RAYUS QUALITY INSTITUTE™

REFERING CLINICIAN ORDERING GUIDE

RAYUS RADIOLOGY™

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RAYUS RADIOLOGY

INTRODUCTION

The material in this ordering guide was developed by the RAYUS Quality Institute's Provider Led Entity (PLE). The PLE is qualified by the Centers for Medicare and Medicaid to develop appropriate use criteria for traditional Medicare (Part B) patients. Clinical topic areas have been developed in collaboration with national subject experts and approved by the PLE's multidisciplinary committee.

Recommendations are largely for the specific use of advanced imaging (MRI, CT, nuclear medicine). While recommendations for conventional radiography and/or ultrasound may also be appropriate, they are not always specified within this document. However, when appropriate, a clinical scenario may indicate that radiographs and/or ultrasound should be attempted prior to any advanced imaging.

- **Primary recommendation:** Strong recommendation for imaging . There is confidence that the desirable effects of imaging outweigh its undesirable effects.
- **Alternative recommendation:** Conditional recommendation for imaging. The desirable effects of imaging likely outweigh its undesirable effects, although some uncertainty may exist. Alternative imaging recommendations may be indicated with a contraindication to the primary recommendation, in specific clinical scenarios, or when the primary recommendation results are inconclusive or incongruent with the patient's clinical diagnosis.
- **Recommendation against imaging:** The test may not be accurate, may not be reliable, or the undesirable effects of imaging outweigh any desirable effects. Additionally, the recommendation may be impractical or not feasible in the targeted population and/or practice setting(s).

While this document is intended to be a helpful guide for ordering clinicians, it does not replace clinician experience and expertise in light of the clinical presentation and specific circumstances of the patient.

If an advanced imaging modality is not listed for a given scenario, it should be treated as a recommendation against imaging (red).

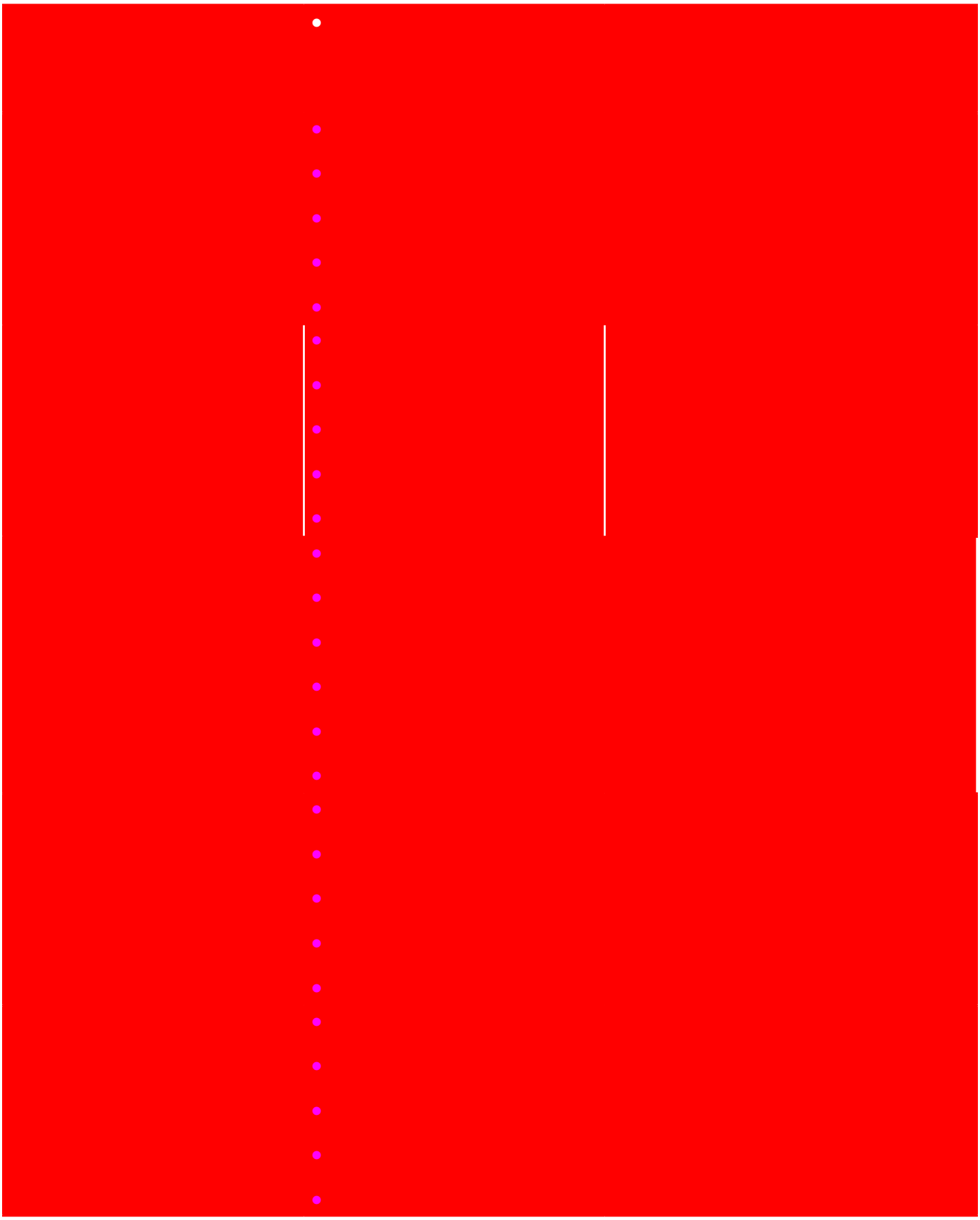
This document provides a listing of some of the most common scenarios for a clinical topic area, but is not meant to represent a complete list.

If more than one primary or alternative recommendation is listed for a clinical topic area, clinician preference, patient safety, and feasibility should all be taken into consideration. Notes to the right of each section can provide additional reference.

To the extent feasible, recommendations throughout this document are evidence-based. A complete listing of appropriate use criteria, along with bibliography materials, can be found at www.rayusradiology.com/ple

RAYUS RADIOLOGY™

NEURO: HEADACHE



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NEURO: HEADACHE

The addition of contrast can help characterize abnormalities seen on previous non-contrast imaging.

CT can be used for patients unable to undergo MRI or (non-contrast CT) to evaluate for hemorrhage.

Angiography or venography useful for suspected cranial or cervical vascular disorder.

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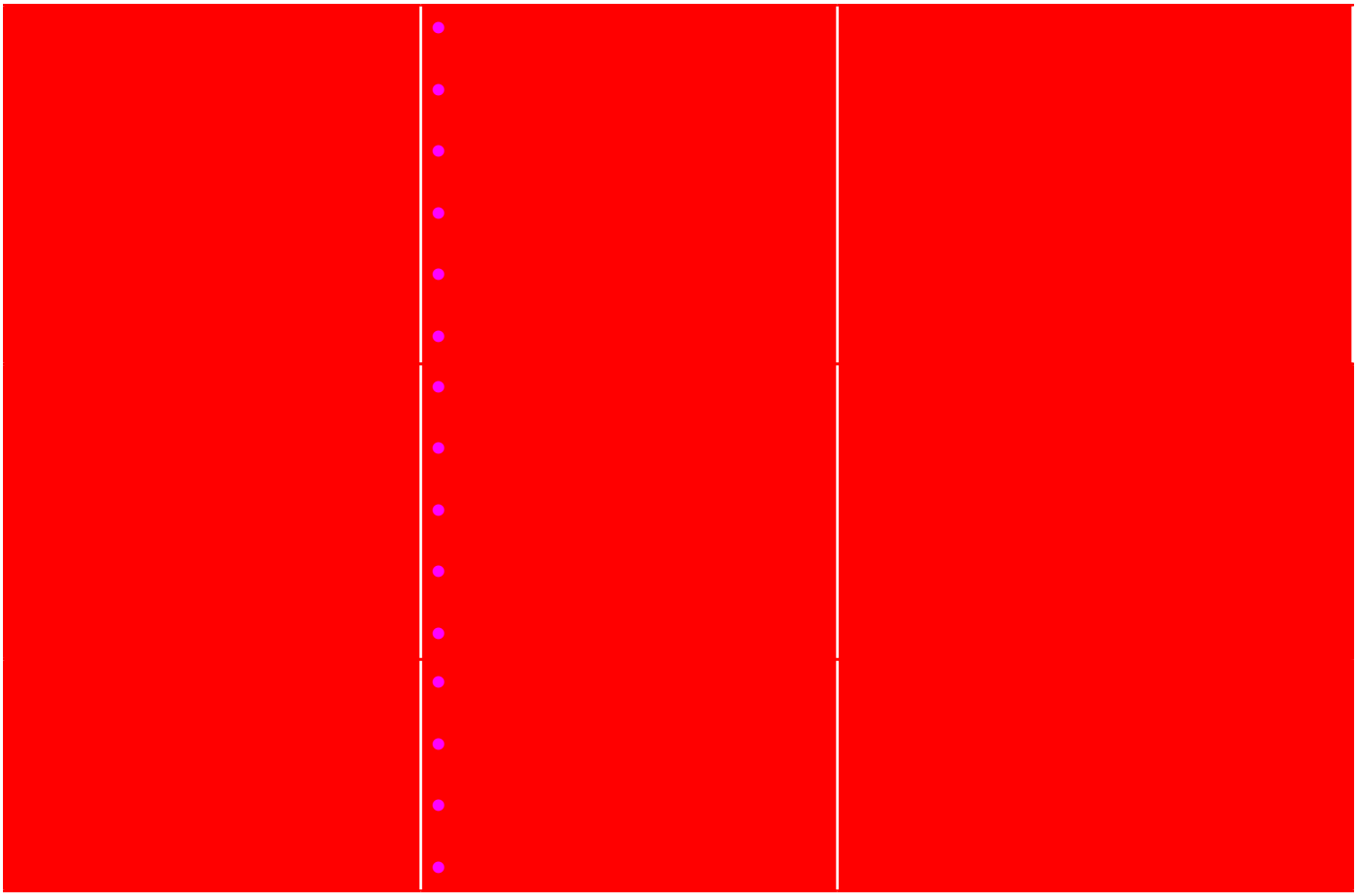
NEURO: HEADACHE



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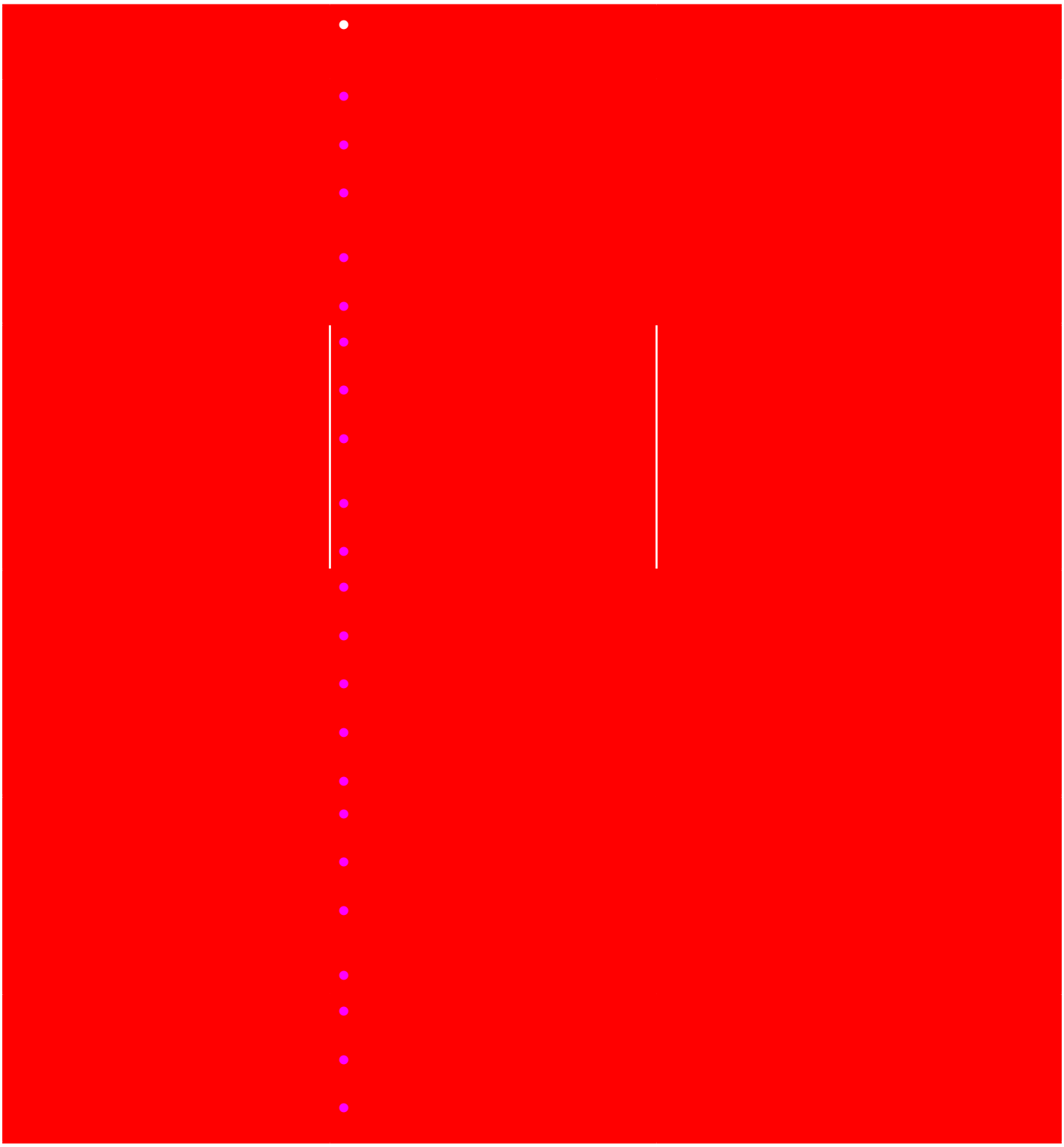
NEURO: BACK/NECK PAIN



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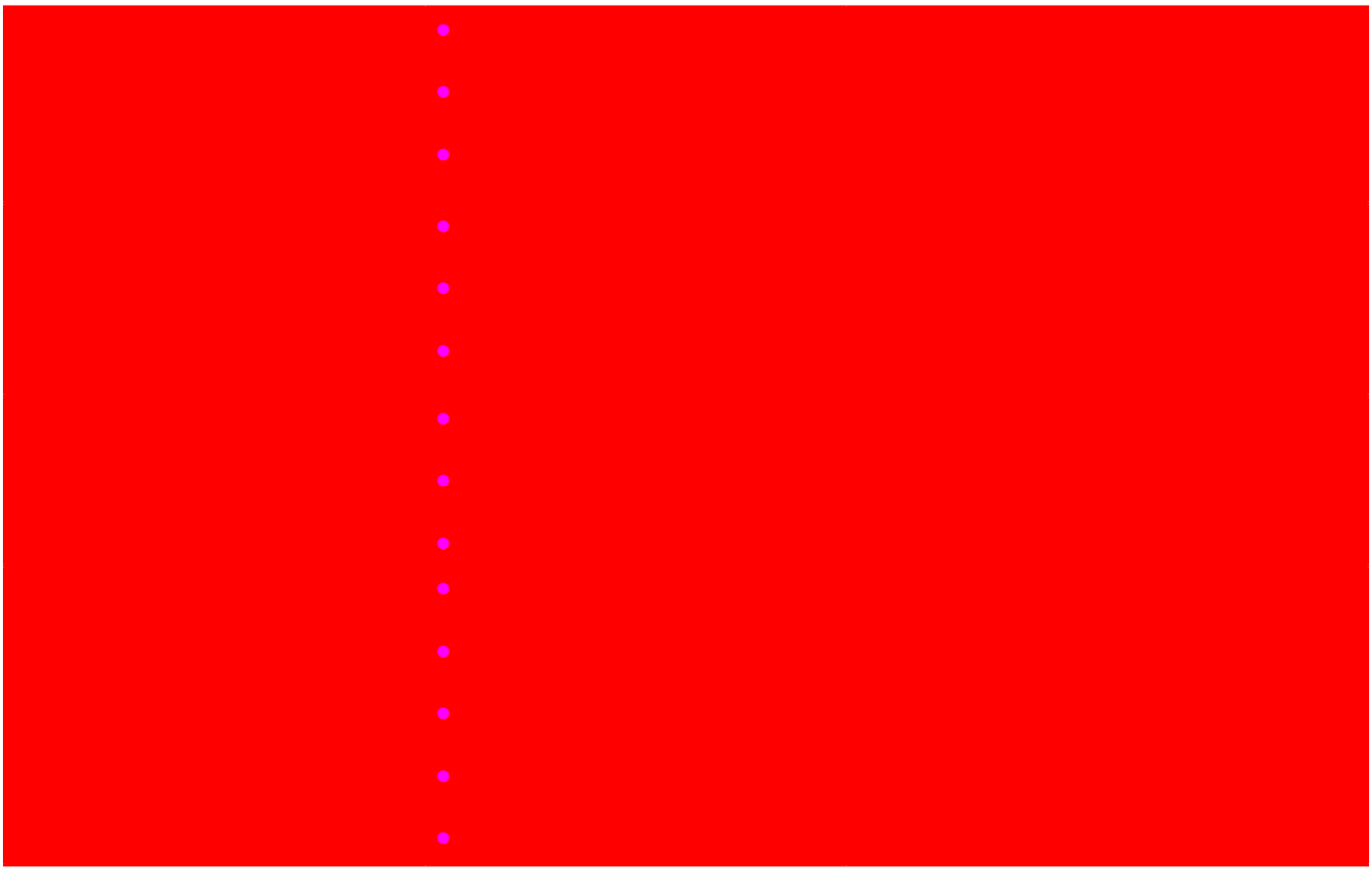

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NEURO: STROKE/TIA

Physical findings, radiographic signs, and/or risk factors suggestive of carotid artery stenosis in an otherwise asymptomatic patient, following ultrasound (if available)	• MR angiography neck • CT angiography neck • MR angiography head • CT angiography head	Screening not recommended without signs, symptoms, or risk factors. Duplex carotid ultrasound is indicated for the initial evaluation of asymptomatic patients at high risk for, with signs of, or with radiographic evidence of carotid artery stenosis. Angiography neck can be useful to further characterize stenosis seen on ultrasound or when ultrasound is non-diagnostic or not available. Head angiography can be used in patients with established stenosis who are stenting candidates.
Suspected transient ischemic attack (TIA):	Brain Imaging • MRI brain (w/o & w/ or w/o IV contrast) • CT head (w/o and/or w/ IV contrast) • CT perfusion w/ IV contrast Carotid Imaging (also consider ultrasound) • MR angiography neck • CT angiography neck Intracranial vascular imaging • MR angiography head • CT angiography head	Both brain and carotid (cervical vascular) imaging are initially recommended. MRI of the brain should include diffusion weighted imaging and gradient recalled imaging (GRE) or susceptibility-weighted imaging (SWI). MR angiography of the head or, in patients unable to undergo MRI, CT angiography of the head can be used when an extracranial source of ischemia is not identified, or when intervention for significant carotid stenosis is planned.
Imaging for risk stratification/secondary prevention in patients with confirmed stroke and who have received previous thrombolytic or endovascular therapy	Brain and intracranial vascular imaging • CT head w/o IV contrast • MRI brain (w/o & w/ or w/o IV contrast) • CT head w/ IV contrast • MR/CT angiography head • MR/CT venography Carotid Imaging (also consider ultrasound) • MR angiography neck • CT angiography neck	Non-contrast CT imaging can provide necessary information for acute management. Brain and vascular imaging can be useful to evaluate for underlying structural lesions. MRI of the brain should include diffusion weighted imaging and gradient recalled imaging (GRE) or susceptibility-weighted imaging (SWI). CT head with IV contrast, angiography head, or venography can be useful to evaluate for an underlying vascular lesion in patients with intracranial hemorrhage.

Follow-up after ultrasound of extracranial carotid artery disease treated with carotid endarterectomy or stenting	• MR angiography neck • CT angiography neck	Where available, Duplex carotid ultrasound should initially be used to follow lesions in the extracranial carotid arteries and progression of disease after therapy. Angiography may be useful when ultrasound is not available or when ultrasound is non-diagnostic.

NEURO: RHINOSINUSITIS

Acute uncomplicated rhinosinusitis (< 4 weeks duration)	• NO IMAGING RECOMMENDED	Rhinosinusitis lasting between 4-12 weeks should be assessed on an individual clinical basis if the pattern is acute or chronic.
Recurrent acute rhinosinusitis	• CT paranasal sinuses w/o IV contrast • CT cone beam paranasal sinuses w/o IV contrast	
Chronic uncomplicated rhinosinusitis	•	CT paranasal sinuses w/ IV contrast can be helpful if patient is unable to undergo MRI.
Pre-operative evaluation for routine functional endoscopic sinus surgery	•	CT not used as sole criteria for determining the need for surgical intervention, but rather as an objective tool for confirming diagnosis and surgical planning.
Diagnosis of complications of rhinosinusitis	•	Sinus imaging is indicated in those who demonstrate initial signs and symptoms of complicated rhinosinusitis. If there is clinical concern for orbital complications, imaging may be necessary to better define the soft-tissue structures and/or orbital contents. If there is concern for intracranial complications, imaging can delineate soft-tissue structures, brain, cavernous sinus, and bony dehiscence. MRI w/o IV contrast can be used if patient is unable to receive IV contrast. CT head can be used if patient is unable to undergo MRI. Angiography can be useful to evaluate for suspected vascular complications, such as concern for carotid/vascular invasion or pseudoaneurysm formation.

NEURO: NEUROCOGNITIVE DISORDER (DEMENTIA)

Mild cognitive impairment (cognitive impairment with minimal impairment of instrumental activities of daily living)	• MRI brain w/o IV contrast • CT head w/o IV contrast • Amyloid PET or FDG-PET • MRI brain w/o & w/ IV contrast • MRI brain w/ IV contrast • CT head w/ IV contrast • CT head w/o & w/ IV contrast	MRI is preferred for brain imaging over CT. PET can be used in atypical cases or when an Alzheimer's dementia subtype is suspected, and all of the following apply: at specialist request, all other tests are inconclusive, other diagnoses have been excluded by MRI or CT, and results of testing will change management. MRI (or CT) w/ contrast can be used to characterize abnormalities seen on non-contrast MRI (or CT). MRI (or CT) w/o & w/ contrast should only be used for rapid neurological decline, or when concerned for intracranial neoplasm or infectious/inflammatory disease.
Possible Alzheimer's disease (atypical course – such as visuospatial or language disturbance – or etiologically mixed presentation)	• MRI brain w/o IV contrast • CT head w/o IV contrast • Amyloid PET or FDG-PET • Perfusion (HMPAO or ECD) SPECT • MRI brain w/ IV contrast • MRI brain w/o & w/ IV contrast • CT head w/ IV contrast • CT head w/o & w/ IV contrast	
Probable Alzheimer's disease (cognitive deficits evident, interference with daily functioning, clear history of cognitive worsening, no evidence of another cause)	• • • • • •	MRI is preferred for brain imaging over CT. MRI (or CT) w/ contrast can be used to characterize abnormalities seen on non-contrast MRI (or CT). MRI (or CT) w/o & w/ contrast should only be used for rapid neurological decline, or when concerned for intracranial neoplasm or infectious/inflammatory disease. PET should only be used in atypical cases and when all of the following apply: at specialist request, all other tests are inconclusive, other diagnoses have been excluded by MRI or CT, and results of testing will change management.
Suspected vascular dementia (evidence of presence of cerebrovascular disease or events	• • • • • •	MRI is preferred for brain imaging over CT. MRI (or CT) w/ contrast can be used to characterize abnormalities seen on non-contrast MRI (or CT). MRI (or CT) w/o & w/ contrast should only be used for rapid neurological decline, or when concerned for intracranial neoplasm or infectious/inflammatory disease.

NEURO: NEUROCOGNITIVE DISORDER (DEMENTIA)

Frontotemporal degeneration / frontotemporal dementia (FTD) spectrum disorder (relatively selective progressive atrophy and neuronal loss of the frontal and/or temporal lobes)	• MRI brain w/o IV contrast • CT head w/o IV contrast • MRI brain w/ IV contrast • MRI brain w/o & w/ IV contrast • CT head w/ IV contrast • CT head w/o & w/ IV contrast • Amyloid PET or FDG-PET • Perfusion (HMPAO or ECD) SPECT	MRI is preferred for brain imaging over CT. PET (or SPECT if PET is not available) can be used in atypical cases or to differentiate Alzheimer's disease from frontotemporal dementia, and all of the following apply: at specialist request, all other tests are inconclusive, other diagnoses have been excluded by MRI or CT, and results of testing will change management. MRI (or CT) w/ contrast can be used to characterize abnormalities seen on non-contrast MRI (or CT). MRI (or CT) w/o & w/ contrast should only be used for rapid neurological decline, or when concerned for intracranial neoplasm or infectious/inflammatory disease.
Suspected dementia with Lewy bodies (classic features of Parkinsonism, visual hallucinations, and fluctuating cognition and level of alertness)	• MRI brain w/o IV contrast • CT head w/o IV contrast • MRI brain w/ IV contrast • MR brain w/o & w/ IV contrast • CT head w/ IV contrast • CT head w/o & w/ IV contrast • Dopaminergic (DAT) SPECT • I-MIBG cardiac scintigraphy • Perfusion (HMPAO or ECD) SPECT	
Suspected normal pressure hydrocephalus (reversible syndrome which classically presents with dementia, gait disturbance, and urinary incontinence)	• • • • • • • • •	MRI is preferred for brain imaging over CT. MRI (or CT) w/ contrast can be used to characterize abnormalities seen on non-contrast MRI (or CT). MRI (or CT) w/o & w/ contrast should only be used for rapid neurological decline, or when concerned for intracranial neoplasm or infectious/inflammatory disease. Cisternography or SPECT should only be used in atypical cases and when all of the following apply: at specialist request, all other tests are inconclusive, and the results of testing will change management.

MUSCULOSKELETAL: ANKLE/HINDFOOT PAIN

Pain and/or instability after an acute injury with suspected structural derangement; no fracture seen on radiographs	• MRI ankle or foot w/o IV contrast • CT ankle or foot w/o IV contrast	MRI w/o IV contrast can be used if red flags suspected or present (e.g., dislocation, neurologic or vascular compromise, tendon rupture, high-grade ligament injury, high ankle sprain, or infection). MRI also can be used for patients with significant pain/disability or for surgical planning. CT can be used if patient is unable to undergo MRI.
Pain in the setting of acute injury with suspected or known fracture(s) on radiographs	• MRI ankle or foot w/o IV contrast • CT ankle or foot w/o IV contrast	
Nontraumatic chronic pain persisting after ≥ 4 weeks of conservative therapy and no major abnormalities seen on radiographs	•	CT can be used if patient is unable to undergo MRI. Arthrography can be used to assess chronic instability, cartilage injury, intraarticular bodies, or suspected impingement syndrome. Bone scanning can be used if the patient has non-diagnostic MRI findings, or if the patient is unable to undergo MRI.
Pain with suspected stress or insufficiency fracture; initial radiographs are negative or non-diagnostic	•	Bone scanning can be used if the patient has non- diagnostic MRI findings, or if the patient is unable to undergo MRI. CT can be used if the patient has non- diagnostic MRI findings, or if the patient is unable to undergo MRI and has increased uptake on recent bone scan.
Nontraumatic chronic pain with moderate to severe osteoarthritis on initial radiographs	•	MRI or CT can be used for new-onset severe pain, mechanical symptoms or significant change in symptoms. CT arthrography can be used for any of the above if patient is unable to undergo MRI. MRI, CT, or arthrography can be used for surgical planning (ankle arthroplasty or chondroplasty).
Pain with suspicion of osteochondral defect or avascular necrosis (osteonecrosis)	•	CT can be used for surgical planning. Bone scanning can be used if the patient is unable to undergo MRI or when previous MRI is non-diagnostic. Arthrography can be used for lesion detection and/or instability of osteochondral defect fragment. MRI w/ contrast can assess vascularized bone.

MUSCULOSKELETAL: ANKLE/HINDFOOT PAIN

Suspicion for septic arthritis, osteomyelitis, or neuropathic arthropathy (Charcot foot/ankle); initial radiographs are non-diagnostic	• MRI ankle or foot w/o IV contrast • MRI ankle or foot w/o & w/ IV contrast • FDG-PET or FDG-PET/CT • WBC scintigraphy w/ multiphase bone scan (w/ or w/o SPECT) • WBC scintigraphy w/ sulfur colloid marrow scan • CT ankle or foot w/ IV contrast • CT ankle or foot w/o IV contrast • Multiphase bone scan	PET or WBC scintigraphy w/ bone scan can be used if patient is unable to undergo MRI or if MRI findings are non-diagnostic. WBC scintigraphy w/ sulfur colloid marrow scan can be used if patient has indwelling hardware causing artifact on MRI. CT can evaluate soft-tissue gas, sequestra, or foreign body; it can also be used if patient is unable to undergo MRI. Multiphase bone scanning can be used to further evaluate foot ulceration(s) for bony involvement.
Pain with suspicion of foreign body; initial radiographs are negative or non-diagnostic	• CT ankle or foot w/o IV contrast • MRI ankle or foot w/o IV contrast • MRI ankle or foot w/o & w/ IV contrast • CT ankle or foot w/ IV contrast • CT ankle or foot w/o & w/ IV contrast	
Pain with suspected or known hindfoot (tarsal) coalition following initial radiographs	• • •	Bone scanning should only be used to further evaluate pain of uncertain etiology following a non-diagnostic MRI or CT.

MUSCULOSKELETAL: HIP PAIN

Suspected labral tear with or without femoral acetabular impingement syndrome (FAI)	• MRI hip w/o IV contrast • MR arthrography hip • CT arthrography hip • CT bilateral hips w/o IV contrast (w/ 3D reformations)	CT arthrography can be used if patient is unable to undergo MRI. CT bilateral hips can be used if pre-surgical planning is necessary.
Suspected periarticular tendinopathy, tendon tear, and/or bursitis	• MRI hip w/o IV contrast • CT hip w/o IV contrast	
Suspected avascular necrosis (AVN) / osteonecrosis	• • • •	The addition of MRI contrast can be used to further evaluate equivocal/non-diagnostic findings. Bone scan can be used if patient is unable to undergo MRI. CT bilateral hips can be used if patient is unable to undergo MRI, or if pre-surgical planning is necessary.
Suspected septic arthritis or osteomyelitis	• • • •	The addition of MRI contrast can be used to further evaluate equivocal/non-diagnostic findings. Bone scan or WBC scan can be used if patient is unable to undergo MRI. CT bilateral hips can be used if patient is unable to undergo MRI.
Hip pain with an indeterminate or aggressive bone lesion noted on radiographs	• • • • •	The addition of MRI contrast can be used to further evaluate equivocal/non-diagnostic findings. CT hip can be used if patient is unable to undergo MRI, or if pre-surgical planning is necessary. PET, PET/CT, or whole-body bone scan can be used to further evaluate possible metastatic lesion(s).
Suspected stress, fragility, or occult hip fracture and normal or non-diagnostic radiographs	• • •	CT hip can be used to further evaluate non-diagnostic findings on recent MRI, if patient is unable to undergo MRI, if patient has increased or equivocal uptake on previous bone scan, or to evaluate healing. Bone scan can be used to further evaluate non-diagnostic findings on MRI, or if patient is unable to undergo MRI.

MUSCULOSKELETAL: HIP PAIN

Unexplained pain of suspected hip etiology that is unresponsive to 4 weeks of conservative therapy with normal or non-diagnostic radiographs	• MRI hip w/o IV contrast • MR arthrography hip • CT arthrography hip • Bone scan (w/ or w/o SPECT or SPECT/CT) • CT hip w/o IV contrast	CT arthrography can be used if patient is unable to undergo MRI. Bone scan can be used to further evaluate non-diagnostic findings on MRI, or if patient is unable to undergo MRI. CT hip can be used if patient is unable to undergo MRI, if pre-surgical planning is necessary, or if patient has increased or equivocal uptake on previous bone scan.
Moderate or severe osteoarthritis of the hip on conventional radiography with any of the following: new-onset severe pain, significant change in symptoms, disproportionate pain to repeat radiography findings, pre-surgical planning is necessary	• MRI hip w/o IV contrast • CT hip w/o IV contrast • CT arthrography hip • Bone scan (w/ or w/o SPECT or SPECT/CT)	

MUSCULOSKELETAL: KNEE PAIN

Pain with suspected structural derangement after an acute injury	• MRI knee w/o IV contrast • CT arthrography knee • CT knee w/o IV contrast • MR arthrography knee • CT angiography or MR angiography of lower extremities	CT arthrography can be used if patient is unable to undergo MRI. CT can be used to further characterize or evaluate healing of known fracture. MR arthrography can be used if patient has had previous meniscal repair and/or ACL reconstruction. Angiography can be used to evaluate for suspected vascular injury or dislocation.
Nontraumatic knee pain persisting after ≥ 4 weeks of conservative therapy and no osteoarthritis or major abnormalities on radiographs	• MRI knee w/o IV contrast • CT arthrography knee • MR arthrography knee • CT knee w/o IV contrast	
Moderate or severe osteoarthritis of the knee on conventional radiography with any of the following: new-onset severe pain, significant change in symptoms, disproportionate pain to repeat radiography findings, pre-surgical planning is necessary	• • • •	CT arthrography can be used if patient is unable to undergo MRI. MR arthrography can be used if patient has had previous meniscal repair and/or ACL reconstruction. CT should only be used to assess patellofemoral morphology for purposes of surgical planning.
Clinical or radiological suspicion for avascular necrosis (AVN) / osteonecrosis	• • • •	The addition of MRI contrast can be used if prior MRI w/o contrast is non-diagnostic. CT can be used if patient is unable to undergo MRI. Bone scan/SPECT can be used if patient is unable to undergo MRI or if MRI results are non-diagnostic.
Suspected stress or insufficiency fracture and negative or non-diagnostic radiographs	• • •	Bone scan/SPECT can be used if patient is unable to undergo MRI or if MRI results are non-diagnostic. CT can be used if MRI results are non-diagnostic, if patient is unable to undergo MRI, or to further characterize or evaluate healing of known fracture.

MUSCULOSKELETAL: KNEE PAIN

Intraarticular pathology associated with a Baker's cyst, ultrasound either non-diagnostic or expertise not available	• MRI knee w/o IV contrast • CT arthrography knee • MR arthrography knee	CT arthrography can be used if patient is unable to undergo MRI. MR arthrography can be used if patient has had previous meniscal repair and/or ACL reconstruction.
Clinical or radiological suspicion for septic arthritis, osteomyelitis, and/or periarticular abscess	• MRI knee w/o IV contrast • MRI knee w/o & w/ IV contrast • CT knee w/o IV contrast • CT knee w/ IV contrast • Bone scan/SPECT, bone scan/SPECT/CT or three-phase bone scan	

MUSCULOSKELETAL: SHOULDER PAIN

Suspected rotator cuff tear: candidate for early surgical repair or symptoms following ≥ 4 weeks of conservative therapy	• MRI shoulder w/o IV contrast • MR arthrography shoulder • CT arthrography shoulder • CT shoulder w/o IV contrast	MR arthrography can be used if previous non-contrast MRI findings are non-diagnostic. CT arthrography can be used if MRI is unavailable or contraindicated, or if patient has had prior shoulder arthroplasty or significant metal artifact. CT w/o IV contrast can be used to further evaluate or aid in pre-surgical planning of bony abnormality.
Suspected recurrent rotator cuff tear in candidate for surgical repair	• MRI shoulder w/o IV contrast • MR arthrography shoulder • CT arthrography shoulder • CT shoulder w/o IV contrast	
Pain in patients with osteoarthritis who are undergoing surgical planning for arthroplasty	•	CT arthrography can be used if MRI is unavailable or contraindicated, or if patient has had prior shoulder arthroplasty or significant metal artifact.
Suspected labral tear: acute trauma or symptoms following > 4 weeks of conservative therapy	•	CT arthrography can be used if MRI is unavailable or contraindicated, or if patient has had prior shoulder arthroplasty or significant metal artifact. CT w/o IV contrast can be used to further evaluate or aid in pre-surgical planning of bony abnormality.
Long head of the biceps tear and/or tendinopathy	•	CT arthrography can be used if MRI is unavailable or contraindicated, or if patient has had prior shoulder arthroplasty or significant metal artifact. CT w/o IV contrast can be used to further evaluate or aid in pre-surgical planning of bony abnormality.
Suspected adhesive capsulitis	•	MR arthrography can be used if previous non-contrast MRI findings are non-diagnostic. CT arthrography can be used if MRI is unavailable or contraindicated, or if patient has had prior shoulder arthroplasty or significant metal artifact.
Suspected or known acute shoulder fracture following radiographs	•	Either MRI or CT can be useful for further evaluation or pre-surgical planning.

MUSCULOSKELETAL: SHOULDER PAIN

Pain with non-diagnostic history, physical exam, and radiographs, and with > 4 weeks of conservative care	• MRI shoulder w/o IV contrast • MR arthrography shoulder • CT arthrography shoulder • CT shoulder w/o IV contrast	MR arthrography can be used if previous non-contrast MRI findings are non-diagnostic. CT arthrography can be used if MRI is unavailable or contraindicated, or if patient has had prior shoulder arthroplasty or significant metal artifact. CT w/o IV contrast can be used to further evaluate or aid in pre-surgical planning of bony abnormality.

BODY: ABDOMINAL PAIN

Right upper quadrant pain with suspected hepatobiliary disease; initial ultrasound is non-diagnostic or ultrasound expertise is not available	• Cholescintigraphy • MRI abdomen w/o & w/ IV contrast (with MRCP) • MRI abdomen w/o IV contrast (with MRCP) • CT abdomen w/ IV contrast • CT abdomen w/o IV contrast • CT abdomen w/o & w/ IV contrast	CT w/o IV contrast or MRI w/o IV contrast can be used if patient is unable to receive contrast. CT w/o & w/ IV contrast can be used if patient has known cancer or liver disease.
Right lower quadrant pain with suspected acute appendicitis	• CT abdomen and pelvis w/ IV contrast • CT abdomen and pelvis w/o IV contrast • CT abdomen and pelvis w/o & w/ IV contrast • MRI abdomen and/or pelvis w/o and w/ IV contrast • MRI abdomen and/or pelvis w/o IV contrast	
Left lower quadrant pain with suspected acute diverticulitis	• • • • •	CT w/o IV contrast or MRI w/o IV contrast can be used if patient is unable to receive contrast. CT w/o & w/ IV contrast can be used if patient has known cancer or liver disease.
Suspected or known acute pancreatitis, with any of the following: equivocal amylase and lipase levels, severe or atypical pain, or further assessment > 48 hours after symptom onset is necessary	• • • • •	MRI w/o IV contrast (with MRCP) or CT w/o IV contrast can be used if patient is unable to receive contrast. CT w/o & w/ IV contrast can be used if patient has known cancer or liver disease.

BODY: ABDOMINAL PAIN

Suspected chronic pancreatitis (previously undiagnosed)	• CT abdomen	CT without and/or with contrast can be used.
	• MRI abdomen w/o & w/ IV contrast (with MRCP)	MRI abdomen w/o contrast (with MRCP) can be used if patient is unable to receive contrast.
	• MRI abdomen w/o IV contrast (with MRCP)	
Suspected bowel ischemia or infarction	• CT angiography abdomen and pelvis	
	•	
	• CT abdomen and pelvis w/o & w/ IV contrast	
	• CT abdomen & pelvis w/o IV contrast	
	• MR angiography abdomen and pelvis	
Suspected bowel obstruction	• CT abdomen and pelvis w/ IV contrast	CT w/o contrast or MRI w/o contrast can be used if patient is unable to receive contrast.
	• CT abdomen and pelvis w/o IV contrast	CT w/o & w/ contrast can be used if patient has known cancer or liver disease.
	• CT abdomen and pelvis w/o & w/ IV contrast	CT or MR enterography/enteroclysis can be used for patient with intermittent, recurrent, or low-grade small bowel obstruction.
	• MRI abdomen and/or pelvis w/o & w/ IV contrast	
	• MRI abdomen and/or pelvis w/o IV contrast	
	• CT enterography or CT enteroclysis	
	• MR enterography or MR enteroclysis	

BODY: ABDOMINAL PAIN

Suspected inflammatory bowel disease	• MRI abdomen and/or pelvis w/o & w/ IV contrast • MR enterography • CT abdomen and pelvis w/ IV contrast • CT enterography • MRI abdomen and/or pelvis w/o IV contrast • CT abdomen and pelvis w/o IV contrast • CT abdomen and pelvis w/o & w/ IV contrast • CT enteroclysis • MR enteroclysis	
Suspected symptomatic abdominal aortic aneurysm (AAA)	• • • • • • •	Aortic ultrasound can also be offered for diagnosing symptomatic AAA. MRI w/o contrast or CT w/o contrast can be used if patient is unable to receive contrast. CT w/o & w/ contrast can be used if angiography expertise is not available, or if patient has known cancer or liver disease.
Acute, diffuse (poorly localized) abdominal pain (including suspected abscess, incarcerated hernia, or post-surgical complication)	• CT abdomen and pelvis w/ IV contrast • CT abdomen and pelvis w/o IV contrast • CT abdomen and pelvis w/o & w/ IV contrast • MRI abdomen and/or pelvis w/o and w/ IV contrast • MRI abdomen and/or pelvis w/o IV contrast	CT w/o contrast or MRI w/o contrast can be used if patient is unable to receive contrast. CT w/o & w/ contrast can be used if patient has known cancer or liver disease.

BODY: COUGH/DYSPNEA

High clinical suspicion for pneumonia and negative or non-diagnostic chest radiograph	• CT chest w/o IV contrast • CT chest w/ IV contrast • MRI chest (w/o or w/o & w/ IV contrast) • CT angiography chest • CT pulmonary angiography (CTPA)	MRI can be used to detect or characterize suspected pleural involvement. CT angiography can be used to evaluate hemoptysis or suspected vascular involvement.
Pneumonia that is not responding to treatment and/or with suspected complications	• CT chest w/o IV contrast • CT chest w/ IV contrast • MRI chest (w/o or w/o & w/ IV contrast) • CT angiography chest • CT pulmonary angiography (CTPA)	
Cough in an immunocompromised patient	• • • • •	MRI can be used to detect or characterize suspected pleural involvement. CT angiography can be used to evaluate hemoptysis or suspected vascular involvement.
Cough with suspected tuberculosis and non-diagnostic chest radiograph	• • • • •	MRI can be used to detect or characterize suspected pleural involvement. CT angiography can be used to evaluate hemoptysis or suspected vascular involvement.
Suspected or confirmed COVID-19 and any of the following: viral testing not available or results are delayed, clinical worsening, and/or risk factors for disease progression	• • • •	CT chest or CT angiography may be used to evaluate for pulmonary embolism.

BODY: COUGH/DYSPNEA

Cough with a restrictive ventilatory pattern and/or suspicion of interstitial lung disease or pleural disease AND common etiologies of cough have been ruled out	•	MRI can be used to detect or characterize suspected pleural involvement. FDG-PET can be used to evaluate patients with asbestos exposure.
Chronic cough with suspicion of an obstructive lung disease AND common etiologies of cough have been ruled out	• CT chest w/o IV contrast • CT chest w/ IV contrast • • CT angiography chest • CT pulmonary angiography (CTPA)	MRI can be used to detect or characterize suspected pleural involvement. CT angiography can be used to evaluate hemoptysis or suspected vascular involvement.

BODY: RENAL, ADRENAL, & URINARY TRACT

Suspected renal or ureteral calculus	• CT KUB w/o IV contrast • CT abdomen and pelvis w/ IV contrast • CT abdomen and pelvis w/o & w/ IV contrast • MRI abdomen or MRI abdomen and pelvis (urography protocols preferred) • Renal scintigraphy	The addition of contrast to CT can be used to further evaluate abnormalities, obstruction, or non-diagnostic findings on recent ultrasound or non-contrast CT. MRI can be used to further evaluate abnormalities, obstruction, or non-diagnostic findings on recent ultrasound or non-contrast CT. Renal scintigraphy can be used to further evaluate obstruction on recent ultrasound or non-contrast CT.
Preoperative planning for known renal or ureteral calculus	• CT KUB w/o IV contrast • CT abdomen and pelvis w/o & w/ IV contrast (urography protocols preferred) • CT abdomen and pelvis w/ IV contrast (urography protocols preferred) • MRI abdomen or MRI abdomen and pelvis (urography protocols preferred) • Renal scintigraphy	
Hematuria that is not attributable to an identified, benign cause	• • • •	Combining a renal ultrasound w/ retrograde pyelogram provides alternative evaluation of the entire upper tracts. MRI w/o contrast can be used if patient is unable to receive CT contrast and also unable to receive MRI contrast. CT w/o or CT w/ contrast can be used to further evaluate findings on recent ultrasound (or non-contrast CT).
Evaluation of incidental or non-diagnostic renal mass or complex cyst	• • • • •	MRI w/o contrast can be used if patient is unable to receive CT contrast and also unable to receive MRI contrast. CT w/o contrast can be used if patient is unable to receive CT contrast and also unable to undergo MRI. CT w/ contrast can be used to further evaluate findings on recent ultrasound.

BODY: RENAL, ADRENAL, & URINARY TRACT

Evaluation of incidental or non-diagnostic adrenal mass or nodule	• CT abdomen (w/o and/or w/ IV contrast) • MRI abdomen w/o IV contrast • MRI abdomen w/o & w/ IV contrast • PET or PET/CT	CT w/ and/or w/o contrast may be used. PET or PET/CT can be used for evaluation of a known PET-sensitive primary neoplasm.
Flank pain with suspected infection in any of the following: immunocompromised patients, patients w/> 48 hours of unsuccessful therapy, and/or patients with progressive, recurrent, or atypical symptoms	• CT abdomen (w/o and/or w/ IV contrast) • MRI abdomen or MRI abdomen and pelvis w/o & w/ IV contrast (urography protocols preferred) • MRI abdomen or MRI abdomen and pelvis w/o IV contrast (urography protocols preferred)	

BODY: SUSPECTED PULMONARY EMBOLISM (PE)

Low pretest probability or low clinical suspicion for PE **AND** patient meets all Pulmonary Embolism Rule-Out Criteria (PERC)	• NO IMAGING RECOMMENDED	Pretest probability should be assessed using a validated clinical prediction rule.
Normal (negative) D-dimer test with either low or intermediate pretest probability or clinical suspicion for PE	• NO IMAGING RECOMMENDED	
Elevated (positive) D-dimer with either low or intermediate pretest probability or clinical suspicion for PE	•	Pretest probability should be assessed using a validated clinical prediction rule.
	•	V/Q may not be readily available in all settings.
	•	Perfusion (Q) lung scan can be used if patient is unable to undergo CT and also unable to undergo V/Q scan.
	•	Pulmonary MRA can be used if patient is unable to undergo CT, or when previous CT is non-diagnostic.
	•	CT or MR venography can be used when deep vein thrombosis is suspected **AND** ultrasound is not available.
High pretest probability or clinical suspicion for PE	•	Pretest probability should be assessed using a validated clinical prediction rule.
	•	V/Q may not be readily available in all settings.
	•	Perfusion (Q) lung scan can be used if patient is unable to undergo CT and also unable to undergo V/Q scan.
	•	Pulmonary MRA can be used if patient is unable to undergo CT, or when previous CT is non-diagnostic.
	•	CT or MR venography can be used when deep vein thrombosis is suspected **AND** ultrasound is not available.

BODY: SUSPECTED PULMONARY EMBOLISM (PE)

Patient with history of thromboembolic disease and suspicion of chronic thromboembolic pulmonary hypertension (CTEPH)	• Ventilation-perfusion lung scan (planar V/Q, V/Q SPECT, or V/Q SPECT/CT) • CT pulmonary angiography (CTPA) • CT chest w/ IV contrast • Perfusion (Q) lung scan	V/Q scanning is preferred, but may not be readily available in all settings. Perfusion (Q) lung scan can be used if patient is unable to undergo V/Q scan.
Surveillance of established thromboembolic disease prior to completion of therapy	• NO IMAGING RECOMMENDED	
Evaluation for a new or recurrent PE in patients who are currently on therapy, AND the results are expected to modify current therapy	• • • • • •	V/Q may not be readily available in all settings. Perfusion (Q) lung scan can be used if patient is unable to undergo CT and also unable to undergo V/Q scan. Pulmonary MRA can be used if patient is unable to undergo CT, or when previous CT is non-diagnostic. CT or MR venography can be used when deep vein thrombosis is suspected AND ultrasound is not available.

BODY: CORONARY ARTERY DISEASE (CAD)

Evaluation for CAD: asymptomatic patient with no known history of CAD		
Low global CAD risk	• NO IMAGING RECOMMENDED	Asymptomatic patients considered to be at low risk of CAD do not typically require advanced imaging.
Intermediate global CAD risk	• CT coronary artery calcium • Stress ECG	
High global CAD risk	• • • • •	In general, there is agreement that persons with a 10-year CVD event risk > 20% are considered to be high risk. Additionally, patients with previous CAC score ≥ 400, diabetes, family history of premature CVD or hyperlipidemia, chronic kidney disease, and/or known atherosclerotic vascular disease should be included in this scenario.
Suspected CAD: symptomatic patient, no known CAD, initial testing		
Low pretest probability: interpretable ECG AND patient able to exercise	• • •	In patients with a low pretest probability of obstructive CAD, exercise ECG testing has a reported negative predictive value (NPV) of 95%-99%. However, the positive predictive value (PPV) in these patients is limited, and therefore exercise ECG alone should not be used to diagnose or exclude stable angina in this population.
Low pretest probability: patient unable to exercise and/or with baseline ECG abnormalities that prevent interpretation of the ST-segment changes during stress	• Pharmacological stress echocardiography • Pharmacological stress radionuclide myocardial perfusion imaging (PET or SPECT) • Pharmacological stress cardiac MRI • Coronary CT angiography	Stress imaging can be useful in low risk patients when there is an inability to exercise or an uninterpretable ECG.
Intermediate pretest probability: interpretable ECG and patient able to exercise	• Exercise stress ECG • Exercise stress radionuclide myocardial perfusion imaging (PET or SPECT) • Exercise stress echocardiography • Coronary CT angiography • Exercise stress cardiac MRI	

BODY: CORONARY ARTERY DISEASE (CAD)

Suspected CAD: symptomatic patient, no known CAD, initial testing

Intermediate pretest probability; patient unable to exercise and/or with baseline ECG abnormalities that prevent interpretation of the ST-segment changes during stress	• Pharmacological stress radionuclide myocardial perfusion imaging (PET or SPECT) • Pharmacological stress echocardiography • Pharmacological stress cardiac MRI • Coronary CT angiography • Invasive coronary angiography	The use of stress imaging is appropriate in the detection of CAD for symptomatic patients with intermediate pre-test probability of CAD, regardless of ability to exercise or if ECG is interpretable. In general, coronary CT angiography is preferred in patients with a lower range of clinical likelihood of CAD, no previous diagnosis of CAD, and characteristics associated with a high likelihood of good image quality.
High pretest probability; interpretable ECG and patient able to exercise	• Exercise stress radionuclide myocardial perfusion imaging (PET or SPECT) • Exercise stress echocardiography • Exercise stress cardiac MRI • Coronary CT angiography • Invasive coronary angiography • Exercise stress ECG	Non-invasive functional (stress) imaging is a central part of the diagnostic pathway and is recommended for many symptomatic patients in whom obstructive CAD cannot be excluded by clinical assessment. In general, coronary CT angiography is preferred in patients with a lower range of clinical likelihood of CAD, no previous diagnosis of CAD, and characteristics associated with a high likelihood of good image quality.
High pretest probability; patient unable to exercise and/or with baseline ECG abnormalities that prevent interpretation of the ST-segment changes during stress	• Pharmacological stress radionuclide myocardial perfusion imaging (PET or SPECT) • Pharmacological stress echocardiography • Pharmacological stress cardiac MRI • Invasive coronary angiography • Coronary CT angiography	
History of new-onset heart failure, ventricular tachycardia, ventricular fibrillation, or frequent PVCs with suspected underlying CAD	• Stress radionuclide myocardial perfusion imaging (PET or SPECT) • Stress echocardiography • Stress cardiac MRI • Invasive coronary angiography • Stress ECG • Coronary CT angiography	

BODY: CORONARY ARTERY DISEASE (CAD)

Follow-up/sequential testing for CAD: no previous revascularization, no or stable symptoms

Non-diagnostic or abnormal noninvasive test for CAD performed in prior 90 days	• Stress radionuclide myocardial perfusion imaging (PET or SPECT) • Stress echocardiography • Stress cardiac MRI • Coronary CT angiography • Stress ECG • Invasive coronary angiography	Previous noninvasive testing includes ECG, stress testing, or coronary CT angiography, and assumes that current testing is not a repeat of the previously-used modality.
Abnormal coronary artery calcium (Agatston) score from testing performed in prior 90 days	• Stress ECG • Stress echocardiography • Stress radionuclide myocardial perfusion imaging (PET or SPECT) • Stress cardiac MRI • Coronary CT angiography	Abnormal coronary artery calcium may include a score of ≥ 400 in asymptomatic patients or > 100 in patients with stable symptoms.
Low global CAD risk or last test performed >90 days and <2 years ago	• NO IMAGING RECOMMENDED	Patients with stable CAD should receive periodic follow-up, at least annually, to include: assessment of symptoms and clinical function; surveillance for complications; monitoring of cardiac risk factors; and assessment of the adequacy of and adherence to recommended lifestyle changes and medical therapy.
Intermediate-to-high global CAD risk and last test performed > 2 years ago	• Stress ECG • Stress echocardiography • Stress radionuclide myocardial perfusion imaging (PET or SPECT) • Stress cardiac MRI	Abnormal coronary artery calcium may include a score of > 400 in asymptomatic patients or > 100 in patients with stable symptoms.

Follow-up/sequential testing for CAD: no previous revascularization, new or worsening symptoms

Follow-up testing in patients with new or worsening symptoms	• Stress radionuclide myocardial perfusion imaging (PET or SPECT) • Stress echocardiography • Stress cardiac MRI • Invasive coronary angiography • Coronary CT angiography • Stress ECG

Follow-up/sequential testing for CAD: history of previous revascularization (PCI or CABG)

Symptomatic patient	• Stress radionuclide myocardial perfusion imaging (PET or SPECT) • Stress echocardiography • Stress cardiac MRI • Coronary CT angiography • Invasive coronary angiography • Stress ECG	After revascularization, patients should be monitored vigilantly, because they are at greater risk for complications.
Asymptomatic patient with incomplete previous revascularization: additional revascularization feasible	• Stress radionuclide myocardial perfusion imaging (PET or SPECT) • Stress echocardiography • Stress cardiac MRI • Stress ECG	To assess a patient's risk > 1 year after revascularization, an annual evaluation by a cardiovascular practitioner is warranted, even if the patient is asymptomatic.
Asymptomatic patient with prior left main coronary stent (at 2-year intervals)	• Stress radionuclide myocardial perfusion imaging (PET or SPECT) • Stress echocardiography • Stress cardiac MRI • Stress ECG • Coronary CT angiography • Invasive coronary angiography	Coronary CT angiography should not be performed for assessment of native coronary arteries with coronary stents < 3 mm.
Asymptomatic patient with 5-year interval after CABG or 2-year interval after PCI	• Stress radionuclide myocardial perfusion imaging (PET or SPECT) • Stress echocardiography • Stress cardiac MRI • Stress ECG	Advanced imaging is generally not appropriate for asymptomatic patients if performed more frequently than at a) 5-year intervals after CABG or b) 2-year intervals after PCI.

BODY: LUNG CANCER (SUSPECTED OR DIAGNOSED)

Evaluation of a pulmonary nodule or mass incidentally discovered on previous imaging: solid nodule(s), low risk (< 5% malignancy) based on standard risk assessment criteria

Single or multiple solid nodules < 6 mm	• NO ROUTINE IMAGING RECOMMENDED	Standard risk assessment criteria should be used.
Single solid nodule 6-8 mm	• Follow-up low-dose CT chest w/o IV contrast (at 6-12 months) • Follow-up low-dose CT chest w/o IV contrast (at 18-24 months)	Shorter- or longer-term follow-up may be clinically appropriate in individual subjects.
Multiple solid nodules 6-8 mm	• Follow-up low-dose CT chest w/o IV contrast (at 3-12 months) • Follow-up low-dose CT chest w/o IV contrast (at 18-24 months)	
Single solid nodule > 8 mm	• Follow-up low-dose CT chest w/o IV contrast (at 3 months) • FDG-PET/CT	

Evaluation of a pulmonary nodule or mass incidentally discovered on previous imaging: solid nodule(s), high risk (≥ 5% malignancy) based on standard risk assessment criteria

Single or multiple solid nodules <6 mm	• Follow-up low-dose CT chest w/o IV contrast (at ~12 months)	
Single solid nodule 6-8 mm	• Follow-up low-dose CT chest w/o IV contrast (at 6-12 months) • Follow-up low-dose CT chest w/o IV contrast (at 18-24 months)	
Multiple solid nodules 6-8 mm	• Follow-up low-dose CT chest w/o IV contrast (at 3-12 months) • Follow-up low-dose CT chest w/o IV contrast (at 18-24 months)	Shorter- or longer-term follow-up may be clinically appropriate in individual subjects.
Single solid nodule > 8 mm	• Follow-up low-dose CT chest w/o IV contrast (at 3 months) • FDG-PET/CT • Follow-up low-dose CT chest w/o IV contrast (at 12-24 months) • CT chest w/ IV contrast or CT chest w/o IV contrast	

BODY: LUNG CANCER (SUSPECTED OR DIAGNOSED)

Evaluation of a pulmonary nodule or mass incidentally discovered on previous imaging: subsolid nodule(s), low-risk or high-risk based on standard risk assessment criteria

Single ground glass or part-solid nodule 6 mm	• NO ROUTINE IMAGING RECOMMENDED	Select higher risk patients may have optional follow-up.
Single ground glass nodule > 6 mm	• Follow-up low-dose CT chest w/o IV contrast (at 6-12 months) • Follow-up low-dose CT chest w/o IV contrast (at ~5 years and ~5 years)	Shorter- or longer-term follow-up may be clinically appropriate in individual subjects.
Single part-solid nodule 6 mm, solid component < 6 mm	• Follow-up low-dose CT chest w/o IV contrast (at 3-6 months) • Follow-up low-dose CT chest w/o IV contrast (annually for at least 5 years)	
Multiple part-solid nodules, solid component < 6 mm	• Follow-up low-dose CT chest w/o IV contrast (at 3-6 months) • Follow-up low-dose CT chest w/o IV contrast (at ~2 years and ~4 years)	
Multiple part-solid nodules, solid component < 6 mm	• Follow-up low-dose CT chest w/o IV contrast (at 3-6 months) • Follow-up low-dose CT chest w/o IV contrast (annually for at least 5 years) • FDG-PET/CT • CT chest w/ IV contrast or CT chest w/o IV contrast	

Screening of asymptomatic active smoke or former smoker that has quit within the past 15 years

Screening of patient age > 50 years and 77 years, AND with either a 20 pack-year smoking history or established occupational-related lung disease	• Low-dose CT chest w/o IV contrast (every 12 months)	
Screening of patient with any of the following: age < 50 years, age > 77 years, < 20 pack-year smoking history, quit date > 15 years ago, health problem limiting life expectancy, unwilling to have curative lung surgery	• NO SCREENING CT RECOMMENDED	

BODY: LUNG CANCER (SUSPECTED OR DIAGNOSED)

Surveillance in an asymptomatic active smoker or former smoker that has quit within the past 15 years

Surveillance of "definitely benign" or "benign-appearing" (< 1% risk of malignancy) nodule(s) detected on initial screening	• NO SCREENING CT RECOMMENDED	Includes any of the following: nodule(s) with specific calcifications (complete, central, popcorn, etc), solid nodule(s) <6 mm at baseline, new solid nodule(s) <4 mm, part-solid nodule(s) <6 mm at baseline, new non solid (ground glass) nodule(s) 30 mm, non solid (ground glass) nodule(s) > 30 mm that are unchanged.
Surveillance of "probably benign" (1-2% risk of malignancy) nodule(s) detected on initial screening	• Follow-up low-dose CT chest w/o IV contrast (at 6 months, then continue with annual screening if no change)	Includes any of the following: solid nodule(s) 6 to < 8 mm at baseline, new solid nodule(s) 4 mm to 6 mm, part-solid nodule(s) 6 mm with solid component <6 mm, new part solid nodule(s) < 6 mm total diameter, non solid (ground glass) nodule(s) ≥30 mm, new non solid (ground glass) nodule(s) of any size.
Surveillance of "suspicious" (5-15% risk of malignancy) nodule(s) detected on initial screening	• Follow-up low-dose CT chest w/o IV contrast (at 6 months, then continue with annual screening if no change) • PET/CT (when solid component 8 mm)	
Surveillance of "very suspicious" (> 15% risk of malignancy) nodule(s) detected on initial screening	• CT chest w/ IV contrast or CT chest w/o IV contrast • PET/CT (when solid component 8 mm) • Follow-up low-dose CT chest w/o IV contrast (at 1 month to rule out infection or inflammation)	

Evaluation of suspected lung cancer

Evaluation of a patient presenting with signs or symptoms suggestive of lung cancer	• • PET/CT • CT chest w/o IV contrast	

BODY: LUNG CANCER (SUSPECTED OR DIAGNOSED)

Staging, management, and surveillance of non-small cell lung cancer (NSCLC)		
Staging and management/restaging of NSCLC	• CT chest (including adrenals) w/ IV contrast • PET/CT • CT chest w/o IV contrast • MRI brain w/o & w/ IV contrast or MRI brain w/o IV contrast • CT head w/o & w/ IV contrast or CT head w/ IV contrast • CT abdomen and pelvis w/ IV contrast or CT abdomen and pelvis w/o IV contrast • MRI chest w/o & w/ IV contrast or MRI chest w/o IV contrast • MRI abdomen w/o & w/ IV contrast or MRI abdomen w/o IV contrast • Whole body bone scan	Site specific symptoms warrant directed evaluation of that site with the most appropriate study. Chest CT is the modality of choice for evaluating the size and location of the primary tumor. FDG-PET/CT is usually appropriate to evaluate for extrathoracic metastases. It can help evaluate the extent of disease and potentially avoid inappropriate surgery. Brain imaging (preferably MRI) is recommended in all NSCLC patients exhibiting neurologic symptoms, regardless of stage, and also in any patients with stage II, III, and IV disease if aggressive combined-modality therapy is being considered.
Surveillance of NSCLC (in patients without symptoms)	• CT chest (including adrenals) w/ IV contrast • Low dose CT chest w/o IV contrast (annually) • CT chest (including adrenals) w/o IV contrast • CT abdomen and pelvis w/ IV contrast or CT abdomen and pelvis w/o IV contrast	Timing of follow-up/surveillance CT scans should be based on clinical decision making. FDG-PET/CT and/or brain imaging are not typically recommended for surveillance of patients without symptoms.

BODY: LUNG CANCER (SUSPECTED OR DIAGNOSED)

Staging, management, and surveillance of small cell lung cancer (SCLC)

Staging and management/restaging of SCLC	• CT chest (including adrenals) w/ IV contrast • CT abdomen and pelvis w/ IV contrast • FDG-PET/CT • MRI brain w/o & w/ IV contrast or MRI brain w/o IV contrast • CT chest w/o IV contrast • CT abdomen and pelvis w/o IV contrast • MRI chest w/o & w/ IV contrast or MRI chest w/o IV contrast • MRI abdomen w/o & w/ IV contrast or MRI abdomen w/o IV contrast • CT head w/o & w/ IV contrast or CT head w/ IV contrast • Whole body bone scan	Site specific symptoms warrant directed evaluation of that site with the most appropriate study. CT chest w/ IV contrast is indicated for the initial evaluation of SCLC. If a concurrent CT of the abdomen and pelvis is not obtained, the exam should be extended through the adrenal glands. FDG-PET/CT is useful to identify metastatic disease (other than brain metastases) in SCLC patients. Initial evaluation of SCLC should include brain imaging (preferably with MRI).
Surveillance of SCLC (in patients without symptoms)	• CT chest (including adrenals) w/ IV contrast • CT abdomen and pelvis w/ IV contrast • MRI brain w/o & w/ IV contrast or MRI brain w/o IV contrast • Follow-up low-dose CT chest w/o IV contrast (annually, after two years of surveillance with no evidence of recurrent disease) • CT chest (including adrenals) w/o IV contrast • CT abdomen and pelvis w/o IV contrast • CT head w/o & w/ IV contrast or CT head w/ IV contrast	Surveillance of SCLC should consist of surveillance CT (chest with or without abdomen/pelvis) every 2-6 months, more frequently in years 1-2 and less frequently thereafter. Surveillance of SCLC should also consist of MRI brain (preferred) or CT head with contrast every 3-4 months during year 1, then every 6 months during year 2. For curatively treated stage I-III SCLC, clinicians should not use FDG-PET as a surveillance tool.