

INTERVENTIONAL RADIOLOGY: VASCULAR DIAGNOSTIC AND THERAPEUTIC PROCEDURES

An important skill for the coder of vascular diagnostic and therapeutic procedures to possess is the ability to read and understand the radiology report. Knowledge of vascular anatomy, and angiography and vascular procedure terminology (such as angioplasty, infusion, and embolization, among many others), must be in place before attempting to code for these services.

For the most part, a system of component coding is used in these cases, in order to accurately describe the separately identifiable surgical and imaging services performed by the radiologist. In this way, the Current Procedural Terminology (CPT[®]) code structure recognizes that there can be variations in the services performed during diagnostic angiography and vascular transcatheter therapies, whether by virtue of more than one physician being involved during the encounter, or by combinations of services that will differ among patients. CPT[®] component codes reflect valuation after a determination has been made as to exactly what service is described by, and included in each code. Any vascular diagnostic or therapeutic procedure may be coded with one or more surgical codes and with one or more imaging codes (commonly referred to as radiological supervision and interpretation [RS&I]). All-inclusive surgical codes also exist in CPT[®] for use when the procedure has been valued to include all of its surgical and imaging aspects.

In order to correctly assign CPT[®] codes to vascular diagnostic and therapeutic procedures, the coder must find the following information in the report: the site of the catheter entry into the body, the movement of the catheter after entry, and the final positioning of the catheter. Vascular catheterizations may be either selective or non-selective.

Non-selective Catheterization

Non-selective catheter positioning means that the catheter is inserted directly into a vessel, and no subsequent movement into a branch of that vessel takes place. Non-selective catheter positioning also includes placement of the catheter into the aorta or vena cava, by any route, and placement of a catheter directly into the portal vein.

Non-selective CPT[®] codes include:

- 36000** Introduction of needle or intracatheter, vein
- 36005** Injection procedure for extremity venography
- 36010** Introduction of catheter, superior or inferior vena cava
- 36013** Introduction of catheter, right heart or main pulmonary artery
- 36100** Introduction of needle or intracatheter, carotid or vertebral artery

- 36120** Introduction of needle or intracatheter; retrograde brachial artery
- 36140** Introduction of needle or intracatheter, extremity artery
- 36147** Introduction of needle and/or catheter, arteriovenous shunt created for dialysis (graft/fistula; initial access with complete radiological evaluation of dialysis access, including fluoroscopy, image documentation and report (includes access of shunt, injection[s] of contrast, and all necessary imaging from the arterial anastomosis and adjacent artery through entire venous outflow including the inferior or superior vena cava)
- 36148** Introduction of needle and/or catheter, arteriovenous shunt created for dialysis (graft/fistula; additional access for therapeutic intervention
- 36160** Introduction of needle or intracatheter, aortic, translumbar
- 36200** Introduction of catheter, aorta
- 36400 through 36425** Venipuncture
- 36481** Percutaneous portal vein catheterization by any method
- 36500** Venous catheterization for selective organ blood sampling

Selective Catheterization

Selective catheterization involves the movement of the catheter into a main branch (vascular family) off of the aorta or vena cava, or off of the vessel entered initially. Selective catheterization coding is different due to the increase of physician work over the non-selective catheterization. However, any vessels through which the catheter passes in order to be placed into the aorta or vena cava are not considered selective, but are included in the work of catheterizing the aorta or vena cava. Similarly, vessels which are passed through in order to reach a higher degree of selectivity are included in the coding for the final selective catheter position. Therefore, when the catheter is manipulated into a branch vessel off the aorta or vena cava, a selective CPT[®] code may be assigned.

Selective CPT[®] codes include:

- 36011** Selective catheter placement, venous system; first order branch
- 36012** Selective catheter placement, venous system; second order, or more selective, branch (eg, left adrenal vein, petrosal sinus)
- 36014** Selective catheter placement, left or right pulmonary artery
- 36015** Selective catheter placement, segmental or subsegmental pulmonary artery
- 36215** Selective catheter placement, arterial system; each first order thoracic or brachiocephalic branch, within a vascular family
- 36216** Selective catheter placement, arterial system; initial second order thoracic or brachiocephalic branch, within a vascular family
- 36217** Selective catheter placement, arterial system; initial third order or more selective thoracic or brachiocephalic branch, within a vascular family
- 36218** Selective catheter placement, arterial system; additional second order, third order, and beyond, thoracic or brachiocephalic branch, within a vascular family

- 36245** Selective catheter placement, arterial system; each first order abdominal, pelvic, or lower extremity artery branch, within a vascular family
- 36246** Selective catheter placement, arterial system; initial second order abdominal, pelvic, or lower extremity artery branch, within a vascular family
- 36247** Selective catheter placement, arterial system; initial third order or more selective abdominal, pelvic, or lower extremity artery branch, within a vascular family
- 36248** Selective catheter placement, arterial system; additional second order, third order, and beyond, abdominal, pelvic, or lower extremity artery branch, within a vascular family

Arterial system selective codes describe first, second and third order catheterizations, and venous system selective codes describe first and second order catheterizations. Catheterizations of a higher selectivity (i.e. fourth order in arteries, or third order in veins) must be described with the highest order code available. Within each vascular family (a group of vessels with blood supply from a primary branch of the aorta, or of the vessel punctured) the final catheter position may be coded only once. In arterial selective coding, additional second or third order vessels catheterized within a vascular family may be coded with the add-on codes 36218 or 36248. To correctly code studies such as these, the coder must refer to anatomical diagrams of the aorta and branches, or central venous and pulmonary circulation anatomy. Anomalous anatomy (i.e., bovine arch) in some patients may change the selective order of catheter placement. For example, when there is a bovine arch variant with the left [common] carotid arising from the innominate artery; this anomaly results in the left [common] carotid being a second order branch rather than a first order branch with the right [common] carotid now considered a third order.

As stated in CPT[®], “*Selective vascular catheterization should be coded to include introduction and all lesser order selective catheterization used in the approach (eg, the description for a selective right middle cerebral artery catheterization includes the introduction and placement catheterization of the right common and internal carotid arteries).*”¹ Using CPT[®]'s example, the correct code for the catheter placement into the right middle cerebral artery would be 36217. It would not be correct also to assign 36216 for passing the catheter through the right common carotid artery on the way to the middle cerebral artery. However, continuing with this example, if the catheter subsequently is placed into a different vascular family with a separate origin from the aorta, it would be appropriate to assign a separate code for the catheter placement into that family, which would then require the use of modifier 59 due to Correct Coding Initiative (CCI) edits (other modifiers may be appropriate depending on individual payer requirements). In addition, each separate initial access point to the vasculature may result in a separately coded catheter placement, even if the same vascular family is selected. Finally, only necessary catheterizations may be coded.

¹ CPT 2009, Professional Edition, p. 169

Incidental catheter placements without necessary diagnostic or therapeutic purpose may not be coded.²

After coding the surgical components of the interventional procedure, code the RS&I CPT[®] codes from the 70000 series. In many cases, it is possible that more RS&I codes may be assigned than surgical codes, since diagnostic imaging may be performed on a larger number of vessels than can be coded surgically, due to the selective and non-selective coding rules.

Vascular diagnostic and therapeutic procedures often are performed at the same encounter. For example, diagnostic angiography is performed to locate and characterize possible blockages within specific vessels. When such a condition is diagnosed during the angiographic study, the interventional radiologist may proceed to provide therapeutic treatment. Interventions of this nature include stent and stent-graft placements, angioplasty, thrombolytic infusion or mechanical thrombectomy, embolization, and atherectomy, among others. CPT[®] tells us that unless specifically included in the surgical code descriptor, codes for catheter placement and codes for diagnostic RS&I services may be separately reported.³ However, CPT[®] also provides a list of circumstances where reporting of diagnostic RS&I services is not appropriate, such as for roadmapping and guidance for the intervention.⁴ Examples of therapeutic interventions described by CPT[®] codes that do include catheter placement are: central venous access device placement; uterine artery embolization; and, carotid artery stent placement. It is important to note that when reporting diagnostic RS&I codes along with RS&I codes for transcatheter therapies, CCI comes into play, requiring a modifier 59 (or other CCI associated modifier) to be appended to the diagnostic RS&I CPT[®] codes.

On occasion, it may happen that more than one type of transcatheter therapy is performed at the patient encounter. In this case, there is a general rule that only the primary planned therapy may be coded, unless the primary therapy fails to produce the needed therapeutic result, and a second therapy is then undertaken. For example, use of an expandable balloon catheter to prepare the location for a stent placement (aka pre-dilatation) is not to be considered an angioplasty procedure. In this case, angioplasty was not the intended therapy, only the stent placement was intended. However, if a report documents angioplasty as the intended therapy, and further documents that this treatment failed, thus necessitating an additional procedure to place a stent, both therapeutic procedures may be coded.⁵

In the matter of coding multiple vascular therapeutic procedures during one encounter, reference should also be made to CCI, which includes information in this regard. In CCI, one can also obtain information which helps to define the components of carotid stent placement (37215, 37216), arterial mechanical

² Interventional Radiology Coding Users' Guide, 2009, p. 50-51

³ CPT 2009, Professional Edition, p. 178, p. 318

⁴ CPT 2009 Professional Edition, p. 314

⁵ Interventional Radiology Coding Users' Guide, 2009, p. 253

thrombectomies (37184, 37185, 37186), and transcatheter infusion other than for thrombolysis (37202). Further information is also available in CCI which elaborates on the sections in CPT® concerning reporting diagnostic angiography codes for the same encounter as an intravascular therapeutic procedure.

In 2010 the component codes 36145 (*Introduction of needle or intracatheter; arteriovenous shunt created for dialysis (cannula, fistula, or graft)*) and 75790 (*Angiography, arteriovenous shunt (eg, dialysis patient), radiologic supervision and interpretation*) will be deleted and two new bundled codes created to describe the initial access (36147) and each additional access (36148) for both the introduction of the catheter and the radiological supervision and interpretation (RS&I). The combined codes were created at the request of the RUC Five-Year Identification Workgroup based on claims data that showed these procedures were performed together greater than 95% of the time.⁶

⁶ Interventional Radiology Coding User's Guide 2009, p. 47