

cpt 2011 Changes

An Insider's View

Reprint



Clinical Example (33622)

A newborn baby presented with cyanosis and hypotension. Echocardiography documented hypoplastic left heart syndrome (HLHS) with aortic atresia and mitral atresia and a large atrial septal defect. The child was medically stabilized with a prostaglandin infusion. The family and medical team elected to treat the child with the hybrid approach. On day of life 5 at a weight of 2500 grams, the patient was taken to the hybrid suite and underwent placement of bilateral pulmonary artery bands and ductal stenting. After spending 10 days in the cardiac intensive care unit, the child is discharged to home.

The infant does well at home and grows and thrives. At the age of 4 months, the child weighs 5500 grams. Cardiac catheterization demonstrates that the patient is a suitable candidate for hybrid stage 2. The patient is taken to the operating theater to undergo the following operation: Reconstruction of complex cardiac anomaly (eg, single ventricle or hypoplastic left heart) with palliation of single ventricle with aortic outflow obstruction and aortic arch hypoplasia, creation of cavopulmonary anastomosis second superior vena cava, and removal of right and left pulmonary bands (eg, hybrid approach stage 2, Norwood stage 1, bidirectional Glenn, and PA debanding).

Description of Procedure (33622)

Under general endotracheal anesthesia, in the supine position, the patient is prepped and draped in standard aseptic fashion. Skin incision is made through previous median sternotomy site. Sternum is divided in the midline. The old pericardial substitute membrane is removed. The right atrium, pulmonary artery, aortic arch, and ductus arteriosus are dissected and exposed. Cardiac cannulas are placed and cardiopulmonary bypass initiated. The ductus arteriosus is controlled and the patient is cooled to 18 degrees centigrade for 20 minutes on cardiopulmonary bypass. Tapes are placed around the superior vena cava and inferior vena cava while the patient is cooling. In addition, a complete dissection of the aortic

arch, the innominate artery, the left carotid artery, the left subclavian artery, and the proximal descending thoracic aorta is performed, preserving the left vagus, the left phrenic, and the left recurrent laryngeal nerves. The aorta is cross-clamped and cold cardioplegic solution is infused into the aortic root. The right atrium is opened and an atrial septectomy is performed. A vent is placed through the right atrium into the left atrium and circulatory arrest is established. The ductal tissue is excised and the ductal stent removed. The main pulmonary artery distal to the pulmonary (neoaortic) valve is transected. The right and left branch pulmonary arteries are fully dissected and mobilized. The right pulmonary artery band is removed (PA debanding) and then the left pulmonary artery band is removed. The right pulmonary artery is opened where the superior cavopulmonary anastomosis will be created. The caliber of the branch pulmonary arteries is assessed and they are probed. A patch pulmonary arterioplasty is performed if necessary. The ascending to the descending aorta is opened and the aortic arch is reconstructed. The ascending aorta is anastomosed to the proximal main pulmonary artery and a neo-aorta and aortopulmonary amalgamation is created. The aorta is recannulated and cardiopulmonary bypass is reestablished. The atriotomy is now closed, air is evacuated from the cardiac chambers, and the cross-clamp is released. The patient is rewarmed to 28 degrees centigrade. While rewarming, the superior vena cava is transected and oversewn at the cardiac end. The cranial end of the superior vena cava is anastomosed to the opening in the right pulmonary artery to create a superior cavopulmonary anastomosis.

The patient is fully rewarmed and weaned from cardiopulmonary bypass. The cannulas are removed and the sites secured. Chest tubes and temporary pacing wires are placed. Pericardial substitute membrane is placed to aid in future median sternotomies. The sternum is closed with wires; the abdominal fascia, skin, and subcutaneous tissue are closed in layers. Sterile dressing is applied and the patient is stabilized and transferred to the ICU.

SEPTAL DEFECT

33690 Banding of pulmonary artery

►(For right and left pulmonary artery banding in a single ventricle [eg, hybrid approach stage 1], use 33620)◀

(Do not report modifier 63 in conjunction with 33690)



Rationale

A cross-reference has been added following code 33690 directing users to the new code 33620 for right and left pulmonary artery banding in a single ventricle (eg, hybrid approach Stage 1).

SHUNTING PROCEDURES

+ 33768 Anastomosis, cavopulmonary, second superior vena cava (List separately in addition to primary procedure)

►(Use 33768 in conjunction with 33478, 33617, 33622, 33767)◄

(Do not report 33768 in conjunction with 32551, 33210, 33211)



Rationale

The parenthetical note following code 33768 has been revised to include new code 33622, which describes reconstruction of a complex cardiac anomaly.

THORACIC AORTIC ANEURYSM

▲ **33860** Ascending aorta graft, with cardiopulmonary bypass, includes valve suspension, when performed

►(33861 has been deleted. To report, use 33864)◄

▲ **33863** Ascending aorta graft, with cardiopulmonary bypass, with aortic root replacement using valved conduit and coronary reconstruction (eg, Bentall)

►(Do not report 33863 in conjunction with 33405, 33406, 33410, 33411, 33412, 33413, 33860)◄

▲ **33864** Ascending aorta graft, with cardiopulmonary bypass with valve suspension, with coronary reconstruction and valve-sparing aortic root remodeling (eg, David Procedure, Yacoub Procedure)

►(Do not report 33864 in conjunction with 33400, 33860-33863)◄



Rationale

Code 33861 has been deleted, and codes 33860, 33863, and 33864 have been revised to more accurately describe ascending aorta graft procedures for thoracic aortic aneurysm. A parenthetical note has been added directing users to code 33864 to report the procedure described by the deleted code 33861. Code 33860 has been revised to clearly indicate that valve suspension is included in this code when performed.

Code 33863 has been revised to describe aortic root replacement using a valved conduit rather than a composite prosthesis. It no longer describes valve suspension when performed; therefore, it is no longer a child code under 33860. An instructional note has been added following code 33863 indicating that it should not be reported in conjunction with codes 33405, 33406, 33410-33413, and 33860.

Code 33864 has been revised to specify remodeling of the aortic root rather than the aortic annulus. The instructional note following code 33864 was revised by removing codes 32551, 33210, and 33211 from the list of codes that cannot be reported with code 33864.

Arteries and Veins

ENDOVASCULAR REPAIR OF ILIAC ANEURYSM

▲ **34900** Endovascular repair of iliac artery (eg, aneurysm, pseudoaneurysm, arteriovenous malformation, trauma) using ilio-iliac tube endoprosthesis

►(For endovascular repair of iliac artery bifurcation [eg, aneurysm, pseudoaneurysm, arteriovenous malformation, trauma] using bifurcated endoprosthesis, use 0254T)◀

(For radiological supervision and interpretation, use 75954)

(For placement of extension prosthesis during endovascular iliac artery repair, use 34825)

(For bilateral procedure, use modifier 50)



Rationale

Code 34900 was editorially revised by inserting “using ilio-iliac tube endoprosthesis” and striking the phrase “graft placement for.” A cross-reference was also added to direct the user to report 0254T for endovascular repair of iliac artery bifurcation (eg, aneurysm, pseudoaneurysm, arteriovenous malformation, trauma) using bifurcated endoprosthesis.

THROMBOENDARTERECTOMY

35301 Thromboendarterectomy, including patch graft, if performed; carotid, vertebral, subclavian, by neck incision

35302 superficial femoral artery

35303 popliteal artery

►(Do not report 35302, 35303 in conjunction with 35500, 37225, 37227)◀

35304 tibioperoneal trunk artery

35305 tibial or peroneal artery, initial vessel

+ 35306 each additional tibial or peroneal artery (List separately in addition to code for primary procedure)

(Use 35306 in conjunction with 35305)

►(Do not report 35304, 35305, 35306 in conjunction with 35500, 37229, 37231, 37233, 37235)◀



Rationale

The exclusionary parenthetical notes following 35303 and 35306 have been updated to support the new lower extremity endovascular revascularization procedures (37220-37235).

TRANSLUMINAL ANGIOPLASTY

Open

35450 Transluminal balloon angioplasty, open; renal or other visceral artery

35452 aortic

►(35454, 35456 have been deleted. To report, see 37220-37227)◀

35458 brachiocephalic trunk or branches, each vessel

▶(35459 has been deleted. To report, see 37228-37235)◀

Percutaneous

▶(35470 has been deleted. To report, see 37228-37235)◀

◎▲**35471** Transluminal balloon angioplasty, percutaneous; renal or visceral artery

◎ **35472** aortic

▶(35473, 35474 have been deleted. To report, see 37220-37227)◀



Rationale

Codes 35454, 35456, 35459, 35470, 35473, 35474 have been deleted to accommodate the addition of the new lower extremity endovascular revascularization procedures (37220-37235). Cross-reference notes have been added to direct users to the appropriate codes to report for these procedures. Code 35471 used to be a child code and has been revised as a parent code.

TRANSLUMINAL ATHERECTOMY

Open

▶(35480 has been deleted. To report, see 0234T, 0235T)◀

▶(35481 has been deleted. To report, use 0236T)◀

▶(35482 has been deleted. To report, use 0238T)◀

▶(35483 has been deleted. To report, see 37225, 37227)◀

▶(35484 has been deleted. To report, use 0237T)◀

▶(35485 has been deleted. To report, see 37229, 37231, 37233, 37235)◀

Percutaneous

▶(35490 has been deleted. To report, see 0234T, 0235T)◀

▶(35491 has been deleted. To report, use 0236T)◀

▶(35492 has been deleted. To report, use 0238T)◀

▶(35493 has been deleted. To report, see 37225, 37227)◀

▶(35494 has been deleted. To report, use 0237T)◀

▶(35495 has been deleted. To report, see 37229, 37231, 37233, 37235)◀



Rationale

Codes 35480-35485, 35490-35495 have been deleted to accommodate the addition of the new lower extremity endovascular revascularization procedures (37220-37235) and the atherectomy procedures 0234T-0238T. Cross-reference notes have been added to direct users to the appropriate codes to report in lieu of deleted codes 35480-35485 and 35490-35495. In addition, the introductory notes following the Transluminal Atherectomy heading and the cross-reference note have been deleted.

BYPASS GRAFT

Vein

35501 Bypass graft, with vein; common carotid-ipsilateral internal carotid

▲ **35526** aortosubclavian, aortoinnominate, or aortocarotid

(For bypass graft performed with synthetic graft, use 35626)

In-Situ Vein

Other Than Vein

35601 Bypass graft, with other than vein; common carotid-ipsilateral internal carotid

▲ **35626** aortosubclavian, aortoinnominate, or aortocarotid



Rationale

Codes 35526 and 35626 have been editorially revised to include the aortoinnominate vein and to specify the aortocarotid vein. With these changes, code 35526 now describes an aortosubclavian, aortoinnominate, or aortocarotid bypass graft using autogenous vein, and code 35626 describes an aortosubclavian, aortoinnominate, or aortocarotid bypass graft using material other than vein for the conduit.

COMPOSITE GRAFTS

► Codes 35682, 35683 are used to report harvest and anastomosis of multiple vein segments from distant sites for use as arterial bypass graft conduits. These codes are intended for use when the two or more vein segments are harvested from a limb other than that undergoing bypass. ◀

+ **35681** Bypass graft; composite, prosthetic and vein (List separately in addition to code for primary procedure)

(Do not report 35681 in addition to 35682, 35683)

+ **35682** autogenous composite, 2 segments of veins from 2 locations (List separately in addition to code for primary procedure)

► (Use 35682 in conjunction with 35556, 35566, 35570, 35571, 35583-35587) ◀

(Do not report 35682 in addition to 35681, 35683)

+ **35683** autogenous composite, 3 or more segments of vein from 2 or more locations (List separately in addition to code for primary procedure)

► (Use 35683 in conjunction with 35556, 35566, 35570, 35571, 35583-35587) ◀

(Do not report 35683 in addition to 35681, 35682)



Rationale

For consistency of the add-on nomenclature, standard add-on parenthetical instructions have been added following codes 35682 and 35683.

VASCULAR INJECTION PROCEDURES

Listed services for injection procedures include ...

Catheters, drugs, and contrast media are ...

Selective vascular catheterization should be coded ...

Additional second and/or third order arterial ...

Additional first order or higher catheterization ...

(For radiological supervision and interpretation, see ...

►(For injection procedures in conjunction with cardiac catheterization, see 93452-93461, 93563-93568)◀

(For chemotherapy of malignant disease, see 96401-96549)

Intravenous

An intracatheter is ...

36000 Introduction of needle or intracatheter, vein



Rationale

A cross reference has been added to the Vascular Injection Procedures guidelines directing users to the new cardiac catheterization and injection procedure codes 93452-93461, 93563-93568.

Intra-Arterial—Intra-Aortic

36215 Selective catheter placement, arterial system; each first order thoracic or brachiocephalic branch, within a vascular family

►(For catheter placement for coronary angiography, see 93454-93464)◀

36216 initial second order thoracic or brachiocephalic branch, within a vascular family

36217 initial third order or more selective thoracic or brachiocephalic branch, within a vascular family

+ 36218 additional second order, third order, and beyond, thoracic or brachiocephalic branch, within a vascular family (List in addition to code for initial second or third order vessel as appropriate)

(Use 36218 in conjunction with 36216, 36217)

(For angiography, see 36147, 75600-75774, 75791)

►(For angioplasty, see 37228-37235, 35471, 35472, 35475)◀

(For transcatheter therapies, see 37200-37208, 61624, 61626)

►(When coronary artery, arterial conduit (eg, internal mammary, inferior epigastric or free radical artery) or venous bypass graft angiography is performed in conjunction with cardiac catheterization, see the appropriate cardiac catheterization, injection procedure, and imaging supervision code(s) (93451-93461, 93503-93533, 93563-93568) in the **Medicine** section of the CPT codebook.

When coronary artery, arterial coronary conduit or venous bypass graft angiography is performed

without concomitant left heart cardiac catheterization, use 93454-93457, 93563, 93564. When internal mammary artery angiography only is performed without a concomitant left heart cardiac catheterization, use 36216 or 36217 as appropriate.)◀



Rationale

In support of the changes in the Cardiac Catheterization section, the cross-reference parenthetical note following code 36215 has been revised to direct users to select the appropriate code for placement of a catheter for coronary angiography from codes 93454-93464.

The cross-reference parenthetical note following 36218 has been revised to reflect the appropriate services to report for angioplasty procedures.

In support of the changes in the Cardiac Catheterization section, the fifth parenthetical note following code 36218 has been revised to direct users to (1) see codes 93451-93461, 93503-93533, and 93563-93568 for appropriate code selection when coronary arterial conduit or venous bypass graft is performed with cardiac catheterization and (2) use codes 93454-93457, 93563, and 93564 when coronary artery, arterial coronary conduit, or venous bypass graft angiography is performed without concomitant left heart cardiac catheterization.

Central Venous Access Procedures

Other Central Venous Access Procedures

- 36591** Collection of blood specimen from a completely implantable venous access device
▶(Do not report 36591 in conjunction with other services except a laboratory service)◀
(For collection of venous blood specimen by venipuncture, use 36415)
(For collection of capillary blood specimen, use 36416)
- 36592** Collection of blood specimen using established central or peripheral catheter, venous, not otherwise specified
(For blood collection from an established arterial catheter, use 37799)
▶(Do not report 36592 in conjunction with other services except a laboratory service)◀



Rationale

In the Central Venous Access Procedures section, the parenthetical instructions following the collection of blood specimen services codes 36591, 36592 were revised to allow the reporting of these services with laboratory services.

TRANSCATHETER PROCEDURES

Other Procedures

- ▲37205** Transcatheter placement of an intravascular stent(s) (except coronary, carotid, vertebral, iliac, and lower extremity arteries), percutaneous; initial vessel

(For radiological supervision and interpretation, use 75960)

▶(For transcatheter placement of intravascular cervical carotid artery stent(s), see 37215, 37216)◀

▶(For transcatheter placement of intracranial stents, use 61635)◀

▶(For transcatheter coronary stent placement, see 92980, 92981)◀

▶(For transcatheter stent placement of extracranial vertebral or intrathoracic carotid artery stent(s), see Category III codes 0075T, 0076T)◀

▶(For stent placement in iliac, femoral, popliteal, and tibial/peroneal arteries, see 37221, 37223, 37226, 37227, 37230, 37231, 37234, 37235)◀

+▲37206 each additional vessel (List separately in addition to code for primary procedure)

(Use 37206 in conjunction with 37205)

(For radiological supervision and interpretation, use 75960)

▲37207 Transcatheter placement of an intravascular stent(s) (except coronary, carotid, vertebral, iliac and lower extremity arteries), open; initial vessel

▶(For stent placement in iliac, femoral, popliteal, and tibial/peroneal arteries, see 37221, 37223, 37226, 37227, 37230, 37231, 37234, 37235)◀

+▲37208 each additional vessel (List separately in addition to code for primary procedure)

(Use 37208 in conjunction with 37207)

(For radiological supervision and interpretation, use 75960)

(For catheterizations, see 36215-36248)

(For transcatheter placement of intracoronary stent(s), see 92980, 92981)



Rationale

In support of the addition of the new lower extremity endovascular revascularization procedures, codes 37205-37208 were revised for consistency purposes. Additionally, cross-reference notes following this series of codes have been revised and added to direct users to the appropriate procedures to report.

▶ENDOASCULAR REVASCULARIZATION (OPEN OR PERCUTANEOUS, TRANSCATHETER)◀

▶Codes 37220-37235 are to be used to describe lower extremity endovascular revascularization services performed for occlusive disease. These lower extremity codes are built on progressive hierarchies with more intensive services inclusive of lesser intensive services. The code inclusive of all of the services provided for that vessel should be reported (ie, use the code inclusive of the most intensive services provided). Only one code from this family (37220-37235) should be reported for each lower extremity vessel treated.

These lower extremity endovascular revascularization codes all include the work of accessing and selectively catheterizing the vessel, traversing the lesion, radiological supervision and interpretation directly related to the intervention(s) performed, embolic protection if used, closure of the arteriotomy

by any method, and imaging performed to document completion of the intervention in addition to the intervention(s) performed. These codes describe endovascular procedures performed percutaneously and/or through an open surgical exposure. These codes include balloon angioplasty (eg, low-profile, cutting balloon, cryoplasty), atherectomy (eg, directional, rotational, laser), and stenting (eg, balloon-expandable, self-expanding, bare metal, covered, drug-eluting). Each code in this family (37220-37235) includes balloon angioplasty, when performed.

These codes describe revascularization therapies (ie, transluminal angioplasty, atherectomy, and stent placement) provided in three arterial vascular territories: iliac, femoral/popliteal, and tibial/peroneal.

1. **Iliac Vascular Territory**—The iliac territory is divided into 3 vessels: common iliac, internal iliac, and external iliac.
2. **Femoral/Popliteal Vascular Territory**—The entire femoral/popliteal territory in 1 lower extremity is considered a single vessel for CPT reporting, specifically for the endovascular lower extremity revascularization codes 37224-37227.
3. **Tibial/Peroneal Territory**—The tibial/peroneal territory is divided into 3 vessels: anterior tibial, posterior tibial and peroneal arteries.

There are specific coding guidelines for each of the 3 vascular territories.

1. **Iliac Vascular Territory**—A single primary code is used for the initial iliac artery treated in each leg (37220 or 37221). If other iliac vessels are also treated in that leg, these interventions are reported with the appropriate add-on code(s) (37222, 37223). Up to 2 add-on codes can be used in a unilateral iliac vascular territory since there are 3 vessels which could be treated. Add-on codes are used for different vessels, not distinct lesions within the same vessel.
2. **Femoral/Popliteal Territory**—A single interventional code is used no matter what combination of angioplasty/stent/atherectomy is applied to all segments, including the common, deep and superficial femoral arteries as well as the popliteal artery (37224, 37225, 37226, or 37227). There are no add-on codes for additional vessels treated within the femoral/popliteal territory. Because only 1 service is reported when 2 lesions are treated in this territory, report the most complex service (eg, use 37227 if a stent is placed for 1 lesion and an atherectomy is performed on a second lesion).
3. **Tibial/Peroneal Territory**—A single primary code is used for the initial tibial/peroneal artery treated in each leg (37228, 37229, 37230, or 37231). If other tibial/peroneal vessels are also treated in the same leg, these interventions are reported with the appropriate add-on code(s) (37232-37235). Up to 2 add-on codes could be used to describe services provided in a single leg since there are 3 tibial/peroneal vessels which could be treated. Add-on codes are used for different vessels, not distinct lesions within the same vessel. The common tibio-peroneal trunk is considered part of the tibial/peroneal territory, but is not considered a separate, fourth segment of vessel in the tibio-peroneal family for CPT reporting of endovascular lower extremity interventions. For instance, if lesions in the common tibio-peroneal trunk are treated in conjunction with lesions in the posterior tibial artery, a single code would be reported for treatment of this segment.

When treating multiple territories in the same leg, one primary lower extremity revascularization code is used for each territory treated. When second or third vessel(s) are treated in the iliac and/or tibial/peroneal territories, add-on code(s) are used to report the additional service(s). When more than one stent is placed in the same vessel, the code should be reported only once.

When multiple vessels in multiple territories in a single leg are treated at the same setting, the primary code for the treatment in the initial vessel in each vascular territory is reported. Add-on code(s) are reported when second and third iliac or tibial/peroneal arteries are treated in addition to the initial vessel in that vascular territory.

If a lesion extends across the margins of one vessel vascular territory into another, but can be opened with a single therapy, this intervention should be reported with a single code despite treating more than one vessel and/or vascular territory. For instance, if a stenosis extends from the common iliac artery into the proximal external iliac artery, and a single stent is placed to open the entire lesion, this therapy should be coded as a single stent placement in the iliac artery (37221). In this example, a code for an additional vessel treatment would not be used (do not report both 37221 and 37223).

For bifurcation lesions distal to the common iliac origins which require therapy of 2 distinct branches of the iliac or tibial/peroneal vascular territories, a primary code and an add-on code would be used to describe the intervention. In the femoral/popliteal territory, all branches are included in the primary code, so treatment of a bifurcation lesion would be reported as a single code.

When the same territor(ies) of both legs are treated in the same session, modifiers may be required to describe the interventions. Use modifier 59 to denote that different legs are being treated, even if the mode of therapy is different.

Mechanical thrombectomy and/or thrombolysis in the lower extremity vessels are sometimes necessary to aid in restoring flow to areas of occlusive disease, and are reported separately. ◀

- ◉●37220 Revascularization, endovascular, open or percutaneous, iliac artery, unilateral, initial vessel; with transluminal angioplasty
- ◉●37221 with transluminal stent placement(s), includes angioplasty within the same vessel, when performed
- +◉●37222 Revascularization, endovascular, open or percutaneous, iliac artery, each additional ipsilateral iliac vessel; with transluminal angioplasty (List separately in addition to code for primary procedure)
 - ▶(Use 37222 in conjunction with 37220, 37221)◀
- +◉●37223 with transluminal stent placement(s), includes angioplasty within the same vessel, when performed (List separately in addition to code for primary procedure)
 - ▶(Use 37223 in conjunction with 37221)◀
- ◉●37224 Revascularization, endovascular, open or percutaneous, femoral, popliteal artery(s), unilateral; with transluminal angioplasty
- ◉●37225 with atherectomy, includes angioplasty within the same vessel, when performed
- ◉●37226 with transluminal stent placement(s), includes angioplasty within the same vessel, when performed
- ◉●37227 with transluminal stent placement(s) and atherectomy, includes angioplasty within the same vessel, when performed
- ◉●37228 Revascularization, endovascular, open or percutaneous, tibial, peroneal artery, unilateral, initial vessel; with transluminal angioplasty
- ◉●37229 with atherectomy, includes angioplasty within the same vessel, when performed

- 37230 with transluminal stent placement(s), includes angioplasty within the same vessel, when performed
- 37231 with transluminal stent placement(s) and atherectomy, includes angioplasty within the same vessel, when performed
- +●●37232 Revascularization, endovascular, open or percutaneous, tibial/peroneal artery, unilateral, each additional vessel; with transluminal angioplasty (List separately in addition to code for primary procedure)
 - ▶(Use 37232 in conjunction with 37228-37231)◀
- +●●37233 with atherectomy, includes angioplasty within the same vessel, when performed (List separately in addition to code for primary procedure)
 - ▶(Use 37233 in conjunction with 37229-37231)◀
- +●●37234 with transluminal stent placement(s), includes angioplasty within the same vessel, when performed (List separately in addition to code for primary procedure)
 - ▶(Use 37234 in conjunction with 37230, 37231)◀
- +●●37235 with transluminal stent placement(s) and atherectomy, includes angioplasty within the same vessel, when performed (List separately in addition to code for primary procedure)
 - ▶(Use 37235 in conjunction with 37231)◀



Rationale

As a result of the AMA RUC Five-Year Review Identification Workgroup analyses, the atherectomy surgical and radiologic supervision and interpretation codes, and the angioplasty codes for femoral and tibial/peroneal arteries and certain selective catheterization codes used for lower extremity revascularizations were reviewed. After considering the options of combining these codes, it was felt that a comprehensive proposal addressing the entire spectrum of endovascular lower extremity revascularization procedures would result in a coding group that more comprehensively defines the procedures performed at this time.

To address changes in clinical practice, CPT 2011 has made comprehensive changes to the (1) Surgery/Cardiovascular System/Thromboendarterectomy, Transluminal Angioplasty, Intra-Arterial—Intra-Aortic, Transcatheter Procedures sections; (2) Radiology/Vascular Procedures Aorta and Arteries, Transcatheter Procedures, Transluminal Atherectomy sections; and (3) the Category III section.

In addition, two new subsections were also added to accommodate the changes: (1) Endovascular Revascularization (Open or Percutaneous, Transcatheter) included in the Surgery section; and (2) Atherectomy (Open or Percutaneous) for Supra-Inguinal Arteries included in the Category III section.

The guidelines were written specifically to provide information on the procedures included in these codes, as well as definitions and instruction for appropriate reporting of one or more vessels treated. Also included in the guidelines are detailed instructions for reporting lesions that bifurcate or extend across the margins of one vessel vascular territory into another. Modifier 59 should be used to

denote that different legs are being treated, even if the mode of therapy is different. Finally, the guidelines also address when to report mechanical thrombectomy and/or thrombolysis separately.

Codes 37220-37223 describe procedures performed in the iliac vascular territory.

Codes 37224-37227 describe procedures performed in the femoral/popliteal territory.

Codes 37228-37235 describe procedures performed in the tibial/peroneal territory.

According to the guidelines, codes 37220-37235 have been established for reporting lower extremity endovascular revascularization services performed for occlusive disease. These lower extremity codes are built on progressive hierarchies with more intensive services inclusive of less intensive services. The code inclusive of all of the services provided for that vessel should be reported (ie, use the code inclusive of the most intensive services provided). Only one code from this family (37220-37235) should be reported for each lower extremity vessel treated.

Codes 37220-37235 have the moderate sedation symbol, ⊕, as moderate sedation is inherent in the procedure and should not be reported separately.

Codes 35454, 35456, 35459, 35470, 35473, 35474, 35480-35485, 35490-35495, 75992-75996 have been deleted to accommodate the addition of these new procedures.

Codes 35471, 37205-37208, 75960, 75962, 75964 were revised for consistency purposes.

Category III codes 0234T-0238T, which describe atherectomy performed by any method (eg, directional, rotational, laser) in arteries above the inguinal ligaments, have also been added.

Further, numerous parenthetical, instructional, and cross-reference notes have been added and revised in the Category I and Category III sections to support these changes.

Clarification of Stand-alone and Add-on Code Structure/Usage

The structure of the new endovascular revascularization codes represent transluminal angioplasty, atherectomy, and stent placement provided in three arterial vascular territories per limb; namely, iliac, femoral/popliteal, and tibial/peroneal which CPT has defined as follows:

- The *iliac vascular territory* is divided into three vessels: common iliac, internal iliac, and external iliac arteries.
- The *femoral/popliteal territory* is considered a single vessel for CPT reporting purposes.
- The *tibial/peroneal territory* is divided into three vessels: anterior tibial, posterior tibial, and peroneal arteries. The common peroneal trunk is considered part of the 3 vessels in the tibial/peroneal territory, and is not treated as a separate fourth vessel for CPT reporting of lower extremity endovascular revascularization procedures.

While the iliac and tibial/peroneal vascular territories are divided into 3 vessels, the femoral/popliteal vascular territory is considered a single vessel for CPT reporting purposes, specifically for the endovascular lower extremity revascularization codes 37224-37227. Therefore, there is no “each additional vessel” add-on code for the femoral/popliteal vascular territory.

Codes 37220-37235 are performed percutaneously and/or through an open surgical exposure.

Transluminal balloon angioplasty is referenced in each code in this family (37220-37235).

Codes 37220, 37224, 37228, and 37232 are reported when the revascularization includes transluminal balloon angioplasty independent of another therapeutic intervention. Should angioplasty be performed in conjunction with stent placement or atherectomy, this procedure would be considered inclusive of those therapeutic procedures and not additionally reported using codes 37220, 37224, 37228, or 37232.

There are specific coding guidelines for each of the three vascular territories.



Clinical Example (37220)

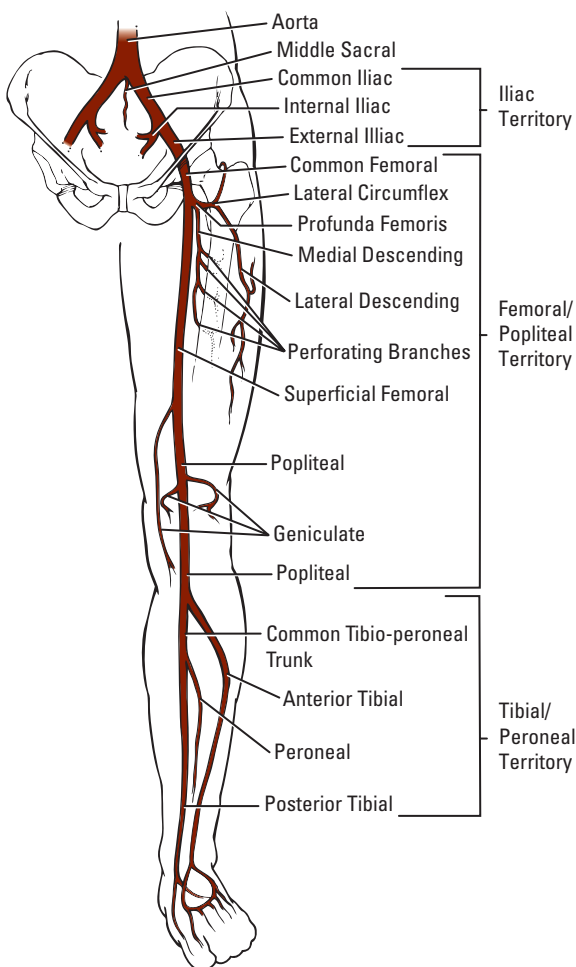
A 57-year-old male smoker is seen for right buttock and calf claudication. Diagnostic studies show a focal concentric stenosis of the right common iliac artery.

Description of Procedure (37220)

Conscious sedation is administered and adequate conscious sedation monitoring is verified. A suitable access vessel is cannulated, either percutaneously or with

Iliac and Lower Extremity Arterial Anatomy Territory

37220-37235



open exposure of the vessel, and a catheter and guidewire are manipulated into the diseased iliac artery using fluoroscopic guidance. Road-mapping images are obtained for vessel sizing and to document anatomy. The area of stenosis/occlusion is crossed with a guidewire, and a sheath is advanced to or through the stenosis/occlusion. An appropriately sized angioplasty balloon catheter is advanced to the area of stenosis and is positioned using fluoroscopic guidance, and then is inflated to the appropriate pressure and time for opening of the lesion. The balloon is removed or pulled back over the wire, and follow-up images are obtained with contrast injection to determine if the stenosis has been adequately treated. Multiple balloon inflations may be required, or additional balloons with larger or smaller diameters may be used. If there are multiple segments of disease within the same iliac segment, these are also treated with appropriate-sized balloon(s). Once a satisfactory result has been documented in the absence of extravasation or embolization, the embolic protection device is retrieved (if used), the sheath is removed, and hemostasis is obtained with manual compression, closure device, or surgical closure of the arteriotomy.



Clinical Example (37221)

A 57-year-old male smoker is seen for right buttock and calf claudication. Diagnostic studies show a complex, eccentric stenosis of the right common iliac artery. It is treated with a stent.

Description of Procedure (37221)

Conscious sedation is administered and adequate conscious sedation monitoring is verified. A suitable access vessel is cannulated, either percutaneously or with open exposure of the vessel, and a catheter and guidewire are manipulated into the diseased iliac artery using fluoroscopic guidance. Road-mapping images are obtained for vessel sizing and to document anatomy. The area of stenosis/occlusion is crossed with a guidewire, and a sheath is advanced to or through the stenosis/occlusion. The lesion may be initially treated with balloon angioplasty, either as an intended primary therapy or as predilatation, to allow passage of the stent delivery system. If the stent is intended as the primary therapy, an appropriately sized stent is selected and introduced to the lesion through the sheath. Using fluoroscopic guidance and appropriate road-mapping, the stent is positioned across the intended treatment zone and is deployed, either by placement of a self-expanding stent or balloon-expandable stent. The stent may be seated or fully opened with additional ballooning. The stent delivery system and balloon are removed or pulled back over the wire, and follow-up images are obtained with contrast injection to determine if the stenosis has been adequately treated. Multiple balloon inflations may be required, or additional balloons with larger or smaller diameters may be used. If there are multiple segments of disease within the same iliac segment, these are also treated with appropriate-sized stent(s). Once a satisfactory result has been documented in the absence of extravasation or embolization, the embolic protection device is retrieved (if used), the sheath is removed, and hemostasis is obtained with manual compression, closure device, or surgical closure of the arteriotomy.



Clinical Example (37222)

A 70-year-old male diabetic smoker is seen for right buttock and calf claudication. Diagnostic studies show a tight focal stenosis in the mid right external iliac artery in addition to a significant stenosis in the common iliac artery. The common iliac stenosis is treated with a stent (coded separately), and the external iliac stenosis is treated with transluminal balloon angioplasty.

Description of Procedure (37222)

This procedure would most commonly be performed through the access obtained for the base procedure. However, it could also be performed from a separate access, in which case, a suitable access vessel is cannulated, either percutaneously or with open exposure of the vessel, and a catheter and guidewire are manipulated into the diseased iliac artery using fluoroscopic guidance. Road-mapping images are obtained for vessel sizing and to document anatomy. The area of stenosis/occlusion is crossed with a guidewire and a sheath is advanced to or through the stenosis/occlusion. An appropriately sized angioplasty balloon catheter is advanced to the area of stenosis, positioned using fluoroscopic guidance, and then inflated to the appropriate pressure and time for opening of the lesion. The balloon is removed or pulled back over the wire, and follow-up images are obtained with contrast injection to determine if the stenosis has been adequately treated. Multiple balloon inflations may be required, or additional balloons with larger or smaller diameters may be used. If there are multiple segments of disease within the same iliac segment, these are also treated with appropriate-sized balloon(s). Once a satisfactory result has been documented in the absence of extravasation or embolization, the embolic protection device is retrieved (if used), the sheath is removed, and hemostasis is obtained with manual compression, closure device, or surgical closure of the arteriotomy.



Clinical Example (37223)

A 52-year-old female with a history of smoking is evaluated for claudication of the right calf, which occurs at 1/2 block. Diagnostic testing shows focal stenoses in the right common and external iliac arteries. Both are treated with stents.

Description of Procedure (37223)

This procedure may be performed through the same access as that used for the base code procedure (37222) or may require access through a separate entry site. The RCIA treatment (initial vessel) is coded separately (37221). A sheath is placed at the entry vessel and the iliac artery to be treated is accessed. Imaging is performed with contrast injection to determine the size of the vessel and to document anatomy, and the lesion is crossed with a wire. The lesion may be primarily stented or secondarily stented following balloon angioplasty (angioplasty associated with this stent is NOT separately reportable). The appropriate stent is positioned across the lesion and deployed; it may require further ballooning (not separately reportable) to achieve adequate opening of the vessel. If other segments of the same iliac artery are also stenosed or occluded, they may also be treated with additional stents and/or balloon angioplasty (work in the same iliac artery is not separately reportable). Imaging is performed to document that the vessel has been opened. Once a satisfactory result has been achieved in the absence of

extravasation or embolization, the embolic protection device is retrieved (if used), the sheath is removed, and hemostasis is obtained with manual compression, closure device, or surgical closure of the arteriotomy.



Clinical Example (37224)

A 58-year-old female is evaluated for right leg claudication that develops at 2 blocks. Diagnostic testing reveals a segment of tandem short, focal stenoses of the mid to distal right superficial femoral artery. These are treated with balloon angioplasty.

Description of Procedure (37224)

Conscious sedation is administered and adequate conscious sedation monitoring is verified. A suitable access vessel is cannulated, either percutaneously or with open exposure of the vessel, and a catheter and guidewire are manipulated into the diseased femoral artery using fluoroscopic guidance. Road-mapping images are obtained for vessel sizing and to document anatomy. The area(s) of stenosis/occlusion is crossed with a guidewire, and a sheath is advanced to the stenosis/occlusion. An appropriately sized balloon angioplasty catheter is advanced to the area of stenosis, positioned using fluoroscopic guidance, and then inflated to the appropriate pressure and time for opening of the lesion. The balloon is removed or pulled back over the wire, and follow-up images are obtained with contrast injection to determine if the stenosis has been adequately treated. Multiple balloon inflations may be required, or additional balloons with larger or smaller diameters may be used. If there are multiple segments of disease in the femoral artery segments in the leg, they are also treated with the appropriate-size balloon or balloons. Once a satisfactory result has been documented in the absence of extravasation or embolization, the embolic protection device is retrieved (if used), the sheath is removed, and hemostasis is obtained with manual compression, closure device, or surgical closure of the arteriotomy.



Clinical Example (37225)

A 52-year-old female with diabetes and a history of coronary artery disease is seen for rest pain in the right foot. Diagnostic angiography reveals long segment diffuse disease of the mid to distal superficial femoral artery extending into the popliteal artery. It is treated with atherectomy.

Description of Procedure (37225)

Conscious sedation is administered and adequate conscious sedation monitoring is verified. A suitable access vessel is cannulated, either percutaneously or with open exposure of the vessel, and a sheath is placed into the access artery. A catheter and guidewire are manipulated into the diseased femoral artery using fluoroscopic guidance, and the sheath is advanced into the ipsilateral common femoral artery. Road-mapping images are obtained for vessel sizing and to document anatomy. The area of stenosis/occlusion is crossed with a guidewire. It may be appropriate to place a distal embolic protection device, which may require predilatation of a tight stenosis or area of occlusion. An atherectomy may be performed primarily or secondarily. Based on vessel measurements, an appropriate atherectomy device is chosen, advanced into the diseased segment, and positioned using fluoroscopic

guidance and contrast injection. Multiple passes are made with the atherectomy device, physically removing plaque from the vessel. The atherectomy catheter may require periodic removal from the vessel to empty the collection chamber for plaque. It is then introduced into the vessel again over the wire, and the process is repeated until the desired amount of plaque has been removed. Because of the length and extent of disease, it may require use of more than one atherectomy device to open the entire diseased segment. Atherectomy may be done in conjunction with balloon angioplasty, either in the same segment of the vessel or in separate segments of the vessel, depending on anatomy and pathology present. Imaging is performed after the atherectomy. If the lesion has been satisfactorily opened, angioplasty would not be performed at that level. If the lesion is incompletely opened, it could be treated further with additional atherectomy and/or with balloon angioplasty. An appropriately sized angioplasty balloon catheter is advanced to the area of stenosis, positioned using fluoroscopic guidance, and then inflated to the appropriate pressure and time for opening of the lesion. The balloon is removed or pulled back over the wire, and follow-up images are obtained with contrast injection to determine if the stenosis has been adequately treated. Multiple balloon inflations may be required, or additional balloons with larger or smaller diameters may be used. If there are multiple segments of disease within any femoral and/or popliteal segment(s) in the same leg, these are also treated with appropriate-sized balloon(s). Once a satisfactory result has been documented, imaging into the foot is repeated to document no distal complication and that there is run-off into the foot as desired. Medications such as nitroglycerine may be given if spasm is seen distally. The embolic protection device is retrieved (if used), the sheath is removed, and hemostasis is obtained with manual compression, closure device, or surgical closure of the arteriotomy.

Clinical Example (37226)

A 67-year-old male with a long history of smoking, coronary artery disease, hypertension, and hypercholesterolemia is evaluated for short-distance claudication of the right leg. Diagnostic studies demonstrate a 10-cm segment of occlusion of the distal superficial femoral artery and focal stenosis of the distal popliteal artery. It is treated with stent placement.

Description of Procedure (37226)

Conscious sedation is administered and adequate conscious sedation monitoring is verified. A suitable access vessel is cannulated either percutaneously or with open exposure of the vessel, a sheath is placed at the arteriotomy, and a catheter and guidewire are manipulated into the diseased femoral artery using fluoroscopic guidance. Road-mapping images are obtained for vessel sizing and to document anatomy. The area of stenosis/occlusion is crossed with a guidewire. If an occlusion is present and if it is impossible to manipulate the wire through the occlusion, the wire is exchanged out for a re-entry device. The re-entry device is used to negotiate through the occlusion and back into the flow channel of the reconstituted artery beyond the occlusion. Once crossed, the re-entry catheter is exchanged out for a wire, and if an embolic protection device is to be used, it is inserted at this point. The target lesion may be initially treated with balloon angioplasty, either as an intended primary therapy or as predilatation to allow passage of the stent

delivery system (in either case, the balloon angioplasty is included, ie, bundled, with the work of the stent placement). If the stent is intended as the primary therapy, an appropriately sized stent is selected and introduced to the lesion through the sheath. Using fluoroscopic guidance and appropriate road-mapping, the stent is positioned across the intended treatment zone and is deployed, either by placement of a self-expanding stent or balloon-expandable stent. The stent may be seated or fully opened with additional ballooning. The stent delivery system and balloon are removed or pulled back over the wire, and follow-up images are obtained using contrast injection to determine if the stenosis has been adequately treated. Multiple balloon inflations may be required, or additional balloons with larger or smaller diameters may be used. If the intended primary therapy for the lesion is balloon angioplasty, but it fails to open the lesion or results in dissection or other complication, a stent is then introduced into the vessel and is deployed to achieve patency of the lesion. If there are multiple segments of disease within the ipsilateral femoral and/or popliteal artery segments, these are also treated with appropriate-sized stent(s) and/or balloons. Once a satisfactory result has been documented and imaging confirms flow to the foot without distal complication, the embolic protection device (if used) is removed, the sheath is removed, and hemostasis is obtained with manual compression, closure device, or surgical closure of the arteriotomy.



Clinical Example (37227)

A 75-year-old male with a long history of smoking, cardiovascular disease, and severe pulmonary disease is seen for a nonhealing ulcer of the right foot. Diagnostic testing reveals total occlusion of the right superficial femoral artery with reconstitution of the popliteal artery above the knee. There is also 3-cm segment of stenosis of the popliteal artery below the knee. Treatment of both lesions involves some combination of stent and atherectomy procedure(s).

Description of Procedure (37227)

Conscious sedation is administered and adequate conscious sedation monitoring is verified. A suitable access vessel is cannulated, either percutaneously or with open exposure of the vessel, and a sheath is placed into the access artery. A catheter and guidewire are manipulated into the diseased superficial femoral artery using fluoroscopic guidance, and the sheath is advanced into the ipsilateral common femoral artery. Road-mapping images are obtained for vessel sizing and to document anatomy. The area of stenosis/occlusion is crossed with a guidewire. If this is not possible due to an occlusion, the guidewire is switched out for a re-entry catheter. This device is used to negotiate the occlusion, regain entry into the distal arterial lumen, and then switched out for a small-diameter wire. An atherectomy may be performed primarily or secondarily. Based on vessel measurements, an appropriate atherectomy device(s) is(are) chosen and is(are) advanced into the diseased segment and positioned using fluoroscopic guidance and contrast injection. Multiple passes are made with the atherectomy device(s), physically removing plaque from the vessel. The atherectomy catheter may require periodic removal from the vessel to empty the collection chamber for plaque. It is then introduced into the vessel again over the wire, and the process is repeated until

the desired amount of plaque has been removed. It may be appropriate to place a distal embolic protection device, which may require predilatation of a tight stenosis or area of occlusion. Atherectomy may be done in conjunction with balloon angioplasty and/or stenting, either in the same segment of the vessel or in separate segments of the vessel, depending on anatomy and pathology present. Imaging is performed after the atherectomy. If the lesion has been satisfactorily opened, angioplasty or stent placement would not be performed at that level. If the lesion is incompletely opened, it could be treated further with additional atherectomy or with stent and/or balloon angioplasty. An appropriately sized stent would be positioned across the lesion and deployed, and may be completely opened and embedded into the wall of the vessel with additional balloon angioplasty. There may be multiple levels of disease in the vessel or there may be involvement of the common femoral and/or profunda femoral and/or popliteal segments. Some may be appropriately treated with atherectomy but others may be better treated with stenting, with or without balloon angioplasty. After the lesions are treated, follow-up images are obtained with contrast injection to determine if the stenosis has been adequately treated. Once a satisfactory result has been documented, images to the foot are obtained to document desired flow has been obtained and that there are no distal complications. The embolic protection device is retrieved (if used), the sheath is removed, and hemostasis is obtained with manual compression, closure device, or surgical closure of the arteriotomy.



Clinical Example (37228)

A 68-year-old diabetic female presents with rest pain of the right foot. Diagnostic studies reveal single vessel run-off with only the anterior tibial artery patent, but it has focal stenoses in the proximal and mid portions of the vessel. It is treated with angioplasty.

Description of Procedure (37228)

Conscious sedation is administered and adequate conscious sedation monitoring is verified. Physical exam and fluoroscopy are used to localize the vessel and level for access. The access vessel is cannulated, either percutaneously or with open exposure of the vessel, and an initial sheath is placed at the arteriotomy. A catheter and guidewire are manipulated proximal to the diseased tibial/peroneal artery using fluoroscopic guidance. Road-mapping images are obtained for vessel sizing and to document anatomy. Exchange of initial sheath and guidewire is performed with new guiding sheath, exchange length crossing wire, and crossing catheter positioned. The area(s) of stenosis/occlusion is crossed with a guidewire. It may be appropriate to place a distal embolic protection device, which may require predilatation of a tight stenosis. An appropriately sized balloon angioplasty catheter is advanced to the area of stenosis, positioned using fluoroscopic guidance, and then inflated to the appropriate pressure and time for opening of the lesion. The balloon is removed or pulled back over the wire, and follow-up images are obtained with contrast injection to determine if the stenosis has been adequately treated. Multiple balloon inflations are required, and additional balloons with larger or smaller diameters may be used. If there are multiple segments of disease in the tibial-peroneal artery in the leg, they are also treated with the appropriate-size balloon or balloons. Once a satisfactory result has been documented in the absence of

extravasation or embolization, the embolic protection device is retrieved (if used), the sheath is removed, and hemostasis is obtained with manual compression, closure device, or surgical closure of the arteriotomy.



Clinical Example (37229)

A 68-year-old diabetic male presents with a nonhealing ulcer of the right foot. Diagnostic studies reveal severe trifurcation (tibial/peroneal) disease. The posterior tibial and peroneal arteries are totally occluded. The anterior tibial artery has a segment of occlusion in the mid calf extending over 5 cm. Treatment of the initial vessel will be with an atherectomy.

Description of Procedure (37229)

Conscious sedation is administered and adequate conscious sedation monitoring is verified. Physical exam and fluoroscopy are used to localize the vessel and level for access. The access vessel is cannulated, either percutaneously or with open exposure of the vessel, and an initial sheath is placed at the arteriotomy. A catheter and guidewire are manipulated proximal to the diseased tibial/peroneal artery using fluoroscopic guidance. Road-mapping images are obtained for vessel sizing and to document anatomy. Exchange of initial sheath and guidewire are performed with new guiding sheath, exchange length crossing wire, and crossing catheter positioned. If the occlusion cannot be crossed, a re-entry device (outback) or for-cops (front runner) is exchanged in place of the selective catheter to recanalize the occlusion. It may be appropriate to place a distal embolic protection device, which may require predilatation of a tight stenosis or occlusion. An atherectomy may be performed primarily or secondarily. Based on vessel measurements, an appropriate atherectomy device is chosen and is advanced into the diseased segment(s) and positioned using fluoroscopic guidance and contrast injection. Multiple passes are made with the atherectomy device, physically removing plaque from the vessel. The atherectomy catheter may require periodic removal from the vessel to empty the collection chamber of accumulated plaque. It is then introduced into the vessel again over the wire, and the process is repeated until the desired amount of plaque has been debulked. Atherectomy may be done in conjunction with balloon angioplasty, either in the same segment of the vessel or in separate segments of the vessel, depending on anatomy and pathology present. Imaging is performed after the atherectomy. If the lesion is satisfactorily opened, angioplasty would not be performed at that level. If the lesion is incompletely opened, it could be treated further with additional atherectomy or with balloon angioplasty. An appropriately sized angioplasty balloon catheter is advanced to the area of stenosis, positioned using fluoroscopic guidance, and then inflated to the appropriate pressure and time. The balloon is removed or pulled back over the wire, and follow-up images are obtained with contrast injection to determine if the stenosis has been adequately treated. Multiple balloon inflations may be required, or additional balloons with larger or smaller diameters may be used. If there are multiple segments of disease within the same tibial/peroneal artery, these are also treated with appropriate-sized balloon(s). Once a satisfactory result has been documented in the absence of extravasation or embolization, the embolic protection device is retrieved (if used), the sheath is removed, and hemostasis obtained with manual compression, closure device, or surgical closure of the arteriotomy.



Clinical Example (37230)

A 68-year-old diabetic male presents with gangrene of the right 2nd and 3rd toes. He has had a prior BKA on the left. Diagnostic studies reveal severe trifurcation (tibial/peroneal artery) disease. The posterior tibial and peroneal arteries are totally occluded. The anterior tibial artery has a segment of occlusion in the mid calf with reconstitution distally and patency of the dorsalis pedis artery. Treatment of the initial vessel will be with stent.

Description of Procedure (37230)

Conscious sedation is administered and adequate conscious sedation monitoring is verified. Physical exam and fluoroscopy are used to localize the vessel and level for access. The access vessel is cannulated, either percutaneously or with open exposure of the vessel, and an initial sheath is placed at the arteriotomy. A catheter and guidewire are manipulated proximal to the diseased tibial/peroneal artery using fluoroscopic guidance. Road-mapping images are obtained for vessel sizing and to document anatomy. Exchange of initial sheath and guidewire are performed with new guiding sheath, exchange length crossing wire, and crossing catheter positioned. If the occlusion cannot be crossed, a re-entry device (outback) or forceps (front runner) is exchanged in place of the selective catheter to recanalize the occlusion. The lesion may be initially treated with balloon angioplasty, either as an intended primary therapy or as predilatation to allow passage of the stent delivery system. If the stent is intended as the primary therapy, an appropriately sized stent is selected and introduced to the lesion through the sheath. Using fluoroscopic guidance and appropriate road-mapping, the stent is positioned across the intended treatment zone and is deployed, either by placement of a self-expanding stent or balloon-expandable stent. The stent may be seated or fully opened with additional angioplasty. The stent delivery system and balloon are removed or pulled back over the wire, and follow-up images are obtained with contrast injection to determine if the stenosis has been adequately treated and to exclude dissection or extravasation. Multiple balloon inflations may be required, or additional balloons with larger or smaller diameters may be used. If it was intended that the primary therapy for the lesion was to be balloon angioplasty, but that fails to open the lesion or results in dissection or other complication, a stent is then introduced into the vessel and is deployed to achieve patency of the lesion. If there are multiple segments of disease within the ipsilateral tibial/peroneal artery segments, these are also treated with an appropriately sized stent(s) and/or balloons. Once a satisfactory result has been documented in the absence of extravasation or embolization, the embolic protection device is retrieved (if used), the sheath is removed, and hemostasis obtained with manual compression, closure device, or surgical closure of the arteriotomy.



Clinical Example (37231)

A 68-year-old diabetic male presents with gangrene of the right 2nd and 3rd toes. He has had a prior BKA on the left. Diagnostic studies reveal severe trifurcation (tibial/peroneal artery) disease. The posterior tibial and peroneal arteries are totally occluded. The anterior tibial artery has a segment of occlusion in the mid to distal calf with reconstitution at the ankle, supplying the dorsalis pedis artery. Treatment of the initial vessel will require atherectomy and stent.

Description of Procedure (37231)

Conscious sedation is administered and adequate conscious sedation monitoring is verified. Physical exam and fluoroscopy are used to localize the vessel and level for access. The access vessel is cannulated either percutaneously or with open exposure of the vessel, and an initial sheath is placed at the arteriotomy. A catheter and guidewire are manipulated proximal to the diseased tibial/peroneal artery using fluoroscopic guidance. Road-mapping images are obtained for vessel sizing and to document anatomy. Exchange of initial sheath and guidewire are performed with new guiding sheath, exchange length crossing wire, and crossing catheter positioned. If the occlusion cannot be crossed, a re-entry device (outback) or forceps (front runner) is exchanged in place of the selective catheter to recanalize the occlusion. It may be appropriate to place a distal embolic protection device, which may require predilatation of a tight stenosis or occlusion. An atherectomy may be performed primarily or secondarily. Based on vessel measurements, an appropriate atherectomy device is chosen and is advanced into the diseased segment(s) and positioned using fluoroscopic guidance and contrast injection. Multiple passes are made with the atherectomy device, physically removing plaque from the vessel. The atherectomy catheter may require periodic removal from the vessel to empty the collection chamber of accumulated plaque. It is then introduced into the vessel again over the wire, and the process is repeated until the desired amount of plaque has been debulked. Atherectomy may be done in conjunction with balloon angioplasty, either in the same segment of the vessel or in separate segments of the vessel, depending on anatomy and pathology present. Imaging is performed after the atherectomy. In the event of suboptimal atherectomy and angioplasty, a stent placement may be required. Using fluoroscopic guidance and appropriate road-mapping, stent length, diameter, and properties are chosen. The stent is positioned across the intended treatment zone and is deployed. The stent may be seated or fully opened with additional angioplasty. The stent delivery system and balloon are removed or pulled back over the wire, and follow-up images are obtained with contrast injection to determine if the lesion has been adequately treated and to exclude dissection or extravasation. Once a satisfactory result has been documented in the absence of extravasation or embolization, the embolic protection device is retrieved (if used), the sheath is removed, and hemostasis obtained with manual compression, closure device, or surgical closure of the arteriotomy.



Clinical Example (37232)

A 68-year-old diabetic male presents with gangrene of the right 2nd and 3rd toes. Diagnostic studies reveal severe trifurcation (tibial/peroneal artery) disease. The posterior tibial artery is totally occluded. Both the peroneal and anterior tibial arteries are patent but each has high-grade stenoses at the proximal calf level. Treatment of the second vessel is by angioplasty only.

Description of Procedure (37232)

This procedure could be performed through the same arteriotomy as was used for the base procedure 37228. However, it could also be done from a separate access, in which case a suitable access vessel is again cannulated, either percutaneously or with open exposure of the vessel, and a distinct sheath is placed (separately coded). (Treatment of the initial vessel is separately coded.) Under fluoroscopic

guidance and road-mapping, the additional tibial branch vessel is cannulated. Road-mapping images are obtained for vessel sizing and to document anatomy. The area(s) of stenosis/occlusion is crossed with a guidewire, crossing catheter, re-entry, or forceps device as previously outlined. If lesions are being treated at a bifurcation, tandem wires may be used to cross stenoses at the origins of each vessel. It may be appropriate to place a distal embolic protection device. An appropriately sized balloon angioplasty catheter is advanced to the area of stenosis, positioned using fluoroscopic guidance, and then inflated to the appropriate pressure and time for opening of the lesion. The balloon is removed or pulled back over the wire, and follow-up images are obtained with contrast injection to determine if the stenosis has been adequately treated. Multiple balloon inflations may be required, or additional balloons with larger or smaller diameters may be used. Once a satisfactory result has been documented in the absence of extravasation or embolization, the embolic protection device is retrieved (if used), the sheath is removed, and hemostasis obtained with manual compression, closure device, or surgical closure of the arteriotomy.



Clinical Example (37233)

A 68-year-old diabetic male presents with gangrene of the right 2nd and 3rd toes. Diagnostic studies reveal severe trifurcation (tibial/peroneal artery) disease. The posterior tibial artery is totally occluded. Both the peroneal and anterior tibial arteries have severe disease, with short segments of total occlusion in each vessel. Treatment of the second vessel will be by atherectomy.

Description of Procedure (37233)

This procedure is generally performed through the same access as that used for the base code procedure (37229). (Treatment of the initial vessel is separately coded.) A catheter and guidewire are manipulated into the diseased additional tibial/peroneal artery using fluoroscopic guidance. Road-mapping images are obtained for vessel sizing and to document anatomy. The area of stenosis/occlusion is crossed with a guidewire, crossing catheter, re-entry, or forceps device as previously outlined. It may be appropriate to place a distal embolic protection device, which may require predilatation of a tight stenosis or area of occlusion. An atherectomy may be performed primarily or secondarily. Based on vessel measurements, an appropriate atherectomy device is chosen and is advanced into the diseased segment and positioned using fluoroscopic guidance and contrast injection. Multiple passes are made with the atherectomy device, physically removing plaque from the vessel. The atherectomy catheter may require periodic removal from the vessel to empty the collection chamber for plaque. It is then introduced into the vessel again over the wire, and the process is repeated until the desired amount of plaque has been removed. Atherectomy may be done in conjunction with balloon angioplasty, either in the same segment of the vessel or in separate segments of the vessel, depending on anatomy and pathology present. Imaging is performed after the atherectomy. If the lesion has been satisfactorily opened, angioplasty would not be performed at that level. If the lesion is incompletely opened, it could be treated further with additional atherectomy or with balloon angioplasty. An appropriately sized angioplasty balloon catheter is advanced to the area of stenosis, positioned using fluoroscopic guidance, and then inflated to the appropriate pressure and

time for opening of the lesion. The balloon is removed or pulled back over the wire, and follow-up images are obtained with contrast injection to determine if the stenosis has been adequately treated. Once a satisfactory result has been documented in the absence of extravasation or embolization, the embolic protection device is retrieved (if used), the sheath is removed, and hemostasis obtained with manual compression, closure device, or surgical closure of the arteriotomy.



Clinical Example (37234)

A 68-year-old diabetic male presents with gangrene of the right 2nd and 3rd toes. Diagnostic studies reveal severe trifurcation disease. The anterior tibial artery is totally occluded. Both the peroneal and posterior tibial arteries have severe disease, with segments of total occlusion in each vessel, but reconstitution of each vessel in the distal calf. Treatment of the second vessel will be with stent.

Description of Procedure (37234)

This procedure could be performed through the same arteriotomy as was used for the base procedure 37230. (Treatment of the initial vessel is separately coded.) If performed from the same access, additional selective catheterization work is required to reach the lesion(s) to be treated in the additional trifurcation vessel. However, it could also be done from a separate access, in which case a suitable access vessel is cannulated, either percutaneously or with open exposure of the vessel, a sheath placed at the arteriotomy, and a catheter and guidewire manipulated into the artery using fluoroscopic guidance. Road-mapping images are obtained for vessel sizing and to document anatomy. The area(s) of stenosis/occlusion is crossed with a guidewire, crossing catheter, re-entry, or forceps device as previously outlined. If lesions are being treated at a bifurcation, tandem wires may be used to cross stenoses at the origins of each vessel. It may be appropriate to place a distal embolic protection device, which may require predilatation of a tight stenosis or area of occlusion. A stent may be placed primarily or secondarily. Appropriately sized stent length, diameter, and material are selected and the stent is positioned at the treatment site using fluoroscopic guidance and then deployed. Additional angioplasty may be needed to achieve optimum caliber. The stent delivery catheter and/or balloon are removed or pulled back over the wire, and follow-up images are obtained with contrast injection to determine if the stenosis has been adequately treated. Multiple balloon inflations may be required, or additional balloons with larger or smaller diameters may be used. Once a satisfactory result has been documented in the absence of extravasation or embolization, the embolic protection device is retrieved (if used), the sheath is removed, and hemostasis obtained with manual compression, closure device, or surgical closure of the arteriotomy.



Clinical Example (37235)

A 68-year-old diabetic male presents with gangrene of the right 2nd and 3rd toes. Diagnostic studies reveal severe trifurcation (tibial/peroneal artery) disease. The anterior tibial artery is totally occluded. Both the peroneal and posterior tibial arteries have severe disease, with segments of total occlusion in each vessel, but reconstitution of each vessel in the distal calf. Treatment of the second vessel will be with stent and atherectomy.

Description of Procedure (37235)

This procedure is generally performed through the same access as that used for the base code procedure 37231. (Treatment of the initial vessel is separately coded.) Road-mapping images are obtained for vessel sizing and to document anatomy. The area of stenosis/occlusion is crossed with a guidewire, crossing catheter, re-entry, or forceps device as previously outlined. It may be appropriate to place a distal embolic protection device, which may require predilatation of a tight stenosis or area of occlusion. An atherectomy may be performed primarily or secondarily. Based on vessel measurements, an appropriate atherectomy device is chosen, advanced into the diseased segment, and positioned using fluoroscopic guidance and contrast injection. Multiple passes are made with the atherectomy device, physically removing plaque from the vessel. It is then introduced into the vessel again over the wire, and the process is repeated until the desired amount of plaque has been removed. Atherectomy may be done in conjunction with balloon angioplasty, either in the same segment of the vessel or in separate segments of the vessel, depending on anatomy and pathology present. Imaging is performed after the atherectomy. In the event of suboptimal atherectomy and angioplasty, a stent placement may be required. Using fluoroscopic guidance and appropriate road-mapping, stent length, diameter, and properties are chosen. The stent is positioned across the intended treatment zone and is deployed. The stent may be seated or fully opened with additional angioplasty. The stent delivery system and balloon are removed or pulled back over the wire, and follow-up images are obtained with contrast injection to determine if the lesion has been adequately treated and to exclude dissection or extravasation. Once a satisfactory result has been documented in the absence of extravasation or embolization, the embolic protection device is retrieved (if used), the sheath is removed, and hemostasis obtained with manual compression, closure device, or surgical closure of the arteriotomy.