Spine MRI and Spine CT

Test Request Tip Sheet

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

In cases of back pain without “red flags,” six weeks of multi-modality supervised conservative therapy (without significant symptom improvement) must be completed before an imaging study can be approved.

- 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 Recommendations

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)

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.
### Brain MRI and Brain CT Test Request Tip Sheet

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

- Chronic headache (including chronic migraine) is an indication for advanced imaging ONLY if the headaches are increasing in frequency or have changed in severity or new neurological deficits are present.

- We follow “Choosing Wisely” recommendations for headache and syncope (loss of consciousness) as shown below.

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#### 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)

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#### 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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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)

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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

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 Sinus CT.

- 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)

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Radiation Exposure
Sinus CT: 4 mSv
Radiation exposure should be limited when possible.
With and without contrast doubles the radiation dose.

Sinus CT
Test Request Tip Sheet

- The primary use of Sinus CT scans is to aid in management of chronic sinusitis.
  - Thus, Sinus CT for sinusitis is appropriate ONLY after completion of a trial of observation to rule out the most common cause, viral rhinosinusitis.
  - This must be followed by a trial of medical (antihistamines and antibiotic therapy without significant improvement in signs/symptoms.)

- Brain/Sinus CT combination studies are rarely indicated since Brain CT almost always provides adequate views of the sinuses.

- We follow “Choosing Wisely” recommendations for Radiographic monitoring of Rhinosinusitis including plain films.