

**SELECT HEALTH NETWORK, INC.
PHYSICIAN PRACTICE GUIDELINES**

SUBJECT: MRI Thoracic Spine

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Source: National Imaging Associates, Inc.
<https://acsearch.acr.org/docs/69484/Narrative/>
<https://acsearch.acr.org/docs/69484/EvidenceTable/>
Significance of preoperative MRI in establishing levels of augmentation for percutaneous vertebroplasty, J Pain Res v.6; 2013 PMC3656912
Value of MRI imaging prior to a kyphoplasty for osteoporotic insufficiency fractures, Eur Spine J. 2009 Sep; 18(9): 1287–1292.
<https://acsearch.acr.org/docs/69359/Narrative/>

General Guidelines: An MRI is not indicated for back pain alone.

- I. Indications:
- A. Urgently when ANY ONE (1) of the following is suspected:
 - 1. Evidence of thoracic cord dysfunction due to presence of ANY ONE (1) of the following:
 - a. Urinary urgency, frequency, retention, or overflow incontinence
 - b. Fecal incontinence
 - c. Lower extremity spasticity
 - d. New or progressive sensory or motor deficit of the lower extremities
 - e. Clearly defined sensory level below the armpit.
 - f. Hyperreflexia or clonus of the lower extremities
 - g. Positive Babinski
 - h. Suspected transverse myelitis
 - B. Suspected spinal injury and ONE (1) or more of the following in:
 - 1. Fracture and concern for ligamentous injury
 - 2. Neurologic symptoms associated with thoracolumbar trauma and suspicion of ONE (1) or more:
 - a. Epidural hematoma
 - b. Traumatic disc herniation
 - c. Cord contusion
 - d. Nerve root avulsion
 - C. Suspected spinal infections (osteomyelitis, disk space infection, or epidural abscess) plus ONE (1) or more of the following:
 - 1. Localized midline thoracic back pain
 - 2. Fever
 - 3. Elevated sedimentation rate

4. Recent history of spinal surgery
 5. Immunosuppression
 6. History of IV drug abuse
 7. Recent invasive procedure
 8. Positive bone scan
 9. Concurrent or suspected diagnosis of tuberculosis
- D. Localized thoracic back pain and ONE (1) or more of the following:
1. History or current diagnosis of malignancy
 2. Unexplained weight loss
 3. Pain occurring mainly at night
 4. Acute onset of point tenderness localized to the thoracic spine
 5. Exacerbation of chronic back pain unresponsive to a trial of conservative treatment for at least six (6) weeks.
 6. Rapidly progressing weakness
 7. Positive bone scan
 8. Spasticity
 9. Bowel or bladder dysfunction
- E. Less urgently for ANY ONE (1) of the following:
1. Confirmation of suspected inflammatory or demyelinating process.
 2. Suspected multiple sclerosis with main presenting symptoms at the level of the thoracic spinal cord.
 3. Suspected proliferative disease of bone marrow for ONE (1) or more of the following purposes:
 - a. Identify burden of disease
 - b. Stratify treatment options
 - c. Monitor response to therapy
- F. Preprocedural planning for vertebroplasty/kyphoplasty
1. Confirm correct level based on plain film
 2. Confirm acuity/edema – determines procedural success
 3. Exclude cord compression which may exclude the pt for the exam
 4. Exclude concomitant disease not visible on plain films or CT

Taken from ACR Guidelines

Summary of Recommendations

- CT is usually the preferred first test in suspected spinal trauma.
- MRI is usually the preferred first test in nontraumatic myelopathy. Imaging should be limited to appropriate spinal levels by clinical judgment and physical examination.
- Gadolinium contrast administration is preferred in oncology, infection, inflammation, and suspected vascular causes of myelopathy.
- Spinal angiography (invasive and/or CTA/MRA) is crucial in the evaluation of selected patients with suspected treatable causes of vascular myelopathy.
- In oncologic patients and those in whom infectious disease is likely, additional imaging tests may be helpful in determining the source and extent of compressive components; however, MRI remains the first-line imaging test for the evaluation of myelopathic symptoms.
- No high-quality evidence supports the use of discography, thermography, epidural venography, ultrasound, or cerebrospinal fluid flow studies in the evaluation of myelopathy.