Oaklawn CHOOSING CT or MRI

This page is intended to assist the ordering physician in choosing the appropriate exam when CT and MRI are both being considered.

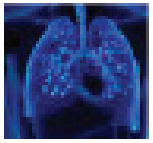
NEUROLOGICAL IMAGING			
Area Of Concern	**Body Part**	**CT**	**MRI**
Head 	Brain	CT head without contrast for: • Dementia • Hemorrhage • Stroke / TIA • Syncope • Trauma • Memory Loss • Headache • Seizure • Vertigo • Vision Change CT head with and without contrast for: • Chronic Hemorrhage • Infection • Tumors/Mass	MRI brain with and without contrast for evaluation of: • Infection • Inflammation • HX of Cancer (excluding skin cancer) • MS • Neoplasm • Tumor/Mets/Cancer MRI Brain without contrast for evaluation of: • Acute Stroke • Alzheimer's Disease - Mental Status Change • Dementia • Patients with Contraindications for Contrast or Renal Failure • Seizures • TIA

NEUROLOGICAL IMAGING			
Area Of Concern	**Body Part**	**CT**	**MRI**
Head (cont'd) 	Brain -Arterial	CTA Head with and without contrast • Aneurysm • Stroke • Vascular Injury • Intercranial Stenosis • Occlusion • Vascular Malformation of Head and Neck	MRA head without contrast for: • Aneurysm • Stroke/CVA/TIA
	Brain -Venous	Not Available	MRV head with contrast for: • Venous Thrombosis
	Paranasal Sinuses	CT sinuses without contrast for initial sinus evaluation: • Polyp • Deviated Septum • Post Nasal Drip • Sinusitis • Allergies	Not Recommended

NEUROLOGICAL IMAGING			
Area Of Concern	**Body Part**	**CT**	**MRI**
Head (cont'd) 	Face	CT facial bones without contrast for initial evaluation of all pathologies including trauma: • Dental Pain • Mass/Tumor • Post Op • Trauma • Swelling	Consider MRI soft tissue face with and without contrast if recommended after initial CT.
	Orbits	CT orbits without contrast for trauma evaluation or with contrast if MRI is contraindicated: • Abscess • Infection • Trauma / Fx • Tumor/Mass • Cellullitis	MRI orbits with and without contrast: • Infection • Inflammation • Neoplasm
	Pituitary	Not Recommended	MRI brain with and without contrast: • Pituitary/sellar suprasellar and cavernous sinus pathology.

NEUROLOGICAL IMAGING			
Area Of Concern	**Body Part**	**CT**	**MRI**
Head (cont'd) 	Temporal Bone/ IAC (Internal Auditory Canal)/ Mastoids	CT IAC without contrast for evaluation of the ossicles and other bony structures. Initial evaluation for all congenital, infectious, inflammatory and neoplastic processes: • Injury / FX • Hearing loss • Mastoiditis • Tinnitus Tumor • Post-Op	MRI IAC with and without contrast: • Hearing Loss • Tinnitus
Neck 	Neck Vessels, Carotids Arteries	CTA head/neck with and without contrast if there is a contraindication to MRI or for additional evaluation subsequent to initial MRA: • Aneurysm • Carotid • Stenosis • Stroke • Vascular Injury • Intercranial Stenosis • Occlusion • Vascular Malformation of Head and Neck	MRA neck with and without contrast for evaluation of the neck vessels.

NEUROLOGICAL IMAGING			
Area Of Concern	**Body Part**	**CT**	**MRI**
Neck 	Soft Tissue Neck	CT soft tissue neck with contrast for evaluation of all neck pathology: • Mass • Infection/Abscess • Dysplasia • Hoarseness	MRI soft tissue neck with and without contrast if recommended after initial CT.

BODY IMAGING			
Area Of Concern	**Body Part**	**CT**	**MRI**
Chest 	Lungs	CT chest with contrast for initial evaluation of lung disease, and for follow-up of a known malignancy: • Hx of CA • Hemoptysis • Mediastinal / Hilar Mass • Lymphadenopathy CT PE protocol when looking for PE. High resolution chest CT – only for interstitial lung disease. CT chest without contrast to follow-up pulmonary nodules and lung cancer screening for high-risk patients: • Cough • Nodule • Pneumonia • SOB	Not Recommended
	Coronary Artery	Not Available At Oaklawn	Not Available At Oaklawn
	Aorta	CT Angio Chest	Not Available At Oaklawn

BODY IMAGING			
Area Of Concern	**Body Part**	**CT**	**MRI**
Spine 	Spine (Cervical, Thoracic, Lumbar)	CT spine Cervical/Thoracic/Lumbar without contrast for initial spine trauma. • FX • Non-Vascular Neck Pain • Post Op • Radiculopathy • Stenosis • Trauma For all other indications, consider MRI.	MRI spine Cervical/Thoracic/Lumbar with and without contrast for evaluation of: • Discitus • Infection • MS • Myelopathy • Neoplasm of bone • Post operative spine (for lumbar spine only) • Tumor and vascular lesions MRI spine without contrast for: • Initial evaluation of neck and back pain • Radiculopathy • After initial CT for disc herniation or compression • Arm pain/weakness • Trauma • Fx If MRI is contraindicated then a CT with contrast should be performed.
	Brachial Plexus	CT not indicated	MRI brachial plexus for any suspicious brachial plexus pathology with and without contrast for: • Suspected infection • Neoplasm

BODY IMAGING			
Area Of Concern	**Body Part**	**CT**	**MRI**
Abdomen & Pelvis 	Abdomen/Pelvis	For generalized screening of abdominal pain, order CT abdomen/pelvis with IV and oral contrast. For more specific concerns, see organs below: • CA HX • Constipation / Diarrhea • Weight Loss • Nausea / Vomiting • Distention / Bloating • Post Op • Diverticulitis • Generalized Pain • Kidney Stone / Flank Pain • Hernia • Bowel Obstruction / Perforation / Abscess	MRI abdomen with and without contrast: • Mass MRI pelvis without: • Pain • Fx • Trauma MRI pelvis with and without: • Mass • Lesion MRV pelvis with and without: • Venous compression • Pelvic congestion
	Liver/Biliary	CT Abdomen with and without. Triple phase liver protocol with contrast for workup of the liver for suspected mass, lesion or other abnormality. Consider MRI first.	If there is a known liver lesion or biliary system lesion, it is best to order an MRI liver/pancreas. If MRI is contraindicated, order CT dual phase liver protocol with contrast. MRCP without contrast for stone or duct dilation.
	Abdomen Arterial/ Aorta	CT Angio Abdomen or CT Angio Abdomen / Pelvis with contrast	MRA Abdomen without contrast

BODY IMAGING			
Area Of Concern	**Body Part**	**CT**	**MRI**
Abdomen & Pelvis (cont'd) 	Pancreas	For initial workup of the pancreas *(mass or worsening pancreatitis)*, order a CT Abdomen with and without.	MRI Abdomen with and without contrast: • Attention: Pancreas
	Spleen	If there is no know abnormality but there is a concern and a general screen is needed, order a CT Abdomen with contrast	If there is a known splenic lesion, it is best to order an MRI Abdomen with and without contrast.
	Kidneys	CT Abdomen pelvis with renal stone protocol if there is concern for renal stone. CT renal mass protocol (CT abdomen with and without contrast) for characterization of a known renal mass. For full evaluation of the collecting system, ureters and bladder in case of hematuria, order a CT Urogram. (adult only)	MRI Abdomen with and without contrast: • For young patients or if there is a known renal lesion for which characterization is required. • Attention: Kidneys
	Adrenal Glands	In certain cases, CT adrenal may be better than MRI – consult radiology. CT adrenal nodule with and without contrast.	MRI Abdomen with and without: • Adrenal protocol for evaluation of known adrenal gland pathology. • Attention: Adrenals If MRI is contraindicated, a CT adrenal protocol is recommended.

BODY IMAGING			
Area Of Concern	**Body Part**	**CT**	**MRI**
Abdomen & Pelvis (cont'd) 	Bowel	Not Available At Oaklawn	Not Available At Oaklawn
	Uterus/Ovaries	CT scan of abdomen and pelvis is better for staging of a known ovarian or uterus cancer.	If US of pelvis with transvaginal finds suspicious lesions, MRI of the pelvis with and without contrast for evaluation of the uterus and ovaries.
	Bladder	CTUrogram for evaluation of the bladder pathology (adult only)	MRI pelvis with and without: • Attention: Bladder

MUSCULOSKELETAL IMAGING			
Area Of Concern	**Body Part**	**CT**	**MRI**
Musculo-skeletal 	Musculoskeletal - Upper Extremity Pelvis & Lower Extremity, ordered by specific joint or non joint. Ex. knee, hip, shoulder	CT is utilized under certain circumstances in evaluation of the bony structures and is usually requested specifically by the orthopedic surgeon. For most musculoskeletal issues, MRI is the imaging procedure of choice. Arthrogram when patient is not able to have a MRI because of pacemaker. CT without contrast for: • Arthritis • FX • Non-Union • Injury • Swelling CT with contrast for: • Infection • Mass / Cancer / Mets	MRI is the most accurate examination available for joints and the surrounding tendons, ligaments and cartilage. It is especially helpful for any sports-related injuries. MRI is also helpful for persistent unexplained joint pain in the elderly as it is very sensitive in the detection of palpable mass or abscess occult fracture in patients with osteopenia or osteoporosis. MRI with contrast for: • Rotator Cuff Tear • Labral Tear • Slap Tear • Tendon Tear MRI without contrast for: • Arthritis • Impingement • Pain • Trauma • Fx • Muscle tear / strain • Osteomylitis MRI with and without contrast for: • Mass • Tumor