

# **Interventional Radiology Coding Case Studies**

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**Week of May 7, 2018**

## **Lower Extremity Angiogram, Thrombolysis, Thrombectomy & PTA**

**INDICATION:** The patient is a 70 year old male with known severe peripheral artery disease, with previous right leg embolectomy as well as bilateral iliac stenting. Presents with acute onset of cool, painful right calf and foot today. CT angiogram at XYZ Hospital shows thrombosed right popliteal artery with aneurysm.

### **PROCEDURAL STEPS**

1. Ultrasound-guided access of the left common femoral artery with placement of a 5-French sheath.
2. Placement of a 5-French SOS catheter over the bifurcation with tip in the right common femoral artery followed by digital right leg arteriogram.
3. Placement of 6-French sheath over the bifurcation with tip in the right common femoral artery.
4. Placement of catheter in the distal most popliteal artery followed by additional digital arteriogram.
5. Pulse spray of tissue plasminogen activator within the thrombosed popliteal artery.
6. Suction thrombectomy of the mid and distal right popliteal artery.
7. Balloon angioplasty of the distal most popliteal artery just above the trifurcation.
8. Balloon angioplasty of the proximal right anterior tibial artery.
9. Final right leg arteriogram.
10. Percutaneous closure of the left groin arteriotomy site.

**CONTRAST:** Visipaque 320, 158 mL.

**MEDICATIONS:** Fentanyl 300 mcg IV, Versed 3 mg IV, nitroglycerin 0.8 mL sublingual.

**FLUOROSCOPY TIME:** 29 minutes.

**PROCEDURE:** After PARQ conference was held, and informed consent obtained, the patient was placed supine on the angio table and the left groin prepped and draped in sterile fashion. Due to heparin drip running, ultrasound-guided access was performed. Ultrasound demonstrated patent left common femoral artery with mild calcified plaque. Overlying skin and subcutaneous tissues were anesthetized with 1% buffered lidocaine. Under ultrasound-guidance, the common femoral artery was accessed with a micropuncture set and a 5-French placed.

Through this a 5-French SOS catheter was passed and positioned over the bifurcation with the aid of a Storq wire, with tip in the right common femoral artery. Contrast injection as then performed for right leg arteriogram.

Long Storq wire was then passed down the right superficial femoral artery. Catheter and existing sheath were exchanged for a long 6-French sheath, with tip in the right common femoral artery. Glide cath and glide wire were then passed through the sheath, past the area of thrombosis in the distal popliteal artery. Catheter tip was placed at the trifurcation. Hand injection of contrast was performed for additional arteriogram.

0.035 inch Storq wire was replaced. 7 mg tissue plasminogen activator was then pulse sprayed into the area of thrombus in mid and distal right popliteal artery through a thrombectomy catheter (Possis AngioJet Solent). This was left to sit for 15 minutes. Then multiple runs for suction thrombectomy were performed. Followup arteriogram was obtained. An 0.018 inch wire was then passed down the right anterior tibial artery. Serial balloon angioplasty was performed in the proximal anterior tibial artery with a 3 x 60 mm balloon. Area of tight stenosis in the distal most popliteal artery was ballooned to 5 and then 6 mm. Final right leg arteriogram was performed.

Catheters and sheath were removed and the arteriotomy site closed percutaneously using an Angio-Seal device with good hemostasis achieved. The patient tolerated the procedure well without immediate complications and was transferred back to the floor in stable condition for observation.

**COMPARISON:** CT angiogram 1/14/18, and angiogram 12/3/12.

**FINDINGS:** Initial angiogram shows patent distal right external iliac and common femoral arteries. There is high bifurcation. Deep femoral artery is widely patent. There is slow flow throughout a diffusely diseased superficial femoral artery with multilevel plaque but no significant inflow stenosis. There is slow flow in the proximal popliteal artery with appearance compatible with long aneurysm here as seen on CT. There is intraluminal filling defect in the mid and distal popliteal artery with abrupt occlusion here. After passing the catheter through the thrombus and injecting at the trifurcation, trifurcation vessels were patent through diffusely diseased. Following tissue plasminogen activator and suction thrombectomy, there was complete clearance of thrombus from the mid and distal popliteal artery. Follow-up angiogram demonstrated tight stenosis in the distal most popliteal artery just above the trifurcation.

Initially there appeared to be single runoff to the foot through the anterior tibial artery with apparent occlusion of the posterior tibial and peroneal arteries distally. Anterior tibial artery demonstrated multifocal stenoses proximally. These were all ballooned to 3 mm. Focal high-grade stenosis just above the trifurcation was ballooned to 5 and then 6 mm. Following this, there was improved luminal diameter and flow with mild to moderate residual stenosis just above the trifurcation. Final angiogram demonstrates 3 vessel runoff to the foot though with diffusely diseased posterior tibial artery. Anterior tibial artery is dominant runoff, patent into the dorsalis pedis. Digital arteries do opacify.

**CONCLUSION:** Mid and distal right popliteal artery thrombosis, within the known right popliteal artery aneurysm. Successful clearance of thrombus with follow-up angiogram demonstrating tight stenosis in the distal most right popliteal artery just above the trifurcation. Severe trifurcation disease.

Following balloon angioplasty of the distal popliteal artery to 6 mm and the proximal anterior tibial artery to 3 mm, there was improved luminal diameter and flow though with moderate residual stenosis just above the trifurcation. Three vessel runoff to the foot primarily through the anterior tibial artery which was patent into the dorsalis pedis. Severe diseased tibioperoneal trunk and posterior tibial artery, much progressed compared to the angiogram from 2012.

# Interventional Radiology Coding Case Studies CPT Codes

**Week of May 7, 2018**

## **Lower Extremity Angiogram, Thrombolysis, Thrombectomy & PTA**

### **Procedure Codes:**

- 37184 Thrombectomy popliteal artery
- 37224 Angioplasty popliteal artery
- 37228 Angioplasty anterior tibial artery
- 75710-RT (59) Right leg angiogram
- 75774 (59) Additional imaging right leg (cath at trifurcation)
- 76937\* Ultrasound guided vascular access
- Q9967 x158 LOCM 300-399 MG/ML
- J2997 x7 Injection, alteplase recombinant, 1 mg

### **Diagnosis Codes:**

- I74.3 Thrombosis popliteal artery
- I70.201 Stenosis popliteal/anterior tibial artery
- I72.4 Aneurysm popliteal artery

### **Comments:**

- Code 37184 is assigned for thrombectomy of the popliteal artery. The administration of tPA is bundled with code 37184 and should not be reported separately with code 37211. Codes 37211-37214 are for prolonged infusions. Although catheterizations are permitted to be coded in addition to 37184, the catheterizations end up bundling with codes 37224 & 37228.
- Code 37224 is assigned for angioplasty to treat the popliteal artery stenosis that was present in addition to thrombus. Use of an angioplasty balloon to facilitate removal of a thrombus is not coded as an angioplasty, but when an underlying stenosis is documented and treated, the angioplasty code may be assigned.
- Code 37228 is assigned for angioplasty of the anterior tibial stenosis.

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## Comments (continued):

- Code 75710 is assigned for the initial angiogram in the right leg performed via catheter placement in the right common femoral. Following this, the catheter was advanced further down the extremity to the trifurcation for additional imaging of the right lower extremity, therefore code +75774 is assigned for the additional imaging after an additional selective catheter placement.
- Regarding code +76937 for ultrasound guided vascular access, this report did not mention that permanent images were stored, however it may be reported if you know for sure that permanent images are stored. The ACR says: “While many radiologists may choose to dictate that permanent images were obtained, it is not required by CPT guidelines. However, it is strongly recommended that the procedure report note that permanent images have been achieved to protect the practice in the event of an audit.”
- *Drugs and supplies are billed by the facility performing the procedure and should not be assigned for professional fee coding.*

## Applicable Coding Rules:

### Thrombectomy Coding Rules

#### Catheterization Codes

- When performing a thrombectomy the catheter must be manipulated through the arterial or venous system to perform the procedure. Catheterization codes should be assigned in accordance with the rules for reporting non-selective and selective catheterization unless otherwise bundled into the code for the thrombectomy procedure such as with intracranial thrombectomy (61645).
- Remember in the lower extremities, the external iliac and common femoral arteries are considered one vessel for coding purposes and in the upper extremities the subclavian and axillary arteries are also considered one vessel for coding purposes.
- It is important to note that the site of the thrombectomy alone is not the sole factor in determining catheterization selectivity. There may be instances when it is necessary to place the catheter beyond the vessel that is the site of a thrombectomy. Remember, catheter selectivity is based on the most distal catheter placement.

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## **Applicable Coding Rules (continued):**

### **Diagnostic Angiography**

- An initial diagnostic angiogram may be reported when performed with codes 37184-37188. If a prior diagnostic angiogram has been performed, diagnostic angiography should only be reported separately in accordance with guidelines established for reporting with transcatheter procedures. Note that diagnostic angiography is included with intracranial thrombectomy, 61645.

### **Arterial Thrombectomy Codes (37184-37186)**

- Codes 37184-37186 describe arterial thrombectomy procedures.

### **Primary Thrombectomy**

- Primary thrombectomy includes pretreatment planning and post procedure evaluation in addition to performance of the procedure.
- Primary thrombectomy is reported with codes 37184 and +37185 and may precede or follow another intervention.
- If the original intent of the physician is to perform a thrombectomy, the procedure is reported as a primary thrombectomy. Typically, the diagnosis of thrombus has already been made.
- Most commonly primary mechanical thrombectomy will precede another percutaneous intervention with the decision regarding the need for other services not made until after mechanical thrombectomy has been performed.
- Code 37184 is reported for the initial vessel treated and code +37185 is reported for any subsequent vessels treated within the same vascular family.
- Code 37184 and +37185 are assigned when:
  - ❖ Thrombectomy is the only therapeutic intervention performed
  - ❖ Thrombectomy is performed and determination is made that other interventions must be performed.

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## Applicable Coding Rules (continued):

- **Continuous** infusion therapy (37211-37214) may be reported in conjunction with thrombectomy codes.
- **Balloon Maceration of Clot.** Utilizing a balloon to facilitate removal of a thrombus is not coded separately. Treatment of an underlying stenosis must be documented to report angioplasty in conjunction with thrombectomy in the same vessel.
- **Single vs. Multiple Vessels.** Arterial thrombectomy codes 37184 and +37185 are assigned one time per vessel treated.
- **Multiple Lesions.** When there are multiple occlusions treated within the same vessel, only one thrombectomy code is reported for that vessel.
- **“Bridging” Lesions.** At times a “bridging lesion” may be encountered. This is a single lesion that spans two vessels. Only one thrombectomy code should be assigned in these instances.
- **Unsuccessful Thrombectomy or Unacceptable Outcome.** If a thrombectomy of an occlusion is unsuccessful, then the appropriate access and/or selection and imaging only should be coded. On the other hand, if the thrombectomy is performed but with an unacceptable outcome, then the thrombectomy is coded since all the work of the thrombectomy was done. If the thrombectomy has been initiated and it is discontinued, assign the thrombectomy codes with the appropriate modifiers (-53, -73, -74).
- Administration of Heparin, Nitroglycerin, etc., during the procedure is not coded separately.

## RS&I Codes

- **Bundled Components.** All RS&I work is bundled into the surgical code for the thrombectomy procedure. This work includes the following services: contrast injections, angiography, roadmapping, and fluoroscopic guidance for the intervention, vessel measurement, and completion angiography.

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## **Applicable Coding Rules (continued):**

### **Revascularization Coding Rules (37220-37235)**

#### **Catheterization Codes**

- As a general rule, accessing the vessel, selective catheterization of the vessel and crossing of the lesion is bundled into the lower extremity revascularization codes. All catheter placements related to performance of the therapeutic intervention, including catheter placements for any diagnostic angiography associated with the therapeutic intervention should not be coded separately.
- There are a few instances in which catheterization codes may be reported in conjunction with a lower extremity revascularization code:
  - Diagnostic angiography for the revascularization is performed at the same time as revascularization from a separate access.
    - Example: Catheterization of the aorta for an aortogram may be performed via a left groin puncture, yet the revascularization is performed on the right iliac via a right groin puncture. The catheterization of the aorta (36200) via the left groin is reported with modifier -59.
  - Diagnostic angiography performed at the same time as the intervention requires a higher degree of selectivity than does than the one used for the lower extremity intervention. This applies when the catheter is manipulated beyond the vessel treated through the aorta and into the contralateral extremity for additional imaging.
    - Example: Access at the right common femoral artery, revascularization of right internal iliac, catheterization and imaging of contralateral (left) leg (36245-36247). Modifier -59 will be needed on the selective catheterization code for imaging of the left extremity.
- ❖ Another catheterization is performed through the same access for another diagnostic or therapeutic procedure requiring catheterization in a different vascular bed.
  - Example: Performance of a renal PTA in conjunction with a lower extremity revascularization. Modifier -59 will be needed on the selective catheterization code for the renal PTA.

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## Applicable Coding Rules (continued):

- A separate vessel punctured for an additional access that is not part of the revascularization procedure (different vascular bed) and another vessel is selectively catheterized for another purpose.
- Another procedure is performed on the same date of service at a different session.
- Remember in the lower extremities, the external iliac and common femoral are considered one vessel for coding purposes.

## Diagnostic Angiography

- An initial diagnostic angiogram may be reported when performed. If a prior diagnostic angiogram has been performed, diagnostic angiography should only be reported separately in accordance with guidelines established for reporting with transcatheter procedures.

## Revascularization Codes

- The revascularization codes include transluminal angioplasty, atherectomy and stent placement in the lower extremities.
- CPT® has designated three distinct vascular territories: iliac, femoral/popliteal, and tibial/peroneal.
- The revascularization codes are unilateral, therefore both a primary code and an add-on code may be reported once for each side in each territory.
- Use of an embolic protection device for performance of the services as described by the revascularization codes should not be reported separately.
- The closure of the arteriotomy through any means when associated with a revascularization procedure should not be coded separately.
- **Single vs. Multiple Vessels.** Revascularization codes are assigned one time per vessel (lesion) treated, with the exception of the femoral/popliteal territory. Note that the common iliac and external iliac are two different arteries, however the external iliac and common femoral arteries are considered a single vessel for interventional coding purposes.

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## Applicable Coding Rules (continued):

- **Multiple Stents.** When there are multiple stents placed in the same vessel, only one stent placement is reported.
- **Multiple Lesions.** When there are multiple lesions treated within the same vessel, only one revascularization code is reported for that vessel.
- **“Bridging” Lesions.** At times a “bridging lesion” may be encountered. This is a single lesion that spans two vessels. Only one revascularization code should be assigned in these instances.
- **“Kissing” Angioplasty.** This term is used when angioplasty is performed on both the left and right common iliac arteries into the distal aorta. This technique is used to treat aortoiliac occlusive disease. Angioplasty is reported for each vessel.
- **“Kissing” Stents.** This term is used when stenting is performed on both the left and right common iliac arteries with the stents meeting in the distal aorta. This technique is used to treat aortoiliac occlusive disease. Stent placement is reported for each vessel.
- **Unsuccessful Revascularization or Unacceptable Outcome.** If a revascularization is unsuccessful because the lesion cannot be crossed, then the appropriate access and/or selection and imaging only should be coded. On the other hand, if the lesion is crossed and the revascularization is performed but with an unacceptable outcome, then the revascularization is coded since all the work of the revascularization was done. If the revascularization has been initiated and it is discontinued, assign the revascularization codes with the appropriate modifiers (-53, -73, -74).
- Administration of Heparin, Nitroglycerin, etc., during the procedure is not coded separately.

## RS&I Codes

- **Bundled Components.** All RS&I work directly related to the intervention is bundled into the surgical codes for lower extremity revascularization. This work includes the following services: contrast injections, angiography, roadmapping, and fluoroscopic guidance for the intervention, vessel measurement, and completion angiography.

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## Applicable Coding Rules (continued):

### Choosing the Correct Code

- Lower extremity revascularization codes are assigned for each vascular territory.
- To select the appropriate codes for these therapeutic interventions determine the following for each vascular territory:
  - (1) each vessel that was treated
  - (2) the intervention(s) performed in each vessel
  - (3) the most extensive procedure performed.
- The most extensive procedure performed in each territory will determine the primary CPT® code for each territory as well as the appropriate add on codes.
- The Society for Interventional Radiology has established the following hierarchy to determine the most extensive procedure. The list is ordered from lowest to highest:
  - ❖ Angioplasty
  - ❖ Stent
  - ❖ Atherectomy
  - ❖ Stent with atherectomy
- **Iliac Territory.** The iliac territory is made up of the common iliac, internal iliac and external iliac arteries.
  - ❖ Each artery is considered a separate vessel for coding purposes.
  - ❖ Up to three codes may be reported for this territory – one primary code to describe the most extensive procedure, followed by up to two add on codes for two additional vessels.
  - ❖ Atherectomy of the iliac arteries is not included in the iliac revascularization codes. Code *0238T Transluminal peripheral atherectomy, open or percutaneous, including RS&I; iliac artery, each vessel* is utilized to report atherectomy of the iliac arteries.

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## Applicable Coding Rules (continued):

- ❖ Code 0238T is reported per iliac vessel and in addition to codes 37220-37223 when performed.
- ❖ When iliac atherectomy is performed alone, codes for catheterization (36140, 36245-36247) and for placement of a closure device (G0269) may be reported separately. (*See Atherectomy*)
- **Femoral/Popliteal Territory.** The femoral/popliteal territory is made up of the common femoral, superficial femoral, deep femoral arteries and the popliteal artery.
  - ❖ The entire territory has been designated as one vessel for coding purposes, therefore only one code will be reported for multiple interventions for multiple vessels within this territory. There are no add-on codes for this territory.
- **Tibial/Peroneal Territory.** The tibial/peroneal territory is made up of the anterior tibial, posterior tibial, peroneal and tibioperoneal trunk arteries.
  - ❖ Each artery is considered a separate vessel for coding purposes.
  - ❖ Up to three codes may be reported for this territory – one primary code to describe the most extensive procedure, followed by up to two add on codes for two additional vessels.
  - ❖ When revascularization is performed of the tibioperoneal (TP) trunk in conjunction with either the posterior tibial or peroneal, the TP trunk is considered part of those vessels and the intervention on the TP trunk would not be coded separately.
  - ❖ When an intervention is performed in the anterior tibial and TP trunk only, both are coded as separate vessels.

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