

# CT Scan/MRI Ordering Reference Guide

The Computed Tomography (CT) Scan and Magnetic Resonance Imaging (MRI) Ordering Reference Guide is to provide guidance in ordering CT Scan and/or MRI scan. In many cases, the first line imaging maybe more appropriately an x-Ray (\*) and/or an ultrasound (±).

*This reference guide intend is when the provider has pre-determined to order an CT Scan and/or MRI.*

To Schedule an appointment call Preplanned Services: 614-546-4773(phone) and 614-546-4826 (fax)

CT Scan/MRI		
BODY PART	SIGNS/SYMPTOMS	EXAM TO ORDER
BRAIN	Trauma, Cerebral Vascular Accident (CVA), Bleeding, Headache, Shunt Check, Alzheimer's, Memory Loss, Transient Ischemic Attack (TIA), Mental Status Change, Confusion, Seizure	CT Head without Contrast then <i>after a CT Head without contrast was performed</i> consider: MRI Brain Without Contrast for more severe symptoms or persistent symptoms
	Hearing Loss, Tumor, Elevated Prolactin Levels, Cranial Nerve Lesions, Dizziness, Vertigo, Multiple Sclerosis (MS), Arteriovenous Malformation (AVM), Pituitary Lesions, Seizures, Infection	MRI Brain without and with Contrast
	Stroke, CVA, TIA	CT Head without Contrast then consider: MRI Brain without Contrast
SINUSES	Pain, Congestions, Sinusitis	CT Sinus without Contrast
ORBITS	Infection, Mass	CT Orbits with Intravenous (IV) Contrast
	Trauma, Fracture, Foreign Body	CT Orbits without Contrast
	Grave's Disease, Exophthalmus, Proptosis, Pseudo tumor, Vascular Lesions	MRI Orbits without and with Contrast
FACIAL BONES	Trauma, Pain	CT Facial Bones without Contrast
TEMPORAL BONES	Tinnitus, Cholesteatoma, Pain, Trauma	CT Temporal Bones without Contrast
NECK	Mass, Adenopathy	CT Neck with IV Contrast
	Infection, Pain, Vocal Cord Paralysis	MRI Neck without and with Contrast for problem solving or CT Contrast Allergy
	Neural Tumor, Brachial Plexus Pathology	MRI Chest without Contrast
CHEST	Hilar or Mediastinal Mass, Lung Cancer, Lymphoma, Sarcoid, Staging, Mesothelioma, Metastatic Work-Up	CT Chest with Contrast
	Nodule, Cough, Pain	* CT Chest without Contrast
	Interstitial Lung Disease, Idiopathic Pulmonary Fibrosis (IPF), Usual Interstitial Pneumonia (UIP)	* CT Chest, High Resolution, No Contrast.
	Neural Tumor, Brachial Plexus Pathology	MRI Chest without Contrast
ABDOMEN and PELVIS	Pain, Colitis, Inflammatory Bowel Disease (IBD), Crohns, Appendicitis, Abscess, Tumor, Cancer	CT Abdomen and Pelvis with Oral and IV Contrast
	Hematuria with Pain, Stone Survey	CT Abdomen and Pelvis without Oral and IV Contrast
	Post Liver Embolization, Hemangioma, Hepatoma, Hepatitis, Cirrhosis, Pancreatitis, Pseudocyst	CT or MRI Abdomen without and with Contrast
	Biliary Obstruction, GB Stones, Jaundice, Abnormal Enzymes, Adrenal Mass	± MRI Abdomen with Contrast (MRCP)
	IBD, Occult Gastrointestinal (GI) Bleeding, Diffuse Small Bowel Disease (SBD) (Gluten enteropathy)	CT Enterography usually after routine CT is inconclusive
	Fibroid, Pre-Post Fibroid Embolization, Ovarian Mass, Endometrioma	± MRI Pelvis without and with Contrast

*Note: First line imaging maybe more appropriately an x-Ray (\*) and/or an ultrasound (±).*

CT Scan/MRI		
BODY PART	SIGNS/SYMPTOMS	EXAM TO ORDER
<b>CERVICAL, THORACIC and LUMBAR SPINE</b>	Pain, Trauma, Fracture, Fusion	* CT without Contrast of Specific Area
	Radiculopathy, Disc Herniation, Degenerative Disease	MRI without Contrast of Specific Area
	Syrinx, Post-op Fusion, MS, Tumor, Cancer, Metastatic, Osteomyelitis, Myelopathy, Discitis, Compression Fracture with history of Malignancy, Epidural Abscess	MRI without and with Contrast of Specific Area
<b>UPPER and LOWER EXTREMITIES - NON-JOINTS</b>	Fracture, Fusion, Malunion	* CT without Contrast of Body Part
	Pain, Muscle/Tendon Tear	MRI without Contrast
	Abscess, Cellulitis, Fasciitis, Osteomyelitis, Morton's Neuroma, Soft Tissue Tumor	MRI without and with Contrast of Body Part
<b>UPPER and LOWER EXTERMITIES - JOINTS</b>	Avascular Necrosis (AVN), Internal Derangement, Labral, Meniscal, Ligament and Cartilage Tears, Osteochondritis Dissecans (OCD)	* MRI without Contrast of Body Part
	Abscess, Cellulitis, Fasciitis, Osteomyelitis, Myositis, Tumor, Mass	MRI without and with Contrast of Body Part
<b>PELVIS (BONY)</b>	Pain, Fracture	* CT Pelvis without Contrast
	Muscle/Tendon Tear, Avascular Necrosis (AVN)	* MRI Pelvis without Contrast
	Tumor, Mass, Osteomyelitis, Septic Arthritis	MRI Pelvis without and with Contrast

CT/MR ANGIO		
BODY PART	SIGNS/SYMPTOMS	EXAM TO ORDER
<b>ABDOMEN AORTA</b>	Aneurysm, Dissection, Post Stent Grafting, Renal Artery Stenosis, Mesenteric Stenosis	CTA Abdomen with IV Contrast
<b>PULMONARY ARTERIES</b>	Pulmonary Embolism	CTA Chest Pulmonary Angiogram
<b>THORACIC AORTA</b>	Thoracic Dissection	CTA Chest with IV Contrast
<b>CARDIAC</b>	Screening Cardiac Calcium Scoring	CT Screening Cardiac Calcium Scoring
<b>LOWER EXTREMITIES</b>	Peripheral Artery Disease	CTA Abdomen and Pelvis with Runoff with Contrast
<b>CAROTID</b>	Stenosis, Bruit, TIA, CVA, Vascular Tumor	CT Neck with Contrast (Carotid Duplex may be first line study)
<b>BRAIN</b>	Cerebral Aneurysm	CTA Head with Contrast MRI Brain and MRA without Contrast

*Note: First line imaging maybe more appropriately an x-Ray (\*) and/or an ultrasound (±).*

*For additional reference for Radiology Appropriateness: <https://acseach.acr.org/list>*

## Additional Ordering Notes:

- CT Abdomen will only include from the top of the diaphragm to the top of the iliac crest. If the patient is experiencing any lower quadrant abdominal pain where appendicitis is suspected or there are concerns regarding the colon, small bowel and any pelvic organs pathology then CT of Pelvis must be ordered as well.
- Premedication is required for patients with a known contrast allergy, a history of severe allergic reaction and patients with asthma who use inhalers daily. Ordering physician will provide prescription for the premedication. Patient with asthma should bring rescue inhaler to the study.
- Contrast premedication protocol: Prescribe prednisone 50mg at 13, 7, and 1 hour prior to the exam and Benadryl 50mg 1 hour prior to exam.
- Pacemaker, ocular metallic foreign bodies, mechanical ear implants, non-removable TENS units, any wire loop devices are all examples of devices that are incompatible with MRI.
- Discontinue Metformin the day of study and for 48 hour after the study has been completed.
- **Renal function testing requirements for contrast enhanced studies:**
  - “Stat” order necessary for blood draw to evaluate renal function (GFR/Cr) the day before or day of contrast enhanced study.
  - If patient with history of treatment with Diabetes or Hypertension medications or for patient 60 years or older, renal function must be evaluated within 6 weeks of contrast enhanced study.
  - For outpatient contrast enhanced CT/MRI, Creatine Guideline:
    - If GFR (Glomerular Filtration Rate) > 45 no further action necessary, proceed with contrast
    - If GFR (Glomerular Filtration Rate) 30 – 45 requires authorization by radiologists
    - If GFR (Glomerular Filtration Rate) < 30, IV contrast will not be given
- **If you have any questions regarding MRI weight/height limits and which exam may be appropriate for your needs, please call one of our sites listed below and ask for the Radiologist.**

**Mount Carmel East: 614-234-6770**

300 lbs./60 cm wide - 2 MRIs  
500 lbs./70 cm wide - 1 MRI

**Mount Carmel St. Ann’s: 614-898-4020**

300 lbs./60 cm wide - 2 MRIs

**Mount Carmel West: 614-234-5748**

300 lbs./60 cm wide - 2 MRIs

**Mount Carmel Grove City: 614-234-5748**

500 lbs./70 cm wide - 1 MRI

**Mount Carmel Lewis Center: 614-898-4020**

**Diley Ridge Medical Center: 614-234-6770**

\*Actual capacity depends on patient’s actual weight and height distribution

- **To Schedule an appointment for CT Scan and/or MRI, physician order is required. The physician order must contain:**
  - Patient’s Name and Date of Birth
  - Patient’s insurance information, including name of insurance carrier, ID number and group number
  - Prior authorization number or if prior authorization not necessary a reference number
  - Type of CT Scan and/or MRI with diagnosis and diagnosis code

Contact Preplanned Services via phone 614-546-4773 then fax order to 614-546-4826 (fax)

OR

Fax order to 614-546-4826 and Preplanned Service will contact the patient to schedule the CT Scan and/or MRI.

**\*\*See back of page of listing of available Mount Carmel Imaging Centers.\*\***

# MOUNT CARMEL IMAGING SERVICES

		Bone Density	Cardiovascular Ultrasound	CT	Digital Mammography	Interventional Radiology	MRI	Nuclear Medicine	PET/CT	Stereotactic Breast Biopsy	Ultrasound	X-Ray
IMAGING CENTERS	1	Mount Carmel East Hospital 614-234-7400	X	X		X	X ✓	X ✓	X		X	X
	1	Mount Carmel East Imaging Center 614-234-7400		X			X				X	X
	2	Mount Carmel West 614-234-7400	X	X		X	X	X ✓	X		X	X
	3	Mount Carmel St. Ann's Hospital 614-234-7400	X	X		X	X	X ✓			X	X
	3	Mount Carmel St. Ann's Imaging Center 614-234-7400			X		X		X		X	X
	4	Mount Carmel New Albany 614-775-6350 and 614-234-7400	X	X	X		X				X	X
	5	Mount Carmel Grove City 614-234-7400			X			X ✓			X	X
	6	Diley Ridge Medical Center* 614-838-7994	X		X	X		X			X	X
	7	Lewis Center MC Fitness & Health 614-234-7400			X			X ✓			X	X
WOMEN'S HEALTH CENTERS	8	Mill Run 614-234-7400		X							X	X
	h	Mill Run Mount Carmel MRI Center 614-234-7400					X					
	10	Mount Carmel East 614-234-2900	X			X				X	X	
	11	Mount Carmel West 614-234-2900	X			X				X	X	
	12	Mount Carmel St. Ann's 614-234-2900	X			X				X	X ✓	
CARDIOVASCULAR IMAGING SERVICES	13	Mount Carmel Grove City 614-234-2900	X			X						
	14	Lewis Center MC Fitness & Health 614-234-2900	X			X						
	15	Diley Ridge Mount Carmel Heart & Vascular Specialists 614-920-3410		X					✓			
	16	Downtown Mount Carmel Columbus Cardiology Consultants 614-224-2281		X					✓			
	17	Dublin Mount Carmel Columbus Cardiology Consultants 614-224-2281		X								
	18	East Mount Carmel Columbus Cardiology Consultants 614-224-2281		X					✓			
	19	Grove City Mount Carmel Columbus Cardiology Consultants 614-224-2281		X					✓			
	20	Lewis Center MC Fitness & Health 614-459-7676		X								
21	Mount Carmel New Albany 614-234-7400		X									
22	Westerville Mount Carmel Clinical Cardiovascular Specialists 614-459-7676		X					✓				

✓ MRI Breast Imaging offered at this location.    ✓ Automated Breast Ultrasound offered at this location.    ✓ Nuclear Stress offered at this location.

## References

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*This reference guide outlines the recommendations of Mount Carmel Health Partners for this medical condition and is based upon the referenced best practices. It is not intended to serve as a substitute for professional medical judgment in the diagnosis and treatment of a particular patient. Decisions regarding care are subject to individual consideration and should be made by the patient and treating physician in concert.*