



CLINICAL GUIDELINES

Pediatric Spine 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 Spine Imaging Guidelines

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PEDSP-1: General Guidelines

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PEDSP-1.1: Pediatric Spine Imaging Age Considerations

Many conditions affecting the spine 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 Spine Imaging Guidelines, and patients who are ≥ 18 years old should be imaged according to the Adult Spine Imaging Guidelines, except where directed otherwise by a specific guideline section.

PEDSP-1.2: Pediatric Spine Imaging Appropriate Clinical Evaluation

- A recent (within 60 days) face-to-face evaluation including a detailed history, physical examination with a thorough neurologic examination, appropriate laboratory studies, and basic imaging such as plain radiography or ultrasound should be performed prior to considering advanced imaging (CT, MR, Nuclear Medicine), unless the patient is undergoing guideline-supported scheduled follow-up imaging evaluation.
- Unless otherwise stated in a specific guideline section, the use of advanced imaging to screen asymptomatic patients for disorders involving the spine is not supported. Advanced imaging of the spine should only be approved in patients who have documented active clinical signs or symptoms of disease involving the spine.
- Unless otherwise stated in a specific guideline section, repeat imaging studies of the spine 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.

PEDSP-1.3: Pediatric Spine Imaging Modality General Considerations

- MRI
 - ◆ MRI is the preferred modality for imaging the pediatric spine unless 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.

PEDSP-7.6: Klippel-Feil Anomaly (congenital fusion of cervical vertebrae)

This is generally an incidental finding. A detailed history and physical examination with thorough neurologic examination, and plain x-rays should be performed initially. Klippel-Feil can occur in conjunction with platybasia and/or Chiari malformation.

- Plain x-rays of the cervical spine are sufficient to establish the diagnosis. Advanced imaging is indicated if there are acute or worsening neurologic symptoms (including pain), or if multiple levels are involved.
- Either MRI cervical spine without contrast (CPT® 72141) or CT cervical spine without contrast (CPT® 72125) can be approved for these indications.

PEDSP-7.7: Marfan Syndrome

Marfan syndrome patients are at risk for scoliosis (See **PEDSP-3.2**) and dural ectasias. Dural ectasias are usually asymptomatic but can be associated with other spinal lesions.

- A recent (within 60 days) evaluation including a detailed history, physical examination with thorough neurologic examination and documentation of any specific radicular features, and plain radiography should be performed prior to considering advanced imaging.
- MRI without contrast of the symptomatic spinal region can be approved when:
 - ◆ New or worsening clinical symptoms suggest a complicated dural ectasia
 - ◆ The patient is under active consideration for surgery

PEDSP-7.8: Neurofibromatosis

See **PEDONC-2.3: Neurofibromatosis 1 and 2 (NF1 and NF2)** in the Pediatric Oncology Imaging Guidelines for screening recommendations in neurofibromatosis

See **PEDPN-2: Neurofibromatosis** for imaging considerations in neurofibromatosis patients with known plexiform neurofibromas

See **PEDONC-8.3: Non-Rhabdomyosarcoma Soft Tissue Sarcomas** for imaging in patients with neurofibromatosis and malignant peripheral nerve sheath tumors.

PEDSP-7.9: Von Hippel-Lindau Syndrome (VHL)

See: **PEDONC-2.10: Von Hippel-Lindau Syndrome (VHL)** in the Pediatric Oncology Imaging Guidelines for screening recommendations in VHL patients.

- MRI without and with contrast of the affected spinal level can be approved for patients with known spinal hemangioblastomas in the following conditions:
 - ◆ Annually for asymptomatic patients with unresected spinal hemangioblastoma(s)
 - ◆ Preoperative planning for resection of a hemangioblastoma
 - ◆ New or worsening symptoms suggesting progression of a known hemangioblastoma

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