Spine MRI and Spine CT
Test Request Tip Sheet

With/Without Contrast CT, MRI

• The study considered best for a specific clinical scenario should be ordered. The second study should be done ONLY if the first study does not provide adequate information.

MRI is almost always preferred over CT scan; if ordering CT, CLEARLY document why MRI is not appropriate.

In cases of ongoing back pain, six weeks of conservative treatment within the most recent six months (without significant symptom improvement) or documentation that demonstrates the progression or worsening of symptoms during the course of the therapy should be provided in the submitted clinical information prior to an imaging study being ordered.

Clear documentation of all elements of conservative therapy is required, including details and dates of the physical therapy, home exercise program, or chiropractic care.

Reproducible neurological deficits must be documented in the clinical notes by a thorough neurological physical examination.

We follow “Choosing Wisely” recommendations for Low Back Pain as shown below.

Choosing Wisely Recommendations¹

As part of Choosing Wisely, each participating specialty society has created lists of “Things Physicians and Patients Should Question” that provide specific, evidence-based recommendations physicians and patients should discuss to help make wise decisions about the most appropriate care based on their individual situation. The items below represent the recommendations associated with Spine CT and MRI.

• Don’t do imaging for low back pain within the first six weeks, unless red flags are present. (American Academy of Family Physicians)

• Don’t obtain imaging studies in patients with non-specific low back pain. (American College of Physicians)

• Avoid imaging studies (MRI, CT or X-rays) for acute low back pain without specific indications. (American Society of Anesthesiologists - Pain Medicine)

• Don’t recommend advanced imaging (e.g., MRI) of the spine within the first six weeks in patients with non-specific acute low back pain in the absence of red flags. (North American Spine Society)

¹ Choosing Wisely® is an initiative of the ABIM Foundation to help physicians and patients engage in conversations about the overuse of tests and procedures and support physician efforts to help patients make smart and effective care choices. Recognizing the importance of physicians and patients working together, leading specialty societies, along with Consumer Reports, have joined Choosing Wisely to help improve the quality and safety of health care in America.
Choosing Wisely Recommendations

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- Don’t perform neuro-imaging studies in patients with stable headaches that meet criteria for migraine. (American Headache Society)
- Don’t perform computed tomography (CT) imaging for headache when magnetic resonance imaging (MRI) is available, except in emergency settings. (American Headache Society)
- In the evaluation of simple syncope and a normal neurological examination, don’t obtain brain imaging studies (CT or MRI). (American College of Physicians)
- Don’t do imaging for uncomplicated headache. (American College of Radiology)
- Don’t order computed tomography (CT) scan of the head/brain for sudden hearing loss. (American Academy of Otolaryngology —Head and Neck Surgery Foundation)

PEDIATRIC CONSIDERATIONS FROM CHOOSING WISELY

- Neuroimaging (CT, MRI) is not necessary in a child with simple febrile seizure. (American Academy of Pediatrics)

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Abdomen CT and Abdomen/Pelvis CT

Test Request Tip Sheet

- Abdomen and Abdomen/Pelvis CTs deliver a high radiation dose and performing them with and without contrast delivers roughly double the dose.

- Alternative studies, such as ultrasound, are frequently indicated prior to CTs and must be documented in the clinical information accompanying the imaging request.

- Ultrasound should always be considered as the first imaging study in the evaluation of abdominal complaints in children.

- Laboratory work that will assist in the diagnosis of inflammatory conditions such as appendicitis should be completed and documented in the clinical record before the CT request is made.

- We follow “Choosing Wisely” recommendations for Functional Abdominal Pain and Pediatric Abdominal Pain/Suspected Appendicitis.

Choosing Wisely Recommendations

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- For a patient with functional abdominal pain syndrome (as per ROME III criteria) computed tomography (CT) scans should not be repeated unless there is a major change in clinical findings or symptoms. (American Gastroenterological Society)

Pediatric Considerations from Choosing Wisely

- Computed tomography (CT) scans are not necessary in the routine evaluation of abdominal pain. (American Academy of Pediatrics)

- Don’t do computed tomography (CT) for the evaluation of suspected appendicitis in children until after ultrasound has been considered as an option. (American College of Radiology and American College of Surgeons)

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Choosing Wisely Recommendations

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- Do not perform MRI of the peripheral joints to routinely monitor inflammatory arthritis. Data evaluating MRI for the diagnosis and prognosis of RA are currently inadequate to justify widespread use of this technology for these purposes in clinical practice. (American College of Rheumatology)

Radiation Exposure

MRIs have no radiation exposure.

Extremity (Hand, Wrists, Knee Shoulder) MRI
Test Request Tip Sheet

- An examination of the joint involved with documentation of findings consistent with the suspected diagnosis must be submitted as part of the clinical information when requesting an MRI.

- In most cases of persistent pain or suspected fracture, a plain x-ray should be documented in submitted clinical information before MRI is ordered.

- In cases of ongoing pain, four weeks of conservative therapy without significant pain relief or information regarding the progression or worsening symptoms during the course of the therapy should be provided in the submitted clinical information prior to an MRI being ordered.

- We follow “Choosing Wisely” recommendations for MRI monitoring of Rheumatoid disease.

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Choosing Wisely Recommendations

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- Don’t perform chest computed tomography (CT angiography) to evaluate for possible pulmonary embolism in patients with a low clinical probability and negative results of a highly sensitive D-dimer assay. (American College of Chest Physicians and American Thoracic Society)
- Don’t perform computed tomography (CT) surveillance for evaluation of indeterminate pulmonary nodules at more frequent intervals or for a longer period of time than recommended by established guidelines. (American College of Chest Physicians and American Thoracic Society)
- Don’t image for suspected pulmonary embolism (PE) without moderate or high pre-test probability of PE. Imaging, particularly computed tomography (CT) pulmonary angiography, is a rapid, accurate and widely available test, but has limited value in patients who are very unlikely, based on serum and clinical criteria, to have significant value. (American College of Radiology)
- Avoid using a computed tomography angiogram to diagnose pulmonary embolism in young women with a normal chest radiograph; consider a radionuclide lung study (“V/Q study”) instead. (Society of Nuclear Medicine and Molecular Imaging)

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Choosing Wisely Recommendations

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- Don’t order sinus computed tomography (CT) or indiscriminately prescribe antibiotics for uncomplicated acute rhinosinusitis. (American Academy of Allergy, Asthma & Immunology)
- Don’t routinely obtain radiographic imaging for patients who meet diagnostic criteria for uncomplicated acute rhinosinusitis. Imaging of the paranasal sinuses, including plain film radiography, computed tomography (CT) and magnetic resonance imaging (MRI) is unnecessary in patients who meet the clinical diagnostic criteria for uncomplicated acute rhinosinusitis. (American Academy of Otolaryngology — Head and Neck Surgery Foundation)

辐射暴露

- Sinus CT: 4 mSv

辐射暴露应尽可能受限。
带和不带对比剂的辐射剂量加倍。

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