



Session 3C: 9:15am-10:30am
*In the Cath Lab: Diagnostic Cardiac Catheterization
and Coronary Intervention (PCI)*



Prepared and Presented by:
Terry Fletcher BS, CPC, CCC, CEMC, CCS-P, CCS, CMSCS, CMCS, CMC, ACS-CA, SCP-CA
For
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Objectives

- Understanding the basics of Cardiology Anatomy leading to simple diagnostics to Cardiac Cath and PCI
 - Identify Cardiac Cath and/or PCI bundling issues and new billing opportunities for your cardiology practice
 - Review the language in a Cath Lab Procedure report
 - Coding Examples for the new and seasoned coder
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Cardiac Catheterizations

Definition

Cardiac catheterization (kath-uh-tur-ih-ZAY-shun)

is a procedure used to diagnose and treat cardiovascular conditions. During cardiac catheterization, a long thin

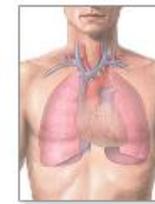
tube called a catheter is inserted in an artery or vein in your groin (femoral artery), neck (carotid), arm (brachial artery) or wrist (radial artery) and threaded through your blood vessels to your heart. Using this catheter, doctors can then do diagnostic tests as part of a cardiac

catheterization. Cardiac Cath “**..includes introduction, positioning, and repositioning, when necessary of catheter(s) within the vascular system...**”

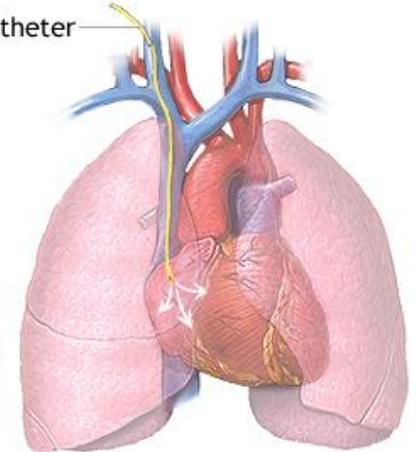
Usually, the patient is awake during a cardiac catheterization, but given medications to help them relax. Recovery time for a cardiac catheterization is quick, and there's a low risk of complications.

Why it's done

- Cardiac catheterization is done to see if you have a heart problem, or as a part of a procedure to correct a heart problem your doctor already knows about.



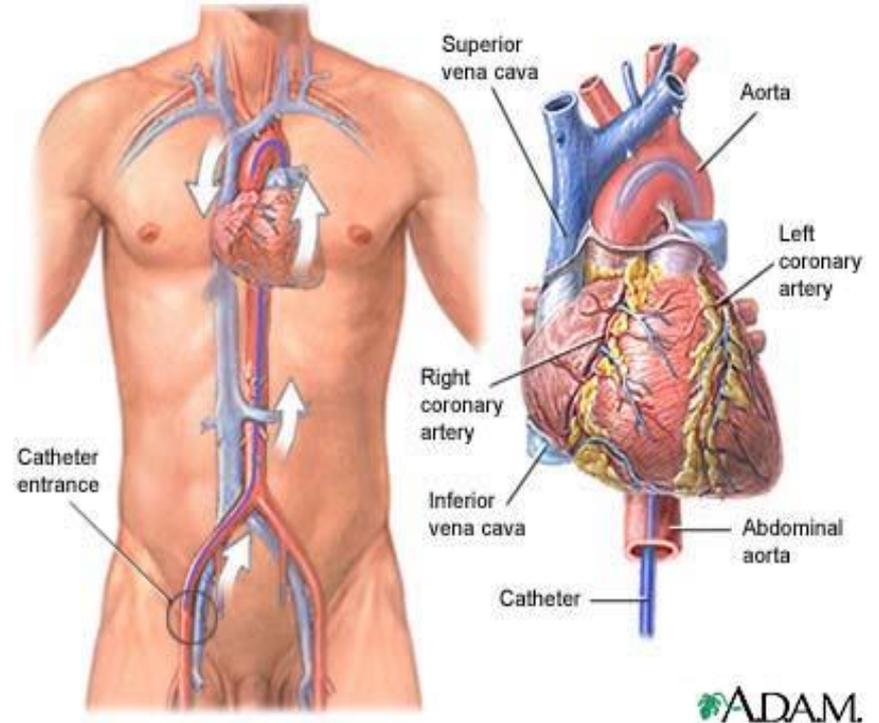
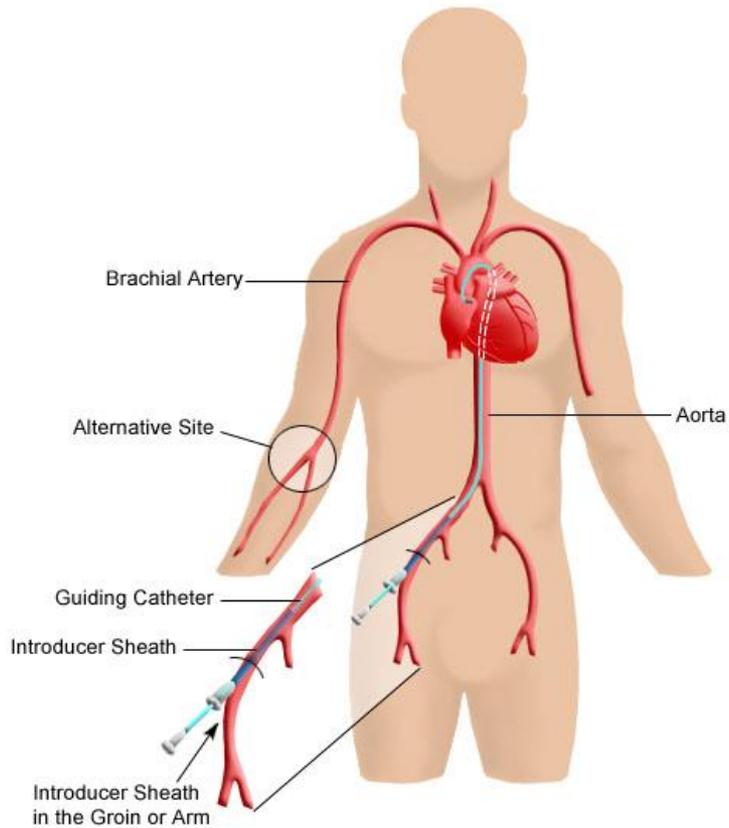
Catheter



After catheter is threaded to heart dye is injected

ADAM.

Diagram Cardiac Cath



ADAM.

Coding Alert!!!

Devices deployed for hemostasis following a cardiac catheterization are included within the cardiac catheterization codes. HCPCS code G0269 should no longer be assigned to report the deployment of a vascular seal (e.g., Angioseal, Star Closure, Perclose, Mynx, Cascade) for Part A or Part B services.

- *The iliac or femoral angiogram performed to determine if the patient's anatomy will support a vascular seal is not separately coded. Chapter 11 of the CMS CCI Coding Manual states: "A physician should not separately report an associated imaging code such as CPT code 75710 or HCPCS code G0278."*
- *Per CPT 2016 Professional Edition page 614 states, "Contrast injection to image the access site(s) for the specific purpose of placing a closure device is inherent to the catheterization procedure and not separately reportable. Closure device placement at the vascular access site is inherent to the catheterization procedure and not separately reportable."*

Left Heart Cath without crossing over AO valve
(not going into the heart)
(Shoot the Coronaries)

- **93454 (26)** Catheter placement in coronary artery(s) for coronary angiography, including intraprocedural injection(s) for coronary angiography, imaging supervision and interpretation; closure device angiography, closure device deployment and report generation.
- **Also CPT 2016 is clear that cardiac cath prior to PCI can only be reported for clear diagnostic purposes.**
- **(Professional Edition CPT 2016 page 601)**

CORRECT EXAMPLE OF WHEN TO USE 93454(26)

Example:

Patient had previous Left Heart Cath on 2/2/2016. There was limited disease found and it was decided not to proceed with PCI at this time.

Patient returned to the ER with SOB and chest pain on 2/5/2016. The physician brought the patient back to the cath lab and injects the right and left coronary arteries only. The right coronary was found to have an occlusion in the distal part of the artery and PCI of the RCA was planned for later that day with the interventional cardiologist.

CODE: 93454.26

- *CPT 2016 is clear that cardiac cath prior to PCI can only be reported for clear diagnostic purposes. CPT Professional Edition*

Left Heart Catheterization with or without Left Ventriculography and Coronary Angiography (*Routine LHC*)

- **93458 (26)** Catheter placement in coronary artery(s) for coronary angiography, including intraprocedural injection(s) for coronary angiography, imaging supervision and interpretation; with left heart catheterization including intraprocedural injection(s) for left ventriculography, when performed
includes any closure device angiography, closure device deployment and report generation.
- **93459 (26)** Catheter placement in coronary artery(s) for coronary angiography, including intraprocedural injection(s) for coronary angiography, imaging supervision and interpretation; with left heart catheterization including intraprocedural injection(s) for left ventriculography, when performed, catheter placement(s) in bypass graft(s) (internal mammary, free arterial, venous grafts) with BPG angiography

Graft Injections with Cardiac Cath

When Cardiac Cath is performed, and also a graft injection to check a lesion in the native or IMA graft, the cath code is increased to 93459(26) to reflect the cardiac cath with R&L coronaries, w or w/o LV, and catheter placements in the graft or native vessels for possible BPG assessment. Do not code an additional radiology code for this procedure when performed with a heart cath.

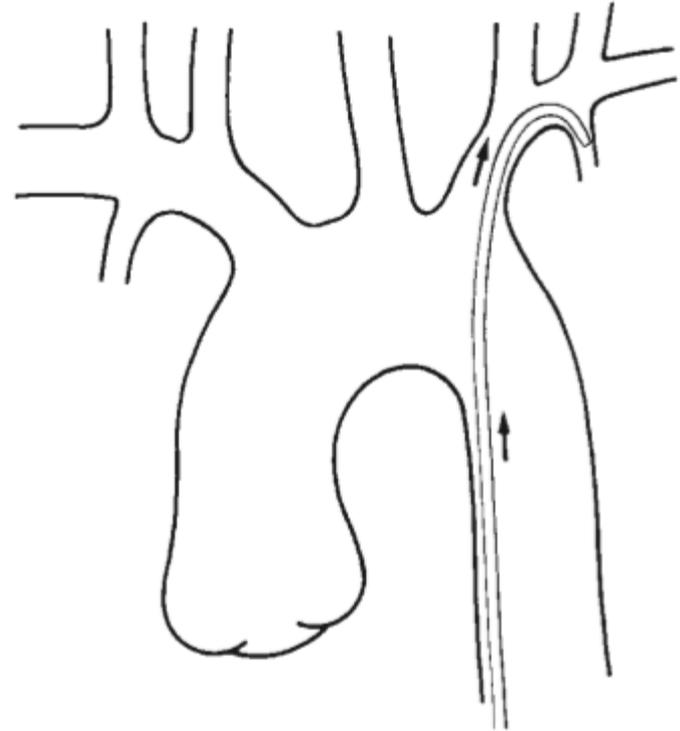


Figure 3. Catheterization of the left internal mammary artery. The catheter is rotated counterclockwise until it falls into the left subclavian artery.

(Image Credit: Cardiac Cath Handbook, 5th Ed 2011 Elsevier, Philadelphia)

R&L Heart Catheterization w or w/o Left Ventriculography and Coronary Angiography

A right and left heart catheterization includes all left heart catheterization elements, including function of the mitral and aortic valves and left side aortic valve regurgitation, and may include angiography evaluation of coronary arteries and the left ventricle for disease such as stenosis or occlusion, mitral valve stenosis or regurgitation, ventricular hypertrophy or aneurysm. The right heart catheterization evaluates the tricuspid and pulmonary valve function, measures pressures of the right atrium and ventricle, pulmonary artery, pulmonary valve stenosis, tricuspid valve stenosis, atrial and ventricular septal defects.

- **93460 (26)** Catheter placement in coronary artery(s) for coronary angiography, including intraprocedural injection(s) for coronary angiography, imaging supervision and interpretation; with right and left heart catheterization including intraprocedural injection(s) for left ventriculography, when performed (-26 modifier needed for professional billing)
- **93461 (26)** Same as above, but add catheter placements in bypass graft(s) (internal mammary artery, free arterial, venous grafts) w/BPG angiography

Injection Procedures for Cardiac Catheterization



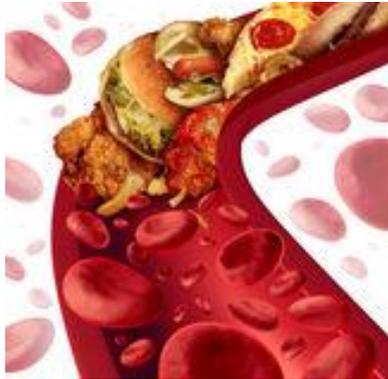
When performed, services described by codes 93566–93568 are not specific codes for certain cardiac catheterization procedures. These codes are assigned with the appropriate cardiac catheterization code both for congenital and non-congenital catheterization procedures.

No modifier 26 for injection procedures!!

- **Right Ventricular or Right Atrial Angiography Performed with Cardiac Catheterization**
+ 93566 Injection procedure during cardiac catheterization including imaging supervision, interpretation, and report; for selective right ventricular or right atrial angiography (List separately in addition to code for primary procedure)
- **Supravalvular aortography (aortic root injection) Performed with Cardiac Catheterization**
+ 93567 Injection procedure during cardiac catheterization including imaging supervision, interpretation, and report; for supravalvular aortography (List separately in addition to code for primary procedure)-
ascending aortogram.
- **Pulmonary Angiography Performed with Cardiac Catheterization**
+ 93568 Injection procedure during cardiac catheterization including imaging supervision, interpretation, and report; for pulmonary angiography (List separately in addition to code for primary procedure)

Coronary Interventions

(aka: PCI)



Interventional Cardiology

- Interventional Cardiology is the branch of medicine that diagnoses and treats cardiovascular diseases using percutaneous or minimally invasive techniques under imaging guidance. Correct reporting of interventional cardiology services requires knowledge of cardiac anatomy as well as an understanding of CPT® coding conventions.

Coronary Anatomy

- According to the American Medical Association, there are 5 major coronary vessels identified for reporting purposes. (shown below with their common abbreviations and vessel modifiers):

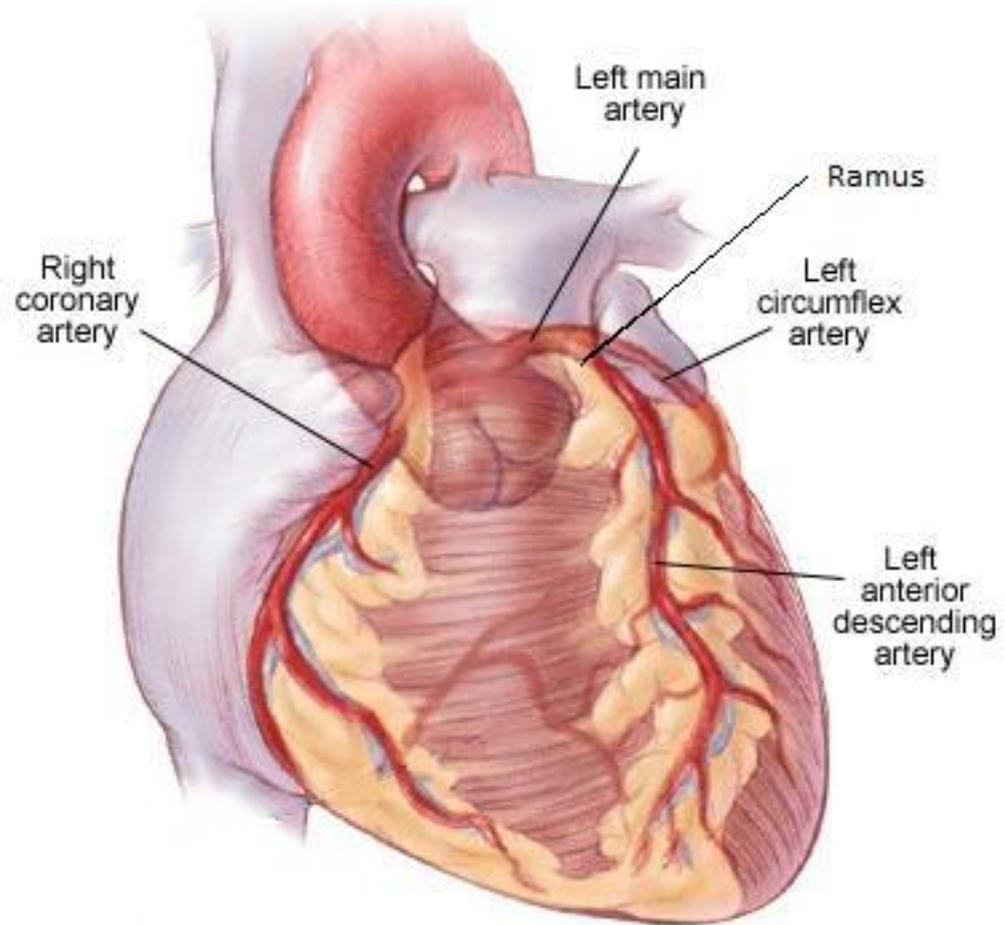
- Right coronary artery (RCA-RC)
- Left main coronary artery (LMCA-LM)
- Left anterior descending coronary artery (LAD-LD)
- Left circumflex coronary artery (LCX-LC)
- Ramus Intermedius artery (-RI)

The left main bifurcates into the LAD & LCX. The Ramus Artery is only found in 1/3 of the population.

Coronary Anatomy

- Many payors, including Medicare, will now recognize 5 major coronary arteries. The table below shows the major coronary arteries recognized by Medicare and AMA in 2016. (the left main and ramus arteries do not have recognized branches for reporting purposes)
- Medicare does NOT recognize branches for PCI for reporting purposes and are in a “B” status (bundled)

Arteries	Branches
Right Coronary	Posterior Ventricular Posterior Descending
Left Circumflex	Obtuse Marginal 1 Obtuse Marginal 2
Left Anterior Descending	Diagonal Branch 1 Diagonal Branch 2
Ramus Intermedius Left Main Coronary Artery	No Branch No Branch



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Major Coronary Arteries

- The major Coronary Arteries are the left main, left anterior descending, left circumflex, right coronary and ramus intermedius arteries.
- All PCI (Percutaneous Coronary Interventional) procedures performed in all segments (proximal, mid, distal) of a single major artery are reported with one code.

Hierarchy of PCI procedures for 2016

- **2016 Hierarchy of PCI Procedure Complexity**

(Highest to Lowest):



- 1. PCI for Chronic Total Occlusion (CTO)
PCI for Acute Myocardial Infarction (AMI)
Stent with Atherectomy
- 2. Atherectomy
- 3. PCI of Bypass Graft
Stent with Angioplasty
- 4. Angioplasty

Coronary Artery Branches

- Up to two coronary artery branches of the LAD (diagonals), left circumflex (marginals) and right coronary (PDA and PVA (posterolateral) are recognized for reporting purposes. (excluding Medicare patients)
- The left main and the ramus intermedius coronary arteries do not have branches to report.
- All PCI(s) performed in any segment of a branch is reported with one code. PCI can be reported for up to 2 branches of a major coronary artery. A 3rd branch of the same major coronary artery is not billable.
- Coronary Bypass Graft PCIs are recognized by one code of the targeted area.

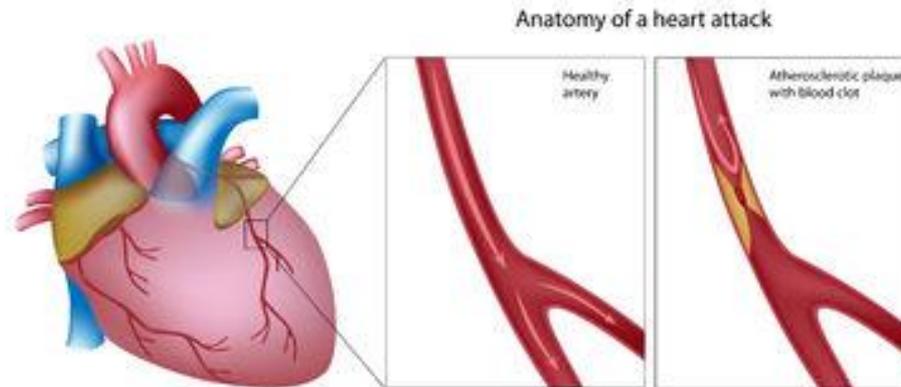
92937- discuss

Target Vessel PCI for MI dx

- Target vessel PCI during an acute myocardial infarction is inclusive of all balloon angioplasty, atherectomy, stenting, manual aspiration thrombectomy, distal protection device, and any intracoronary rheolytic agent administration performed. Only Mechanical Thrombectomy is separately reported.

(If report does not specifically state the patient is in a STEMI MI state, and it is documented as a Non-STEMI possible MI, or ACS (Acute Coronary Syndrome), this is not coded with the 92941. Look to codes 92928 for PCI)

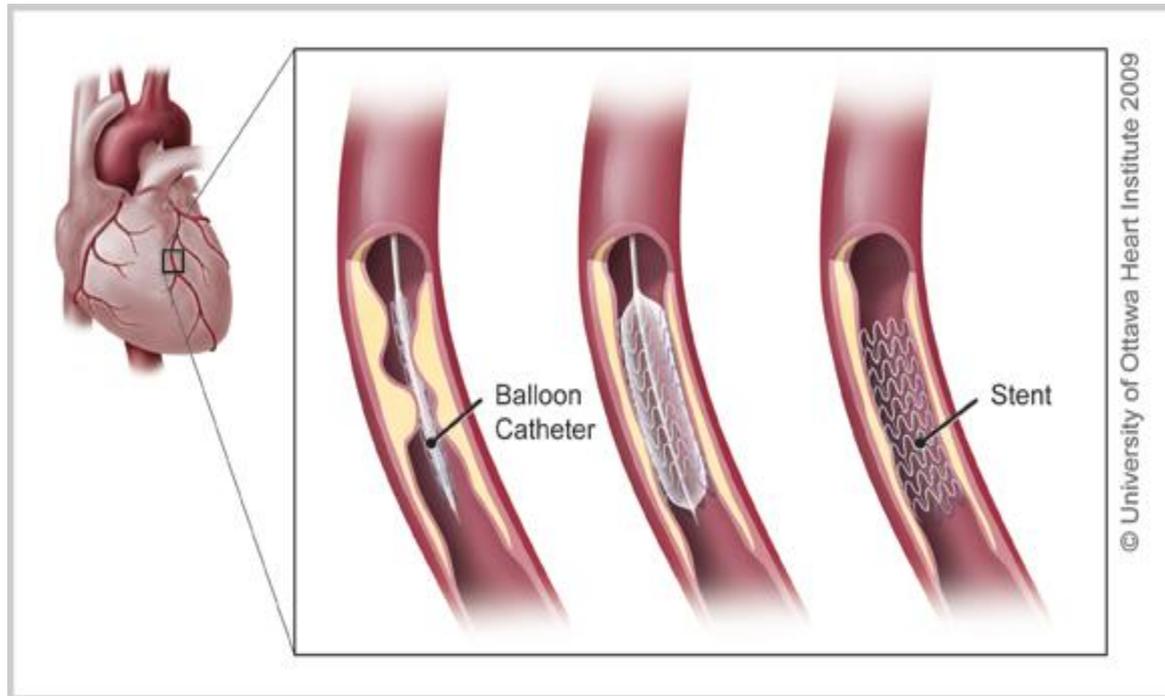
- Codes: 92941, and possible additional vessels with 92920-92938



CTO Interventions

- Chronic Total Occlusion (CTO) of a Coronary vessel is present when there is no antegrade flow through the true lumen, accompanied by suggestive angiographic and clinical criteria.
- See CPT 2016 for further details. This information **MUST** be clear in the documentation to code for Interventional procedures for CTO of coronary vessels.
- Codes: 92943-92944

Interventional Diagram



Codes for Coronary Artery Stenting

- Code **92928** is reported for stenting of a single coronary artery. Code **92929** is an add-on code that is reported for stenting of each additional coronary artery branch.

Like other add-on codes, code 92929 is exempt from modifier 51 (Multiple procedures)

- If multiple stents are placed in the same vessel, only one stent placement is coded.

EXAMPLE: Placement of two stents in the mid and distal portions of the LAD.

CPT CODES: 92928-LD

Codes for Coronary Artery Stenting

If stenting is performed in a major coronary artery and then in a branch there of, the first is reported with 92928 and the second and subsequent with 92929. (*excluding Medicare reporting)

EXAMPLE: Stenting of the right coronary artery and posterior descending branch of the RCA.

CODES: 92928-RC and 92929-RC*

Codes for Coronary Artery Stenting

- If stenting is performed in one vessel and an angioplasty is also performed in that vessel, only the stent can be coded. Stenting procedures include angioplasty (PTCA), when performed.

EXAMPLE: PTCA and Stenting of the right coronary artery.

CPT CODES: 92928-RC

Codes for Coronary Artery Stenting- branch stand alone

- If stenting is performed in the branch of a major coronary artery only then can you come back to the Base code for that PCI.

(per CPT Prof Edition 2016)

EXAMPLE: Stenting of the PDA. (which is a branch of the RCA).

CPT CODES: 92928-RC

Codes for Coronary Artery Stenting and PTCA in 1 major vessel and branch of another major vessel

- If stenting is performed in a primary coronary artery and also the *branch* of a different major coronary artery, code the base code for Stent and the additional branch code for the additional PCI, per CPT. However this does not work for Medicare.

EXAMPLE: Stenting of the LAD and PTCA of the OM1 (which is a branch of the left circumflex artery).

CPT CODES: 92928-LD and 92921-LC (non-Medicare)- CPT page 602 direction

CPT CODES: 92928-LD and 92920*-LC (Medicare)- Medicare directive

*For Medicare, you may consider a primary BASE PCI code for a separate vessel since they do not recognize branch codes, and traditionally Medicare HAS recognized a separate vessel PCI performed at the same encounter.

Codes for Coronary Artery Stenting Multiple Vessels

- When PCI is performed during the same session in additional major coronary arteries or in additional bypass grafts, this is reported using the additional base code(s). PCI performed during the same session in additional coronary branches should be reported with the applicable add-on code(s).

EXAMPLE: Stenting of the right coronary artery (RC) and angioplasty of the left circumflex (LC).

CPT CODES: 92928-RC, 92920-LC (you may need a 59 for reporting purposes)

Codes for Atherectomy

- Code **92924** is reported for atherectomy of a single coronary artery. Code **92925** is an add-on code that is reported for atherectomy of each additional coronary artery branch. Like other add-on codes, code 92925 is exempt from modifier 51 (Multiple procedures).
- Both of these codes include angioplasty, when performed.

Codes for Atherectomy

Coronary Atherectomy Examples:

EXAMPLE: Atherectomy of left circumflex and obtuse marginal branch.

- CODES: 92924-LC, 92925*-LC
- If atherectomy is performed in two or more coronary arteries, the first artery is reported with 92924 and the second or additional vessel/artery is coded with the base code repeated 92924-76.

EXAMPLE: Atherectomy of the right coronary artery and left circumflex coronary artery.

CODES: 92924-RC and 92924-76*-LC

*some payers want the 59 modifier instead of the 76

Coronary Angioplasty (PTCA)

- Percutaneous transluminal coronary angioplasty (PTCA) is a therapeutic procedure performed to dilate coronary artery strictures. A balloon-tipped catheter is advanced into the coronary artery (typically from a femoral access). When the balloon is inflated inside the narrowed section of artery, this compresses the plaque against the wall of the vessel, restoring a more normal diameter.



Coronary Angioplasty (PTCA)

Codes for PTCA

- Code **92920** is reported for PTCA of a single vessel. Code **92921** is an add-on code that is reported for PTCA of each additional branch of a coronary artery. Like other add-on codes, code 92921 is exempt from modifier 51 (Multiple procedures).

If multiple dilations are performed in the same vessel (or its branches), only one angioplasty is coded.

CPT EXAMPLE: Balloon angioplasty of the RCA and posterior ventricular branch of the RCA.

CODES: 92920-RC, 92921-RC* (If Medicare patient 92920 only)

** Medicare does not recognize add on branch codes.*

Stenting, Atherectomy and PTCA in the same major coronary artery

- If multiple PCI's are performed in the same vessel (or its branches), only one code will represent all services.

EXAMPLE: Stent in the Right Coronary, followed by Atherectomy of a separate lesion in the right coronary, and completion balloon angioplasty of the RCA.

- CODES: 92933-RC

Case Example Coronary Intervention

52 year old white female patient with recurrent chest pain, three years status post coronary artery bypass grafting. **Diagnostic coronary angiography with angiography of the bypass grafts and LV gram is performed**, demonstrating a 60% stenosis of proximal RCA and 70% stenosis of distal RCA, distal to the RIMA graft anastomosis. Distal stenosis is treated with a **3 mm balloon angioplasty, via the RIMA graft**. Proximal right coronary artery is treated with **drug-eluting stent placement**.

CPT Codes:

Physician:

92928.RC (stent RCA) and 92937.RC.59 (PTCA via graft)

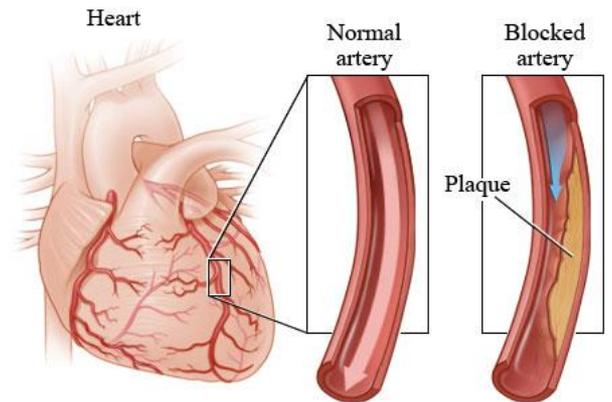
93459.26.59 (coronary angiogram with grafts and LV gram).

ICD-10-CM Codes:

R07.9 Chest Pain, unspecified ([link to 93459.26.59](#))

I25.10 Atherosclerotic heart disease of native coronary artery without angina pectoris ([link to 92928-RC](#))

I25.810 Atherosclerosis of coronary artery bypass graft(s) without angina pectoris ([link to 92937-RC](#))



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Cath/PCI Report #2

PROCEDURES DONE: Left heart catheterization, left ventriculography, selective coronary arteriography, right common femoral arteriography followed by first diagonal branch 95% stenosis balloon and stent angioplasty followed by Perclose hemostasis of the right femoral arteriotomy.

HEART CATH:

Left ventriculogram in RAO projection by hand injection using a #6 AL1 diagnostic catheter revealed normal carotid dimensions and overall intact contractility with an estimated ejection fraction of 55-60%. Fairly large left anterior descending coronary with ostial 30% narrowing and proximal 40-45% eccentric stenosis around a sharp angulation and just prior to the origin and into the small first diagonal branch. The right coronary was small, non-dominant and had a high kink at its ostium close to the left coronary. It required a 6 AL1 diagnostic catheter for suitable angiograms. This showed a small tortuous right coronary with mid segment 45-50% narrowing and intact runoff into the RV branch.

INTERVENTION:

Based on the above, I decided on proceeding with a percutaneous coronary intervention of the left anterior descending artery. Intravenous Angiomax bolus was given and infusion was started A 2.25 x 16 mm long Promus stent was then brought in and was positioned to adequately cover the dilated mid segment of the first diagonal of the LAD. This stent was then expanded up to 12 atmospheric pressures.

Final angiogram showed excellent results with wide open first diagonal branch into the lateral of the 2 branches, whereas the small side branch was not visualized. Successful PTCA/Stent of the first diagonal LAD artery.

CPT CODES: 92928-LD, 93458.26.59 (Medicare use –XU)

ICD-10-CM Codes: *I25.10 Atherosclerotic heart disease of native coronary artery without angina pectoris*



Mechanical Thrombectomy

Codes for Coronary Thrombectomy has specific language:

+ 92973 Percutaneous transluminal coronary thrombectomy *mechanical* (List in addition to the code for the primary procedure)

Non-mechanical, aspiration thrombectomy is not reported with 92973, and is included in the PCI code for acute MI, 92941, when performed.



IVUS Intravascular ultrasound

Codes for IVUS for Coronary Angiography or Intervention

+ 92978 Intravascular ultrasound (coronary vessel or graft) during diagnostic evaluation and/or therapeutic intervention including S&I. Initial vessel.

+ 92979 each additional vessel.

- Do not bill routinely. This is for patients who have 50% or more plaque composition that the physicians needs to get a better look to determine specific intervention.
- [Do not confuse IVUS with U/S guidance for vessel access 76937.26](#)

Cath Lab Add on's

Do not be confused:

+76937.26 This may be used for U/S guidance for vessel access. But the report needs to reflect there was a problem with routine access of the patient. This is not to be over-utilized.

+ 93571.26 FFR- Fractional Flow Wire (Reserve). Done during pharmacological stress test. (93463- no modifier). Many payers will not pay for the 93463 with the FFR. Also if PCI performed at the same encounter expect one or both codes to be denied. (IFR- the same test without adenosine is coded as 93571-26.52)

* **Do not bill routinely. FFR now has a CCI edit when performed with a PCI.**



Thank you for attending today!!

Please do not contact speaker for CEU's.



Terry Fletcher BS, CPC, CCC, CEMC, CCS-P, CCS, CMSCS, CMCS, CMC, ACS-CA, SCP-CA

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