

Brain MRI and Brain CT Test Request Tip Sheet


- An MRI is almost always preferred over a CT scan; if ordering a CT, CLEARLY document why an MRI isn't 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.

Radiation Exposure

Brain MRI: 0 mSv

Brain CT: 4 mSv



Radiation exposure should be limited whenever possible.

With and without contrast doubles the radiation dose.

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 that physicians and patients should discuss to help make wise decisions about the most appropriate care based on their individual situations. The items below represent the recommendations associated with brain CT and MRI.

- **Don't perform neuro-imaging studies in patients with stable headaches who meet criteria for migraine.** *(American Headache Society)*
- **Don't perform CT imaging for headache when 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 headaches.** *(American College of Radiology)*
- **Don't order a 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) isn't necessary in a child with simple febrile seizure.** *(American Academy of Pediatrics)*

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.