

Modality of Choice: Quick Reference

MRI & CT Imaging

● = Preferred

○ = Optional

	MRI	CT		MRI	CT
▼ HEAD			▼ SPINE (Continued)		
Acoustic neuroma	●		Acute Traumatic Fractures		●
Acute head injury		●	Myelopathy	●	
Acute hemorrhage, aneurysm, AVM		●	Multiple sclerosis of the spinal cord	●	
Arachnoid cyst		●	Post-traumatic cord changes	●	
Air		●	Spinal cord tumors	●	
Arteriovenous malformation	●		Syrinx	●	
Atrophy	●	○	▼ BODY		
Binswanger's disease	●		Abnormalities of the neck	●	
Brainstem neoplasm	●		Adenomyosis	●	
Brain tumor	●		Adrenal pathology	●	●
Calcified lesion		●	Aortic aneurysm	○	●
Congenital anomalies	●		Aortic dissection	●	●
Erosion of skull base or fracture		●	Cavernous hemangioma of liver	●	○
Etiology of hydrocephalus	●		Congenital heart disease	●	
Facial trauma		●	Liver metastasis	○	●
Foramen magnum lesions	●		Mediastinal tumors	○	●
Granulomatous disease	●	○	Morphologic heart disease	●	
Headaches/screening	●		Pancreatic tumors	●	●
Infiltrating astrocytomas	●		Pancreatitis		●
Inflammation/infection	●	●	Pulmonary parenchymal tumor		●
Intracranial lipoma	●	○	Renal neoplasm		●
Meningeal disease	●		Retroperitoneal adenopathy	○	●
Metastatic disease	●		Uterine or ovarian mass	●	
Middle ear infection		●	Vena cava bland or tumor thrombus	●	
Multiple sclerosis	●		Tumor staging: bladder / prostate / Vagina / cervix / uterus	●	○
Multi-infarct dementia	●		▼ MUSCULOSKELETAL		
Olivopontocerebellar degeneration	●		Acute bony injury – especially pelvic and spine fractures – with positive x-ray		●
Orbital disease	●		Aseptic avascular necrosis of any bone	●	
Pituitary adenoma (micro or macro)	●		Bone marrow disorders	●	
Posterior-fossa pathology	●		Bone – neoplasm staging / metastatic disease / osteomyelitis	●	
Post-traumatic changes	●		Knee – meniscal / cartilaginous or ligamentous injuries / Baker's cyst	●	
Radiation damage	●		Osteomyelitis	●	
Seizures	●		Shoulder – rotator cuff tears / joint effusion / other pathology	●	
Spinocerebellar degeneration	●		Soft tissue tumors or infections	●	
Subacute /chronic hematoma	●		Soft tissue trauma and bone trauma with normal x-ray	●	
Subacute stroke	●		Soft tissue infection with air/gas		●
Teratoma	●		Temporomandibular joint disease	●	
Vasogenic edema	●				
▼ SPINE					
Disc pathology (degenerative, inflammatory, disc herniation, post-operative)	●				
Metastatic disease	●				
Compression and Pathologic Fractures	●				

Modality of Choice: Quick Reference

Angiography: MRA & CTA

● = Preferred

○ = Optional

	MRA	CTA		MRA	CTA		MRA	CTA
▼ RENAL			▼ HEAD & NECK			▼ LIMITATIONS		
Evaluation of renal artery stenosis	○	●	Aneurysms	●	○	Pacemaker		●
Kidney transplant evaluation	●		Familial history/screening	●	○	Implanted neurostimulator		●
▼ HEART			Arterio-venous malformation	●	○	Metallic ear implant		●
Evaluation of coronary calcium		●	Atherosclerosis	●	○	Metallic object in eye socket		●
Proximal artery evaluation		●	Tumor angiogenesis	●		Chemotherapy or insulin delivery port		●
▼ CHEST			Vascular occlusions	●		Bullet fragments		●
Pulmonary embolism		●	Thrombosis (venous)	●	○	Small vessels	●	
Aneurysms	●	●	▼ EXTREMITIES			Heavily calcified vessels	●	
Aortic dissection	●	●	Atherosclerotic disease	○	●	Rapid vessel movement	●	
▼ ABDOMEN			Identify viable run-off vessel for bypass	●	●	Contrast allergies	●	
Aneurysms	●	●	Vessel runoff foot	●	○			
			Evaluate deep-vein thrombosis	●				

MRI Contrast

▼ MAIN INDICATIONS

- Tumors, such as meningioma, neuroma, intradural lesions
- Infection
- Post-laminectomy, to distinguish scar from disc in lumbar spine
- History of cancer, to rule out metastatic disease or recurrent tumors

▼ BRAIN

With Gad

History of cancer
Cranial nerve
IACs
Pulsatile tinnitus
Multiple sclerosis
Meningitis
Encephalitis
Trigeminal neuralgia
Pituitary
Orbits/Graves Disease
Questionable tumor

Without Gad

Headaches
Stroke
Seizures (new onset)
Weakness
Trauma

▼ C-SPINE

Discitis/infection

Disc/HNP

▼ T-SPINE

With Gad

History of cancer
Metastatic to spine
Multiple sclerosis

Without Gad

Radiculopathy
Trauma

▼ L-SPINE

Discitis/infection
History of cancer
Metastatic to spine
Multiple sclerosis
Previous surgery to lower spine

Disc/HNP
Radiculopathy
Trauma

▼ ALL EXTREMITIES

- Mass/tumor
- Metastatic disease

▼ PELVIS*

- Ovarian mass lesions
- Endometrial cancer
- Uterine masses
- Bladder masses
- Prostate Cancer

* Contrast not needed for pelvic pain

▼ ABDOMEN†

- Kidney mass/lesions
- Hepatic mass characterization or possible tumor
- Pancreatic mass
- Splenic mass
- Some adrenal masses

† Most abdominal indications

3D Reconstruction

▼ MR

- Breast MR for mass or neoplasm
- Liver lesion (rule out metastases)
- Pancreatic cancer (exclude and/or stage treatment)
- Spine radiculopathy (unilateral pain) or post-op spine
- Spine myelopathy
- Vascular thoracic or abdominal aneurysm
- IAC- 7th, 8th nerves (tinnitus or hearing loss)

▼ CT

- Spine for fusion – post-op
- Spine for bridging vs. pseudoarthrosis
- Any extremity joint for comminuted fracture
- Any joint for complex arthritis with possible loose bodies
- Any joint for coalition or anomaly
- Any cervical radiculopathy for spurs
- Thoracic aortic aneurysm
- Abdominal aortic aneurysm
- Liver metastases (localization/staging treatment)
- Lung nodules (for lobe localization)

If you have questions or
would like to schedule a patient today, call
(605) 721-4800

