



Kaiser Foundation Health Plan of Washington

Clinical Review Criteria Thoracic Spine MRI

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Criteria

For Medicare Members

Source	Policy
CMS Coverage Manuals	None
National Coverage Determinations (NCD)	Magnetic Resonance Imaging (220.2)
Local Coverage Determinations (LCD)	None
Local Coverage Article (LCA)	None

For Non-Medicare Members

[High-End Imaging Site of Care](#) review required for requests being performed in a *hospital-based* imaging department in addition to the criteria below:

I. Acute thoracic back pain (onset within past 6 weeks)

Thoracic spine MRI not indicated unless **ONE or more** of the following red flag conditions are present:

Red Flags:

- Objective neurological signs of thoracic myelopathy (leg weakness and incontinence with +/- spasticity)** (*MRI without contrast*)
- Progressive (objective) neurological signs of thoracic myelopathy (leg weakness and incontinence with +/- spasticity) on repeat examination during a course of conservative care** (i.e., progressive motor weakness present) (*MRI without contrast*)
- Strong clinical suspicion of spine infection with strong clinical concern for thoracic myelopathy or myelitis** (*MRI with and without contrast*) and **TWO or more** of the following:
 - Fever
 - Immunosuppression (e.g., chronic steroid use, diabetes)
 - IV drug use
 - Known bacteremia
 - Elevated sedimentation rate/c-reactive protein
- For the evaluation of neoplastic process in a patient with new onset of back pain and ONE or more of the following** (*MRI with and without contrast*):
 - Confirmed cancer (active or in remission) of a type likely to involve or spread to the skeletal system (e.g., multiple myeloma, prostate cancer, breast cancer, lung cancer) **AND ONE** of the following:
 - Non-diagnostic plain films and CT
 - Evidence of bony pathology on plain films or CT

- Suspected Cancer with non-diagnostic plain films and CT with **TWO** of the following:
 - Unexplained weight loss
 - Age over 50
 Failure of back pain to improve after one month

*ACP recommends plain radiography for unexplained weight loss, MRI or plain radiography if multiple risk factors present. ACR Guidelines for suspicion of cancer, infection or immunosuppression rate MRI without and with contrast highest (rating = 8). CT without contrast (rating = 6)-useful if MRI is contraindicated or unavailable. Other imaging methods: use of x-ray, NUC Tc-99m bone scan whole body with optional targeted SPECT, myelography and postmyelography CT (appropriateness rating < 6 for these).

5. For the evaluation of vertebral compression fracture (MRI without contrast) with ONE of the following:

- Suspected vertebral fracture in a patient with pain and non-diagnostic plain films and CT *with ONE or more of the following*:
 - Osteoporosis OR
 - Age >70 years with other acute fracture(s)
- Confirmed vertebral compression fracture by plain films or CT with **ONE** or more of the following:
 - Signs or symptoms of acute cord or cauda equina compression due to retropulsion (e.g., acute numbness, weakness, parasthesia, and/or bladder/bowel dysfunction) OR
 - Signs or symptoms of acute nerve root impingement due to retropulsion (e.g., acute numbness, weakness, paresthesia, and/or radiculopathy in a dermatomal or myotomal distribution) OR
 - Pathologic fracture suspected (e.g., mechanism of injury, such as low velocity trauma, does not explain fracture)
 - Preoperative planning for vertebral augmentation (includes vertebroplasty, kyphoplasty, and other implantable methods of VA)

*ACP Guideline recommends: if vertebral compression fracture is suspected due to history of osteoporosis, use of steroids, or age ≥ 70 plain radiography should be completed prior to MRI.
 *For low velocity trauma, ACR Guidelines do not support use of NUC Tc-99m bone scan with SPECT, MRI with and without contrast, myelography and postmyelography CT, or x-ray myelography (appropriateness ratings < 5 for these)

II. Subacute Thoracic back pain >6 weeks (with no red flags above): (MRI without contrast)

1. Patient has had at least 6 weeks medical/conservative treatment (must include **at least 4 weeks** of physical therapy, including an initial evaluation with PT and at least one follow up, within the last 3 months) for current episode of back pain with no significant improvement (remote past history of physical therapy does not qualify); if diabetic should be well controlled

AND

- **ONE or more** of the criteria under acute thoracic back pain met (from section I above)
OR
- Suspected thoracic radiculopathy (band of numbness, pain or sensitivity around midsection)
OR
- Motor weakness or sensory loss in a spinal cord distribution (e.g., bilateral sensory loss from mid or low abdomen down, and/or leg weakness, and/or bowel or bladder incontinence)

III. Chronic thoracic back pain (> 3 months) with no prior MRI of thoracic spine (with no red flags above): (MRI without contrast)

1. All patients should have **at least 6 weeks** medical/conservative treatment (must include **at least 4 weeks** of physical therapy, including an initial evaluation with PT and at least one follow up within the last 6 months) for *current episode* of back pain with no significant improvement (remote past history of physical therapy does not qualify) **and must meet ONE of the following**:
 - Any of the criteria under subacute thoracic back pain (section II above)

IV. Chronic thoracic back pain (> 3 months) with prior MRI of thoracic spine (with no red flags above): (*MRI without contrast*):

1. All patients should have **at least 6 weeks** medical/conservative treatment (must include at least **4 weeks** of physical therapy, including an initial evaluation with PT and at least one follow up therapy within the last 6 months) for *current episode* of back pain with no significant improvement (remote past history of physical therapy does not qualify) **and must meet ONE of the following**:
 - Any of the criteria under subacute thoracic back pain (section II above). If clinical exam is unchanged from prior, should not be repeated more than once every 12 months.

V. Suspect Thoracic Multiple Sclerosis (MS) (*MRI with contrast*) patient must have been already evaluated by neurology who specifically advises thoracic MRI:

1. Should not be part of initial staging unless there are specific findings attributable to the thoracic cord (e.g., MS "hug" or sensory loss beginning mid thorax)
2. Not routinely indicated for subsequent imaging for MS

VI. Inflammatory or demyelinating process, suspected (e.g., transverse myelitis, spinal cord abscess, clinically isolated syndrome, conditions mimicking MS, other demyelinating disease), as indicated by **ONE or more** of the following (ordered with specific recommendation by neurology/neurosurgery):

- Ascending numbness or tingling (e.g., from foot to trunk)
- Brown-Sequard syndrome
- Autoimmune inflammatory disorders known to affect spinal cord (Sjogren syndrome, systemic lupus erythematosus, antiphospholipid syndrome)
- MS strongly suspected but MRI of brain and cervical spine nondiagnostic, after consultation with Neurology
- Signs or symptoms strongly indicative of myelopathy (leg weakness and incontinence with +/- spasticity) or myelitis (pain with weakness and incontinence and +/- spasticity)

VII.

1. Pediatric/Adolescent Scoliosis, as indicated by **ONE or more** of the following:

- Congenital scoliosis
- Early-onset scoliosis (age 9 years or younger)
- Neurofibromatosis
- Presurgical planning for adolescent idiopathic scoliosis to assess possible neural axis malformation, as indicated by **1 or more** of the following:
 - Abnormal neurologic findings on clinical examination
 - Age at first visit 10 years or younger
 - Kyphosis at curve apex
 - Left-sided thoracic curvature
 - Male gender
 - Pain, moderate to severe
 - Rapid curve progression (i.e., more than 1 degree per month)
 - Short segment curve (i.e., less than 6 vertebral segments)
 - Thoracic kyphosis 30 degrees or greater
 - Vertebral abnormalities (e.g., hemivertebrae, block vertebrae) detected on x-ray

2. Adult Scoliosis as indicated by **ONE or more** of the following:

- Abnormal neurologic findings on clinical examination
- Kyphosis at curve apex
- Pain, moderate to severe
- Rapid curve progression (i.e., more than 1 degree per month)
- Short segment curve (i.e., less than 6 vertebral segments)
- Thoracic kyphosis 30 degrees or greater
- Vertebral abnormalities (e.g., hemivertebrae, block vertebrae) detected on x-ray
- Presurgical planning

VIII. Spinal stenosis of thoracic spine, suspected, as indicated by **ALL** of the following):

- Patient being considered for invasive treatment

- Progressive or disabling symptoms of thoracic spine stenosis, as indicated by **ONE or more** of the following:
 - Hyperactive reflexes
 - Muscle weakness
 - Sensory loss
 - Spasticity

IX. Stereotactic spine radiotherapy treatment planning

X.

Effective until August 1st, 2025

Oncologic staging or restaging

Effective August 1st, 2025

Oncologic staging or restaging for a known or suspected neoplastic process (based on pathology findings or another imaging study) involving the spine or associated structures.

XI. Syringomyelia in thoracic spine, suspected, as indicated by **ONE or more** of the following:

- Muscle wasting in appropriate thoracic spine dermatomes
- Sensory loss in appropriate thoracic spine dermatomes
- Weakness in appropriate thoracic spine dermatomes
- Bowel/bladder dysfunction

XII. Tethered cord, suspected, as indicated by **ONE or more** of the following:

- Anorectal malformation
- Cutaneous manifestations of occult spina bifida (e.g., nevus, lipoma, tufts of hair, hemangioma, dimple overlying spine, asymmetric gluteal cleft, dermal sinus tract)
- Gait abnormality or difficulty
- Urinary dribbling or lack of bladder control
- Urodynamic tests abnormal

XIII. **Ankylosing Spondylitis (AS):**

Advanced imaging of the spine for the indication of ankylosing spondylitis (AS) is considered medically necessary when **ONE** of the following are true:

A. Suspected AS and **ALL** of the following criteria are met:

1. Radiographs of the affected area are not diagnostic
2. Inflammatory back pain which has been present for at least 3 months. Inflammatory back pain is defined as back pain with at least **FOUR (4)** of the following features:
 - a. Patient is younger than age 40
 - b. Insidious (gradual) onset
 - c. Improvement with exercise
 - d. No improvement with rest
 - e. Pain at night that improves on getting up
3. Advanced imaging is ordered by or in conjunction with a Rheumatologist

B. Confirmed AS diagnosis and **ALL** of the following criteria are met:

1. Advanced imaging is ordered by the patient's managing Rheumatologist
2. Unclear disease activity after full clinical and laboratory evaluation
3. Progression on MRI will lead to a change of biologic drug or cessation of biologic therapy

XIV. **Indication not listed: provide clinical justification**

- Indications here should be well documented.

For covered criteria:

If requesting this service (or these services), please send the following documentation to support medical necessity:

- Last 6 months of clinical notes from requesting provider &/or specialist

The following information was used in the development of this document and is provided as background only. It is provided for historical purposes and does not necessarily reflect the most current published literature. When significant new articles are published that impact treatment option, Kaiser Permanente will review as needed. This information is not to be used as coverage criteria. Please only refer to the criteria listed above for coverage determinations.

References

The American College of Radiology (ACR), the American Society of Neuroradiology (ASNR), the Society of Computed Body Tomography and Magnetic Resonance (SCBT-MR), and the Society for Skeletal Radiology (SSR). (2020, October 13). *Search results*. American College of Radiology. Retrieved December 19, 2022, from <https://www.acr.org/-/media/ACR/Files/Practice-Parameters/MR-Adult-Spine.pdf>

Adapted from Washington State Department of Labor & Industries Final Imaging Guidelines: Thoracic Spine MRI. Retrieved 9/13/2022 from <https://lni.wa.gov/patient-care/treating-patients/treatment-guidelines-and-resources/docs/ThoracicSpineChecklist.pdf>

Applicable Codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT® or HCPCS Codes	Description
72146	MRI Thoracic without contrast
72147	MRI Thoracic with contrast
72157	MRI Thoracic without and with contrast

***Note:** Codes may not be all-inclusive. Deleted codes and codes not in effect at the time of service may not be covered.

****To verify authorization requirements for a specific code by plan type, please use the [Pre-authorization Code Check](#).**

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Date Created	Date Reviewed	Date Last Revised
12/06/2022	12/06/2022 ^{MPC} , 05/07/2024 ^{MPC} , 05/06/2025 ^{MPC}	03/04/2025

^{MPC} Medical Policy Committee

Revision History	Description
12/06/2022	MPC approved to adopt criteria for Thoracic MRI for non-Medicare members. Requires 60-day notice, effective date May 1, 2023.
04/04/2023	MPC approved to modify MRI criteria with 4 weeks of physical therapy (instead of 6 weeks)
05/05/2023	Added clarifying coverage indication language for oncologic staging
10/03/2023	MPC approved updates to criteria allow Ankylosing Spondylitis (AS) indications. 60-notice required; effective March 1, 2024.
09/03/2024	MPC approved the updates to the Thoracic MRI criteria to clarify language around evaluation of confirmed or suspected neoplasm and language around the role of MRI after a low velocity trauma. Effective date 2/1/2025. 60-day notice required.
03/04/2025	MPC approved the proposed updates for oncologic staging or restaging of the spine to the MRI Thoracic criteria. Requires 60-day notice, effective August 1 st , 2025.