



CLINICAL GUIDELINES

Pediatric PVD Imaging Policy

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eviCore healthcare Clinical Decision Support Tool Diagnostic Strategies: This tool addresses common symptoms and symptom complexes. Imaging requests for individuals with atypical symptoms or clinical presentations that are not specifically addressed will require physician review. Consultation with the referring physician, specialist and/or individual's Primary Care Physician (PCP) may provide additional insight.

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Pediatric Peripheral Vascular Disease (PVD) Imaging Guidelines

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Procedure Codes Associated with PVD Imaging	
MRA	CPT®
Upper Extremity MRA	73225
Lower Extremity MRA	73725
CTA	CPT®
CTA Abdominal Aorta with Bilateral Iliofemoral Runoff	75635
Upper Extremity CTA	73206
Lower Extremity CTA	73706
Nuclear Medicine	CPT®
PET Imaging; limited area (this code not used in pediatrics)	78811
PET Imaging: skull base to mid-thigh (this code not used in pediatrics)	78812
PET Imaging: whole body (this code not used in pediatrics)	78813
PET with concurrently acquired CT; limited area (this code rarely used in pediatrics)	78814
PET with concurrently acquired CT; skull base to mid-thigh	78815
PET with concurrently acquired CT; whole body	78816
Ultrasound	CPT®
Duplex scan of extracranial arteries; complete bilateral study	93880
Duplex scan of extracranial arteries; unilateral or limited study	93882
Non-invasive physiologic studies of extracranial arteries, complete bilateral study	93875
Limited bilateral noninvasive physiologic studies of upper or lower extremity arteries	93922
Complete bilateral noninvasive physiologic studies of upper or lower extremity arteries	93923
Duplex scan of upper extremity arteries or arterial bypass grafts; complete bilateral	93930
Duplex scan of upper extremity arteries or arterial bypass grafts; unilateral or limited	93931
Non-invasive physiologic studies of extremity veins, complete bilateral study	93965
Duplex scan of extremity veins including responses to compression and other maneuvers; complete bilateral study	93970
Duplex scan of extremity veins including responses to compression and other maneuvers; unilateral or limited study	93971
Duplex scan of hemodialysis access (including arterial inflow, body of access, and venous outflow)	93990

PEDPVD-1: General Guidelines

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PEDPVD-1.1: Age Considerations

Many conditions affecting the peripheral vascular system in the pediatric population are different diagnoses than those occurring in the adult population. For those diseases which occur in both pediatric and adult populations, minor differences may exist in management due to patient age, comorbidities, and differences in disease natural history between children and adults.

- Patients who are < 18 years old should be imaged according to the Pediatric peripheral vascular disease imaging guidelines, and patients who are ≥ 18 years old should be imaged according to the Adult peripheral vascular disease imaging guidelines, except where directed otherwise by a specific guideline section.

PEDPVD-1.2: Imaging Appropriate Clinical Evaluation

- A recent (within 60 days) face to face evaluation including a detailed history, physical examination, and appropriate laboratory studies should be performed prior to considering advanced imaging (CT, MR, Nuclear Medicine), unless the patient is undergoing guideline-supported scheduled imaging evaluation.
- Unless otherwise stated in a specific guideline section, the use of advanced imaging to screen asymptomatic patients for disorders involving the peripheral vascular system is not supported. Advanced imaging of the peripheral vascular system should only be approved in patients who have documented active clinical signs or symptoms of disease involving the peripheral vascular system.
- Unless otherwise stated in a specific guideline section, repeat imaging studies of the peripheral vascular system are not necessary unless there is evidence for progression of disease, new onset of disease, and/or documentation of how repeat imaging will affect patient management or treatment decisions.

PEDPVD-1.3: Modality General Considerations

- MRI
 - ◆ MRI is generally performed without and with contrast unless the patient has a documented contraindication to gadolinium or otherwise stated in a specific guideline section.
 - ◆ Due to the length of time for image acquisition and the need for, the patient to lie still, anesthesia is required for almost all infants and young children (age < 7 years), as well as older children with delays in development or maturity. In this patient population, MRI imaging sessions should be planned with a goal of minimizing anesthesia exposure adhering to the following considerations:
 - MRI should always be performed without and with contrast unless there is a specific contraindication to gadolinium use since the patient already has intravenous access for anesthesia.
 - Recent evidence-based literature demonstrates the potential for gadolinium deposition in various organs including the brain after the use of MRI contrast.

PEDPVD-3.1: General Information

Systemic vasculitis is much less common in children than in adults, although the diagnostic pathways and treatment options are similar.

- PET/CT is considered investigational for management of pediatric vasculitis at this time.
 - ◆ There are limited data suggesting PET may have similar accuracy to MRA in the initial diagnosis of Takayasu arteritis but is not helpful in assessing treatment response and has not been shown to improve patient outcomes to date.

PEDPVD-3.2: Large Vessel Vasculitis

Takayasu arteritis is the predominant large vessel vasculitis occurring in children.

- Any of the following is indicated for evaluation of Takayasu arteritis:
 - ◆ MRA of the affected body area(s) (contrast as requested)
 - ◆ CTA of the affected body area(s) (contrast as requested)
 - ◆ Ultrasound with Doppler of the affected body area(s)
 - ◆ Patients with aggressive disease being treated with systemic therapy can have imaging (see specific sections for details regarding modality and contrast level) approved for treatment response every 3 months during active treatment.
- Annual surveillance imaging of known involved body areas can be approved to detect progressive vascular damage that may require intervention.

PEDPVD-3.3: Medium Vessel Vasculitis

Polyarteritis nodosa and Kawasaki Disease are the primary medium vessel vasculitides occurring in children. See **PEDCD-6: Kawasaki Disease** for imaging guidelines for that disease.

- Any of the following is indicated for evaluation of polyarteritis nodosa:
 - ◆ MRA of the affected body area(s) (contrast as requested)
 - ◆ CTA of the affected body area(s) (contrast as requested)
 - ◆ Ultrasound with Doppler of the affected body area(s)
- Patients with aggressive disease being treated with systemic therapy can have imaging (see specific sections for details regarding modality and contrast level) approved for treatment response every 3 months during active treatment.
- Annual surveillance imaging of known involved body areas can be approved to detect progressive vascular damage that may require intervention.

PEDPVD-3.4: Small Vessel Vasculitis

- Advanced imaging is not sensitive enough to detect changes in small vessels, and is not indicated for primary assessment of any small vessel vasculitis.
- End-organ damage occurs with several of the small vessel vasculitides, and the following advanced imaging is indicated:

- ◆ Granulomatosis with polyangiitis (GPA, formerly known as Wegener's granulomatosis)
 - CT Sinuses (CPT®70486)
 - CT Chest without contrast (CPT®71250) or with contrast (CPT®71260)
- ◆ Eosinophilic granulomatosis with polyangiitis (EGPA, formerly known as Churg-Strauss Syndrome)
 - CT Chest without contrast (CPT®71250) or with contrast (CPT®71260)
- ◆ Immune complex associated small-vessel vasculitis [immunoglobulin A-associated vasculitis (IgAV)]
 - Doppler ultrasound of the affected body part (most commonly abdomen)
- ◆ These imaging studies are indicated in the following circumstances:
 - New or worsening clinical symptoms affecting the body area requested.
 - Assessment of response to medical therapy when a change in treatment regimen is being considered.
 - Annual imaging to evaluate the extent of disease.

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PEDPVD-4: Disorders of the Aorta and Visceral Arteries

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PEDPVD-4.1: Thoracic Aortic Disease

- MRA (CPT® 71555) or CTA (CPT® 71275) Chest can be used for screening and follow-up of thoracic aortic abnormalities in patients with Loeys-Dietz syndrome, Marfan syndrome, coarctation of the aorta, Takayasu arteritis, neurofibromatosis, William syndrome, Ehler Danlos syndrome, congenital rubella syndrome, or Kawasaki syndrome.
- Screening MRAs (preferred) or CTAs from the head through the pelvis may be performed one time in patients diagnosed with Loeys-Dietz syndrome. Follow-up imaging of discovered aneurysms may be appropriate no more frequently than annually as requested by a specialist.

PEDPVD-4.2: Aortic Congenital Vascular Malformations

- Cardiac MRI without contrast (CPT® 75557) or without and with contrast (CPT® 75561), MRA Chest (CPT® 71555), CT Chest with contrast (CPT® 71260), or CTA Chest (CPT® 71275) may be indicated for evaluation.
- Vascular rings may impact both the esophagus and trachea. See **PEDNECK-7: Esophagus** and/or **PEDNECK-8: Trachea** for additional guidelines.

PEDPVD-4.3: Visceral Artery Aneurysms

- Visceral artery imaging indications in pediatric patients are identical to those for adult patients. See **PVD-6: Aortic Disorders and Renal Vascular Disorders and Visceral Artery Aneurysms** for imaging guidelines.

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