Note: MRI is the preferred imaging modality for the following circumstances unless contraindicated or not tolerated by the patient (i.e., due to presence of ferrous metal in body, or severe anxiety) or unavailable.

I. Acute thoracic back pain (onset within past 6 weeks) : MRI without contrast unless specified otherwise

- ☐ Bilateral neurogenic weakness in lower extremities by physical exam (PE)
- ☐ Focal thoracic pain following fall from height or direct trauma
- ☐ Bladder or bowel dysfunction following thoracic trauma
- ☐ Symptoms compatible with focal thoracic radiculopathy

- ☐ Infection (any of the following) **: MRI with and without contrast**
  - ☐ Fever
  - ☐ Suspicion of systemic or spinal infection
  - ☐ Immunosuppression (e.g., chronic steroid use)
  - ☐ IV drug use
  - ☐ Known bacteremia
  - ☐ Elevated sedimentation rate
- ☐ History or suspicion of cancer with new onset of thoracic pain. Suspicion of cancer criterion can be met if any two of the following are present:
  - ☐ Unexplained weight loss,
  - ☐ Failure to improve after one month,
  - ☐ Age over 50.
- ☐ Low velocity trauma (e.g., fall from height or struck by object) OR osteoporosis, AND/OR age >70 years

  *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.
  - ☐ Vertebral compression fracture present on plain radiography
  - ☐ Other fractures

  *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 : MRI without contrast

At least 6 weeks medical/conservative treatment.

References:

American College of Radiology (2008). ACR appropriateness criteria: low back pain. Available at: http://www.acr.org/SecondaryMainMenuCategories/quality_safety/app_criteria/pdf/ExpertPanelonNeurologicImaging/LowbackPainDoc7.aspx