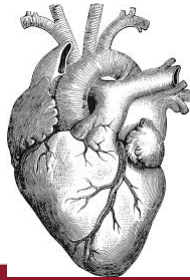


Matters of the Heart

Surgical Cardiology Coding in ICD-10-PCS



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Speaker

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Goals/Objectives

Participants will:

- Obtain an Overview of ICD-10-PCS basic concepts.
- Review Procedure Coding Guidelines.
- Learn about the potential impact of new codes proposed for 2017.
- Gain an understanding of the surgical code tables for the heart and great vessels.
- Discuss challenges in coding cardiovascular surgery.

Disclaimer

- The views, opinions, and comments expressed during this presentation are those of the speakers and do not imply a formal endorsement or consultation.
- This material is designed to communicate information about clinical documentation, coding, and compliance in an educational format and manner. The authors are not providing or offering legal advice, but rather practical and useful information and tools to achieve compliant results in the area of clinical documentation, data quality, and coding. Participants are cautioned that information contained in this presentation is a not a substitute for informed judgment.
- Every reasonable effort has been taken to ensure that the educational information provided is accurate and useful. Applying best practice solutions and achieving results will vary in each hospital/facility and clinical situation.
- The participant and/or participant's organization are solely responsible for compliance, coding, and reimbursement decisions.

Introduction

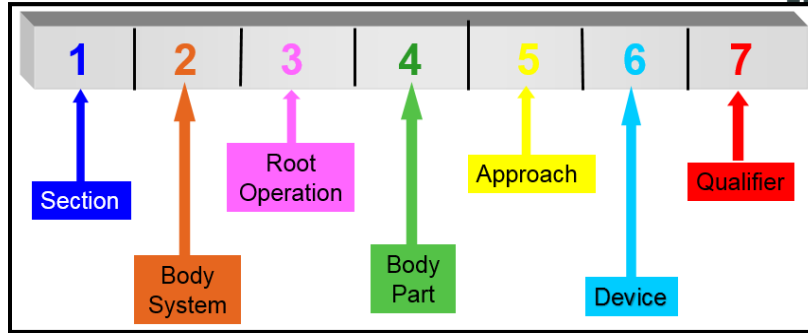
- The World Health Organization (WHO) maintains the International Classification of Diseases (ICD) for recording the causes of morbidity and mortality.
- The National Center for Health Statistics (NCHS) was authorized by WHO to develop clinical modifications (CM) to the ICD-10 code set; creating ICD-10-CM.
- The Centers for Medicare and Medicaid Services is responsible for maintaining the inpatient procedure code set in the United States. ICD-10-CM was created in 1998 and updated annually since that time.

Background

- Surgery in the heart and great vessels body system focuses specifically on:
 - Structures of the heart.
 - Arteries and veins that supply blood to the heart.

SEVEN CHARACTERS

All ICD-10-PCS codes are made up of seven characters.



ICD-10-PCS SECTIONS (Character 1)

Section Value	Description	Section Value	Description
0	Medical and Surgical	9	Chiropractic
1	Obstetrics	B	Imaging
2	Placement	C	Nuclear Medicine
3	Administration	D	Radiation Oncology
4	Measurement and Monitoring	F	Physical Rehabilitation and Diagnostic Audiology
5	Extracorporeal Assistance and Performance	G	Mental Health
6	Extracorporeal Therapies	H	Substance Abuse Treatment
7	Osteopathic	X	New Technology
8	Other Procedures		

ICD-10-PCS Body Systems

Body Systems – Character 2

Central Nervous System	Lymphatic and Hemic Systems	Endocrine System	Head and Facial Bones	Male Reproductive System
Peripheral Nervous System	Eye	Skin and Breast	Upper Bones	Anatomical Regions, General
Heart and Great Vessels	Ear, Nose, Sinus	Subcutaneous Tissue and Fascia	Lower Bones	Anatomical Regions, Upper Extremities
Upper Arteries	Respiratory Systems	Muscles	Upper Joints	Anatomical Regions, Lower Extremities
Lower Arteries	Mouth and Throat	Tendons	Lower Joints	
Upper Veins	Gastrointestinal System	Endocrine System	Urinary System	
Lower Veins	Hepatobiliary System and Pancreas	Bursae and Ligaments	Female Reproductive System	

Heart and Great Vessels Root Operations

Root Operations – Character 3

Bypass	Expiration	Occlusion	Reposition
Destruction	Fragmentation	Release	Resection
Dilation	Insertion	Removal	Restriction
Division	Inspection	Repair	Revision
Excision	Map	Replacement	Supplement
Transplantation			

Heart and Great Vessels Body Parts Values

Body Part – Character 4							
0	Coronary Artery, One Site	8	Conduction Mechanism	H	Pulmonary Valve	R	Pulmonary Artery, Left
1	Coronary Artery, Two Sites	9	Chordae Tendineae	J	Tricuspid Valve	S	Pulmonary Vein, Right
2	Coronary Artery, Three Sites	A	Heart	K	Ventricle, Right	T	Pulmonary Vein, Left
3	Coronary Artery, Four or more Sites	B	Heart, Right	L	Ventricle, Left	V	Superior Vena Cava
4	Coronary Vein	C	Heart, Left	M	Ventricular Septum	W	Thoracic Aorta
5	Atrial Septum	D	Papillary Muscle	N	Pericardium	Y	Great Vessel
6	Atrium, Right	F	Aortic Valve	P	Pulmonary Trunk		
7	Atrium, Left	G	Mitral Valve	Q	Pulmonary Artery, Right		

Heart and Great Vessels Approaches

Approach – Character 5		
Value	Approach	Definition
0	Open	Cutting through the skin or mucous membrane and any other body layers necessary to expose the site of the procedure
3	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
4	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
X	External	Procedures performed directly on the skin or mucous membrane and procedures performed indirectly by the application of external force through skin or mucous membrane

Heart and Great Vessels Devices

Devices – Character 6

0	Monitoring Device, Pressure Sensor	9	Autologous Venous Tissue	M	Cardiac Lead
2	Monitoring Device	A	Autologous Arterial Tissue	Q	Implantable Heart Assist System
3	Infusion Device	C	Extraluminal Device	R	External Heart Assist System
4	Intraluminal Device, Drug-eluting	D	Intraluminal Device	T	Intraluminal Device, Radioactive
7	Autologous Tissue Substitute	J	Synthetic Substitute OR Cardiac Lead, Pacemaker	Z	No Device
8	Zooplastic Tissue	K	Nonautologous Tissue Substitute OR Cardiac Lead, Defibrillator		

Device Key and Device Aggregation

- ICD-10-PCS provides a "Device Key" and a "Device Aggregation Table."
- The device key table identifies specific medical devices.
- The device aggregation table provides all of the entries that refer to a particular device value.

Heart and Great Vessels Qualifiers

Qualifiers – Character 7

0	Allogeneic	6	Bifurcation	D	Carotid	R	Pulmonary Artery, Left
1	Syngeneic	7	Atrium, Left	F	Abdominal Artery	S	Biventricular
2	Zooplasmic	8	Internal Mammary, Right	H	Transapical	T	Ductus Arteriosus
3	Coronary Artery	9	Internal Mammary, Left	K	Left Atrial Appendage	W	Aorta
4	Coronary Vein	B	Subclavian	P	Pulmonary Trunk	X	Diagnostic
5	Coronary Circulation	C	Thoracic Artery	Q	Pulmonary Artery, Right	Z	No Qualifier

Sample ICD-10-PCS 2016 Code Table

02B

<i>Section</i>	0	Medical and Surgical		
<i>Body System</i>	2	Heart and Great Vessels		
<i>Operation</i>	B	Excision: Cutting out or off, without replacement, a portion of a body part		
<i>Body Part</i>		<i>Approach</i>	<i>Device</i>	<i>Qualifier</i>
4 Coronary Vein	0 Open		Z No Device	X Diagnostic
5 Atrial Septum	3 Percutaneous			Z No Qualifier
6 Atrium, Right	4 Percutaneous Endoscopic			
8 Conduction Mechanism				
9 Chordae Tendineae				
D Papillary Muscle				
F Aortic Valve				
G Mitral Valve				
H Pulmonary Valve				
J Tricuspid Valve				
K Tricuspid Valve				
L Ventricle, Right				
M Ventricle, Left				
N Ventricular Septum				
P Pericardium				
P Pulmonary Trunk				
Q Pulmonary Artery, Right				
R Pulmonary Artery, Left				
S Pulmonary Vein, Right				
T Pulmonary Vein, Left				
V Superior Vena Cava				
W Thoracic Aorta				
7 Atrium, Left	0 Open		Z No Device	K Left Atrial Appendage
	3 Percutaneous			X Diagnostic
	4 Percutaneous Endoscopic			Z No Qualifier

ICD-10-PCS Procedure Coding Guidelines

Three Sections of Guidelines

A. Conventions	B. Med/Surg Section	C. Obstetrics Section
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General Conventions

- All ICD-10-PCS codes are seven characters.
- The alphabetic index is used to locate the correct code table. It is not required to consult the index first before going to the code tables to complete a code. However, **the code tables should always be used to find the correct code.**
- Characters 4-7 must be contained within the same row of a table to be a valid code.
- “And” means and/or when used in a code description.
- The physician is not expected to use the terms used in PCS code descriptions.

Medical and Surgical Section Guidelines

- There are specific guidelines pertaining to each character value.
 - Body System
 - Root Operations
 - Body Part
 - Approach
 - Device

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Cardiovascular Surgery Coding Guidelines

- Bypass Procedures:
 - B3.6b: Coronary arteries are classified by number of distinct sites treated, rather than number of coronary arteries or anatomic name of a coronary artery.
 - For coronary artery bypass procedures the body part identifies the number of coronary artery sites bypassed to, the qualifier specifies the vessel bypassed from.
 - B3.6.c: 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.
- Excision for graft
 - B3.9: If an autograft is obtained from a different body part in order to complete the objective of the procedure, a separate procedure is coded.

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Cardiovascular Surgery Coding Guidelines

- B4. Body Part
 - The coronary arteries are classified as a single body part that is further specified by number of sites treated and not by name or number of arteries.
 - Separate body part values are used to specify the number of sites treated when the same procedure is performed on multiple sites in the coronary arteries.

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

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2017 Changes to ICD-10-PCS



- 3,651 new codes and 487 revised code titles.

- As of October 1, 2016, there will be 75,625 PCS codes for the FY 2017.

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Cardiovascular Changes

- 3,549 new codes are in the cardiovascular system.
 - Unique device values.
 - Addition of bifurcation as a qualifier.
 - Addition of specific body parts.
 - Addition of congenital cardiac procedures.
 - New code for placement of an intravascular neurostimulator.

- All revised code titles:
 - Changed the coding from number of coronary artery sites bypassed to the number of vessels bypassed.
 - Created separate body sites for the ascending and descending thoracic aorta.

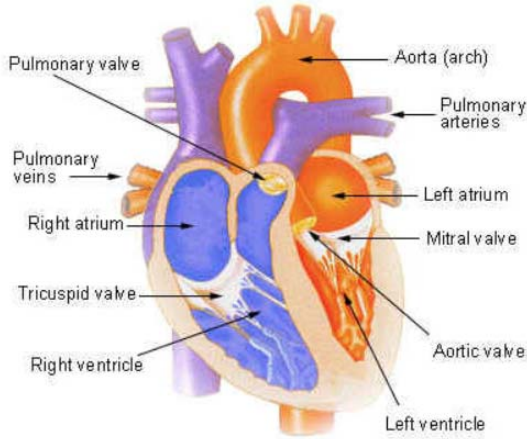
Example of Cardiovascular Code Changes

- New Body Part Values for Bypass Procedures:
 - P: Pulmonary Trunk
 - Q: Right Pulmonary Artery
 - R: Left Pulmonary Artery
 - V: Superior Vena Cava
 - X: Ascending Thoracic Aorta

- New Device Value 8: Zooplastic Tissue

Anatomy of the Heart

Internal View of the Heart

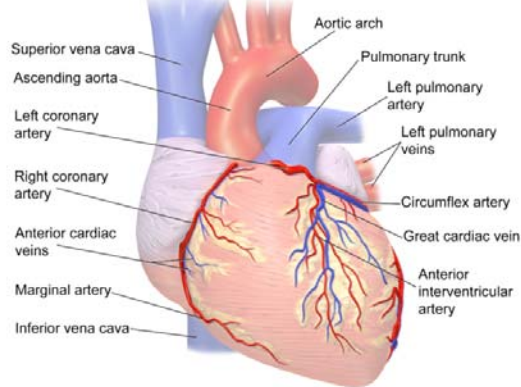


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Anatomy of the Great Vessels



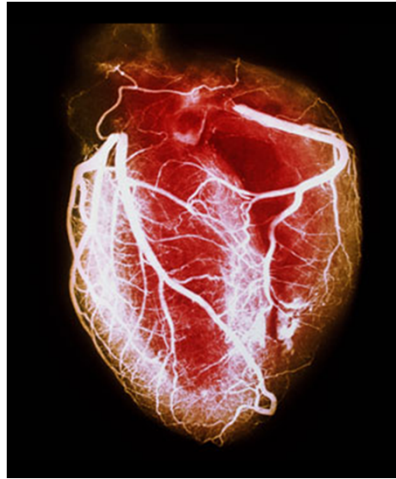
Coronary Circulation (Anterior)

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Case Examples



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Case Example #1

Procedure: PTCA with atherectomy and insertion of CYPHER drug-eluting stent of the proximal-mid right posterior descending coronary artery (RPDA).

Details: The patient was prepped and draped in the sterile fashion. The left femoral artery was accessed and an XXB 3.56 French guide catheter and guide wire were used. Immediately after the origin of the large diagonal branch, there was severely calcified atheromatous plaque in the RPDA. Mid and distal RPDA otherwise appeared to be unremarkable. Atherectomy using the Diamondback orbital atherectomy system was performed.

A CYPHER stent was deployed, covering the entire diseased proximal site and post dilated with 3.0x15 mm balloon up to 15 atmospheres. This resulted in a fully deployed stent with no evidence for dissection, thrombosis or distal embolization. Guide catheter and wires were removed. Left femoral arterial sheath was removed. Patient tolerated procedure well.

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Case Example #1 Answer

- 027034Z – Dilation of coronary artery, One Site, with Drug-eluting Intraluminal Device, Percutaneous Approach
- X2C0361 – Extirpation of Matter From Coronary Artery, One Site using Orbital Atherectomy Technology, Percutaneous Approach, New Technology Group 1

Case Example #1 Table

Section	Medical and Surgical	0
Body System	Heart and Great Vessels	2
Root	Dilation	7
Body Part	Coronary Artery, One Site	0
Approach	Percutaneous	3
Device	Intraluminal Device, Drug-eluting	4
Qualifier	No Qualifier	Z

Section	New Technology	X
Body System	Cardiovascular system	2
Root	Extirpation	C
Body Part	Coronary Artery, One Site	0
Approach	Percutaneous	3
Device	Orbital Atherectomy Technology	6
Qualifier	New Technology Group 1	1

Vessels vs Sites

- When coding percutaneous coronary intervention it is important to understand the anatomy of the coronary vessels.
- What constitutes a separate vessel vs. treatment of two sites within the same vessel?

Use of Devices and Grafts

- Type of stent: bare, drug-eluting
- The same type of stent inserted multiple times
- Type of graft tissue:
 - Autologous
 - Synthetic
 - Nonautologous tissue substitute
 - Zooplastic

Case Example #2

Procedure: The 77 year old female patient was admitted for treatment of severe coronary artery disease with significant stenosis of the right coronary artery and left anterior descending artery.

Details:

Percutaneous transluminal coronary angioplasty (PTCA) of the right coronary artery (RCA) with placement of one drug-eluting stent. She then had PTCA of the proximal, mid, and distal portions of the left anterior descending (LAD) coronary artery. Three drug-eluting stents overlapping from the proximal to the distal LAD were inserted.

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Case Example #2 Answer

- 027134Z, Dilation of coronary artery, two sites with drug-eluting intraluminal device, percutaneous approach.

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Case Example #2 Table

Section	Medical and Surgical	0
Body System	Heart and Great Vessels	2
Root	Dilation	7
Body Part	Coronary Artery, One Site	1
Approach	Percutaneous	3
Device	Intraluminal Device, Drug-eluting	4
Qualifier	No Qualifier	2

Case Example #3

Procedure: CABG x 3; saphenous vein graft to the obtuse marginal and posterior descending artery; left internal mammary artery to the left anterior descending artery; cardiopulmonary bypass

Details: After obtaining adequate anesthesia, the patient was prepped and draped. A primary median sternotomy incision was made and the pericardium was opened. The left internal mammary artery was dissected as a pedicle using electrocautery. The greater saphenous vein was harvested endoscopically from the left lower extremity. Cardiopulmonary bypass was instituted and the patient was taken to a mild degree of hypothermia. The saphenous vein graft was placed end-to-end with the posterior descending artery, then a separate graft was placed to obtuse marginal. The left internal mammary artery was subsequently brought through a subthoracic tunnel and placed end-to-side with the left anterior descending coronary artery. Following completion of grafts, warm blood cardioplegia was administered and the patient was weaned from cardiopulmonary bypass. Incision was closed and patient was taken to recovery in good condition.

Case Example #3 Answer

- 021109W – Bypass Coronary Artery, Two Sites from Aorta w/Autologous Venous Tissue, Open Approach
- 02100Z9 – Bypass Coronary Artery, One Site from Left Internal Mammary, Open Approach
- 06BQ4ZZ - Excision of Left Greater Saphenous Vein, Percutaneous Endoscopic Approach
- 5A1221Z - Performance of Cardiac Output, Continuous

Case Example #3 Tables

Section	Medical and Surgical	0
Body System	Heart and Great Vessels	2
Root	Bypass	1
Body Part	Coronary Artery, Two Sites	1
Approach	Open	0
Device	Autologous Venous Tissue	9
Qualifier	Aorta	W

Section	Medical and Surgical	0
Body System	Heart and Great Vessels	2
Root	Bypass	1
Body Part	Coronary Artery, One Site	0
Approach	Open	0
Device	No Device	Z
Qualifier	Internal Mammary, Left	9

Case Example #3 Tables

Section	Medical and Surgical	0
Body System	Lower Veins	6
Root	Excision	B
Body Part	Greater Saphenous Vein, Left	Q
Approach	Percutaneous Endoscopic	4
Device	No Device	Z
Qualifier	No Qualifier	Z

Section	Extracorporeal Assistance and Performance	5
Body System	Physiological Systems	A
Root	Performance	1
Body Part	Cardiac	2
Approach	Continuous	2
Device	Output	1
Qualifier	No Qualifier	Z

Case Example #4

- Procedure:** The 75 year old patient had severe mitral valve stenosis with regurgitation. An open mitral valve repair was performed.
- Details:** After obtaining adequate anesthesia, the patient was prepped and draped. A standard median sternotomy incision was made and the pericardium was opened. An annuloplasty was performed with insertion of a Edwards Physio II mitral annuloplasty ring following a wedge resection of the mid portion of the posterior leaflet.

Case #4 Answers

- 02UG0JZ: Supplement mitral valve with synthetic substitute, open approach.
- 02BG0ZZ: Excision of mitral valve, open approach.

Case #4 Code Table

Section	Medical and Surgical	0
Body System	Heart and Great Vessels	2
Root	Supplement	U
Body Part	Mitral Valve	G
Approach	Open	0
Device	No Device	J
Qualifier	No Qualifier	Z

Section	Medical and Surgical	0
Body System	Heart and Great Vessels	2
Root	Excision	B
Body Part	Mitral Valve	G
Approach	Open	0
Device	No Device	Z
Qualifier	No Qualifier	Z


ICD-10-PCS Code Table

02U


Section	0	Medical and Surgical
Body System	2	Heart and Great Vessels
Operation	U	Supplement: Putting in or on biological or synthetic material that physically reinforces and/or augments the function of a portion of a body part

Body Part	Approach	Device	Qualifier
5 Atrial Septum	0 Open	7 Autologous Tissue Substitute	Z No Qualifier
6 Atrium, Right	3 Percutaneous	8 Zooplasic Tissue Substitute	
7 Atrium, Left	4 Percutaneous Endoscopic	J Synthetic Substitute	
9 Chordae Tendineae		K Nonautologous Tissue Substitute	
A Heart			
D Papillary Muscle			
F Aortic Valve			
G Mitral Valve			
H Pulmonary Valve			
J Tricuspid Valve			
K Ventricle, Right			
L Ventricle, Left			
M Ventricular Septum			
N Pericardium			
P Pulmonary Trunk			
Q Pulmonary Artery, Right			
R Pulmonary Artery, Left			
S Pulmonary Vein, Right			
T Pulmonary Vein, Left			
V Superior Vena Cava			
W Thoracic Aorta			

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- ## Summary
- Read the operative report; make sure you understand the components of the procedure being performed.
 - When in doubt:
 - Review the anatomical site.
 - Review general and specific official coding guidelines for cardiovascular surgery and specific character values.
 - Check AHA Coding Clinic for new guidance.
 - Check with your coding colleagues.
 - Query the physician.
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Questions



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Thank you!



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