic, diagnostic, nutritional, physiological, or prophylactic substance except blood or blood products.

Prior to the HAI procedure, a separate procedure is performed in which a catheter is placed in the hepatic artery via an open or laparoscopic approach and a subcutaneous pump is placed to deliver the antineoplastic substance. Before the chemoembolization procedure, diagnostic tests are performed to demonstrate patency of the portal vein to ensure the patient will have an adequate blood supply to the liver after treatment. With the patient under local anesthesia and mild intravenous sedation, the physician inserts a catheter percutaneously via the femoral artery and threads it into the hepatic artery. Angiography is then performed to identify the branches of the hepatic artery that supply blood to the tumor. Smaller catheters are then threaded into these branches, followed by injection of the antineoplastic or embolic chemotherapy mixture. Embolic material may consist of tiny microbeads or microspheres, a viscous collagen agent, gelatin sponges, or polyvinyl alcohol (PVA) particles.

**Focus Point**
The insertion of the hepatic artery infusion device is reported with the root operation Insertion from the Medical and Surgical Section. For a description of the insertion procedure for HAI, see Insertion, Hepatic Artery Infusion Device.

The embolization component of the procedure is reported with the root operation Occlusion from the Medical and Surgical Section. For a description of the embolization component, see Chemoembolization, Hepatic Artery.

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