Peripheral Vascular Disorders

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AAPCCA BOD 2013 - 2016

Disclaimer

• The content of this presentation represents the latest available information provided.

Peripheral Vascular System

• The peripheral vascular system includes:
  • Arteries - which carry blood from the heart to all of the body tissues
  • Venous System - that returns blood to the heart
  • Any part of the system can be damaged by disease and may affect other organs and tissues.
Abdominal Aortic Aneurysm

- An aneurysm is a swelling in an artery.
- If it affects the aorta, it can be life-threatening.
- Defects in the arterial wall weaken the area, due to pressure from the blood flow, causing the wall to stretch and possibly burst.
- Can occur in any artery, but more prone to the aorta.

Aneurysm

- A true aneurysm is a bulge in all three layers of a blood vessel wall.
- A dissecting aneurysm is where the blood is forced through a tear in the inner wall, creating a false channel between the layers of the wall.
- If there is a bulge in some portion of the blood vessel wall but not in all three layers (commonly seen in aneurysms formed as a result of injury), it is a pseudoaneurysm.
- Aneurysms can be treated with covered stents or surgical resection.
Thrombosis

• Thrombosis (blood clot) can form in any blood vessel in the body.
• If the blood is thick this could be a result of a genetic condition.
• Or where the inner wall has been damaged and blood sticks to it.
• Thrombi usually form where a fatty plaque has damaged the inner wall.
• A thrombosis is usually symptom free until it blocks a blood vessel.
• It causes pain, redness, and inflammation.
• Anticoagulant drugs are given to dissolve the clot or surgery may be necessary.

Embolism

• An embolism is a particle of free floating matter broken off a thrombus inside the blood vessel.
• Emboli can also form if fat enters the blood, usually after an injury/fracture of the pelvis or tibia.
• An air embolus is introduced into the bloodstream during a trauma or surgery.
• When an embolus blocks an artery, the tissue supplied by that artery dies.

Embolism

• A pulmonary embolism causes damage to the lung tissue.
• It can cause difficulty in breathing, chest pain, and circulatory collapse.
• If an emboli travels to the brain, it can cause a stroke.
• Fat emboli can affect lung, brain, or skin tissues, while air emboli can be fatal.
• Drugs may be administered or surgery may be required.
Arteries of the Leg

• Common Iliac arteries (first order)(36245):
  • Supply the pelvis and lower extremities
  • Divide to the left & right internal iliac arteries (second order 36246) that supply the urinary & reproductive organs of the pelvis
  • External iliac arteries (second order 36246) supply the lower extremities

• Common Femoral arteries (second order)(36246):
  • Is a continuation of the external iliac arteries: Profunda femoris, Superficial femoral (third order 36247)
  • They supply the muscles of the thigh

• Popliteal arteries (beyond third order or more)(36247):
  • Branch from the superficial femoral artery
  • They supply the knee and leg

S&I codes 75630, 75710, 75716

Arterial Testing (Non-traumatic)

• Patients undergoing a non-traumatic condition may have underwent some type of arterial testing:
  • Ankle-brachial index measurement
    • 93922-93924
  • Duplex ultrasound – Lower Extremity
    • 93925 - Complete IL Study
    • 93926 - Ul or Limited Study
  • Invasive angiography
  • Computed tomographic angiography
  • Magnetic resonance angiography
Endovascular Revascularization

• Endovascular surgery:
  • Is a form of minimally invasive surgery. It offers an immediate advantage over more traditional, yet highly invasive surgeries.

• Revascularization:
  • The restoration of the blood circulation of an organ or area, achieved by unblocking obstructed or disrupted blood vessels or by surgically implanting replacements

Aorta Regions

Endovascular Repair of Abdominal Aorta and/or Iliac Arteries

• New codes for 2018

• Codes 34701-34706 describe introduction, positioning, and deployment of an endograft for treatment of abdominal aortic pathology (with or without rupture), such as aneurysm, pseudoaneurysm, dissection, penetrating ulcer, or traumatic disruption in the infrarenal abdominal aorta with or without extension into the iliac artery(ies).

• The terms, endovascular graft, endoprosthesis, endograft, and stentgraft, refer to a covered stent.
Vascular Procedures

• Selective vascular catheterizations should be coded to include:
  • Introduction and all lesser order selective catheterizations used in the approach. CPT®, Appendix L
  • Additional first order or higher catheterizations in vascular families supplied by a first order vessel different from a previously selected and coded family should be separately coded.
  • The lower extremity endovascular revascularization codes describing services performed for occlusive disease (37220-37235) include catheterization (36200, 36140, 36245-36248) in the work described by the codes.

Diagnostic Angiography

• Catheterization for the diagnostic lower extremity angiogram may be reported separately if a different arterial puncture site is necessary.

• Diagnostic angiography (radiological S&I) codes should NOT be used with interventional procedures for:
  • Contrast injections, angiography, roadmapping, and/or fluoroscopic guidance for the intervention
  • Vessel measurement
  • Post-angioplasty/stent/atherectomy angiography, as this work is captured in the radiological S&I codes.
  • In those therapeutic codes that include radiological S&I, this work is captured in the therapeutic code.

Diagnostic Angiography

• Diagnostic angiography performed at the time of an interventional procedure is separately reportable if:
  • No prior catheter-based angiographic study is available and a full diagnostic study is performed, and the decision to intervene is based on the diagnostic study
  • OR
  • A prior study is available, but as documented in the medical record:
    • The patient’s condition with respect to the clinical indication has changed since the prior study
    • OR
    • There is inadequate visualization of the anatomy and/or pathology
    • OR
    • There is a clinical change during the procedure that requires new evaluation outside the target area of intervention.
Diagnostic Angiography

- Diagnostic angiography performed at a separate session from an interventional procedure is separately reported.

- If diagnostic angiography is necessary, is performed at the same session as the interventional procedure and meets the guideline criteria, modifier -59 must be appended to the diagnostic radiological S&I code to denote that diagnostic work has been done.

- Diagnostic angiography performed at the time of an interventional procedure is NOT separately reportable if it is specifically included in the interventional code descriptor.

Treatment Zones for Endovascular Repair

- The treatment zone for endograft procedures is defined by those vessels that contain an endograft(s) (main body, docking limb(s), and/or extension(s)) deployed during that operative session.

- Adjunctive procedures outside the treatment zone may be separately reported (eg, angioplasty, endovascular stent placement, embolization).

- Zones:
  - Infrarenal aorta – 34701-34702
  - Infrarenal aorta and ipsilateral common iliac artery – 34703-34704
  - Infrarenal aorta and both common iliac arteries – 34705-34706
  - Portion of the iliac artery(ies) (common, external, internal) that contains the endograft – 34707-34708

Endovascular 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. (Use the code inclusive of the most intensive services provided.)
Endovascular Revascularization
(Open or Percutaneous, Transcatheter)

• Only ONE code from this family (37220-37235) should be reported for each lower extremity vessel treated.

• The codes all include the work of accessing and selectively:
  • Catheterizing the vessel
  • Traversing the lesion
  • Radiological S & I directly related to the intervention(s) performed
  • Embolic protection if used
  • Closure of the arteriotomy by any method
  • Imaging performed to document completion of the intervention in addition to the intervention(s) performed

Embolic Protection Device

• Embolic Protection Device:
  • A net or umbrella placed distal to the site of an angioplasty to capture debris that has been released by the procedure and that might occlude downstream vessels.

Endovascular Revascularization
(Open or Percutaneous, Transcatheter)

• Extensive repair or replacement of an artery may be additionally reported (35226 or 35286).

• Codes 37220 – 37235 describe endovascular procedures performed percutaneously and/or through an open surgical exposure.

• The codes also include balloon angioplasty, atherectomy, and stenting.
Vascular Territories

- These codes describe revascularization therapies provided in three arterial vascular territories:
  - Iliac Vascular Territory - The iliac territory is divided into 3 vessels: common iliac, internal iliac, external iliac
  - 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
  - Tibial/Peroneal Territory - The tibial/peroneal territory is divided into 3 vessels: anterior tibial, posterior tibial, and peroneal arteries

Iliac Territory
37220-37223

Femoral/Popliteal Territory
37224-37227

Tibial/Peroneal Territory
37228-37235

- A single primary code is used for the initial iliac artery treated in each leg (37220 - 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.
### 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 (e.g., use 37227 if a stent is placed for 1 lesion and an atherectomy is performed on a second lesion).

### 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, 4th segment of vessel in the tibio-peroneal family.

### Multiple Territories

- 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.
Multiple Territories

• 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.

Lesions

• 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 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.

Bilateral Legs

• When the same territory(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 (37184-37185).
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October 13, 2018

Resources

• The Complete Human Body, Dr. Alice Roberts
• CPT 2018
• Medical Terminology and Anatomy, Betsy J. Shiland, MS, RHIA, CCS, CPC