

Study:	Reason for Ordering Study / Most Cited in Inappropriate Orders:	More Appropriate approach:
Abdominal and Pelvic CT	Vague upper abdominal / epigastric symptoms with no physical findings.	Initial evaluation of symptoms with lab tests, standard GI work up and ultrasound prior to abdominal CT. There is no reason to routinely include a pelvic CT with the abdominal CT study.
Pelvic CT in a female patient	Vague pelvic symptoms, such as “suprapubic pain,” “cramping,” etc.	Pelvic exam followed by ultrasound imaging. This is more accurate diagnostically and saves radiation exposure.
Chest CT	Non-specific chest pain and other vague symptoms.	Standard chest-x-ray, appropriate lab or pulmonary function tests, and possible cardiac work up depending on age and risk factors. There are few situations where a chest CT is necessary if a standard chest x-ray is normal.
Brain and sinus CT	Headache with or without sinus symptoms	<p>Sinus CT imaging is most appropriately ordered for chronic sinusitis or refractory acute sinusitis that has been unresponsive intensive medical therapy often including two courses of antibiotic therapy. The clinical reason for a sinus CT is to assess underlying anatomic abnormalities that would need to be addressed surgically. Generally, a sinus CT should be ordered by an ENT as part of pre-surgical evaluation.</p> <p>A brain CT is often “thrown in” because headache a common symptom associated with sinus problems and the physician thinks that a brain CT might as well be done because “the patient is going to be there anyway”. However, this combination is usually unnecessary.</p> <ul style="list-style-type: none"> • If the predominant problem is headache, a brain CT or MRI includes large portions of the paranasal sinuses that would be evaluated by a radiologist as part of the brain study. • If a sinus abnormality is detected then a more detailed sinus CT study could be performed. • If chronic or refractory sinusitis is thought to be the most likely cause of headache then the results of sinus imaging should be known prior to ordering brain imaging. • If brain imaging for headache is clinically appropriate then an MRI is generally much more accurate than a CT and would usually be needed at some point, regardless of CT findings.
Brain CT or MRI	New headache without a serious indicator, such as “worst ever” or “awakens at night,” or neurologic symptoms.	Thorough neurologic exam. Consider other testing, such as EEG. Allow sufficient time for effectiveness of conservative management before CT or MRI imaging.

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<p>Brain CT or MRI with simultaneous CTA or MRA</p>	<p>New or chronic headache without a serious indicator, such as “worst ever” or “awakens at night,” or neurologic symptoms. No family history of aneurysm, no known pre-existent vascular disease or abnormal imaging.</p>	<p>When/if conventional imaging appropriate wait for results to be known before adding a dedicated vascular study.</p>
<p>Myocardial perfusion imaging or coronary artery CTA in patient under age 40</p>	<p>Atypical chest pain or other symptoms atypical of myocardial ischemia (palpitation, fatigue, dizziness etc.) in patients who are at low risk for CAD based on age sex and risk factors</p>	<p>Standard cardiac work up with EKG, treadmill stress test without imaging. Imaging stress tests to be reserved for patients with abnormal exercise EKG tests</p>
<p>Myocardial perfusion imaging or coronary artery CTA in patient under age 40</p>	<p>Patient with no risk factors undergoing low-risk surgery.</p>	<p>Standard cardiac work up with EKG, and treadmill test in patients with symptoms or low functional capacity.</p>
<p>Cervical spine MRI</p>	<p>Neck pain of recent onset without neurologic symptoms. No plain films. No trial of conservative therapy.</p>	<p>Thorough physical exam to look for neurologic abnormalities. Plain films to assess for arthritis. Trial of conservative therapy for at least 3-6 weeks prior to MRI.</p>
<p>Shoulder MRI ordered at time of C-spine MRI</p>	<p>Pain in neck radiating to shoulder</p>	<p>If an adequate trial of conservative therapy has failed, obtain C-spine results first to be sure shoulder symptoms are not coming from neck. If C-spine negative, shoulder study could then be ordered.</p>
<p>Pelvic or hip MRI ordered at time of lumbar spine MRI</p>	<p>Back pain radiating to pelvis and/or hip.</p>	<p>If an adequate trial of conservative therapy has failed, obtain L-spine results first to be sure pelvic/hip symptoms are not coming from back. If lumbar spine films are negative other studies could then be ordered.</p>
<p>Knee MRI</p>	<p>Knee pain recent onset, no physical findings</p>	<p>Plain films to look for arthritis, than an adequate trial of conservative therapy prior to imaging. If arthroscopy is planned to evaluate menisci or articular cartilage, based on clinical findings, there is no need for MRI unless ligament abnormalities are suspected.</p>