

# MRI VS. CT A QUICK REFERENCE FOR PHYSICIANS

## MRI GENERALLY USED

## MRI/CT EQUAL OR COMPLIMENTARY

## CT GENERALLY USED

### HEAD AND NECK

- Acoustic and other nerve neuromas\*
- Posterior fossa and brain stem pathology\*
- Dementia/Small vessel ischemic changes
- Demyelination Neurodegenerative disease\* (e.g., MS)
- Dural venous sinus thrombosis
- Inflammatory or infectious process
- Sella and pituitary\*
- Neck pathology
- Neoplasia - primary & metastatic\*
- Seizure evaluation\*
- Parathyroid adenomas
- Congenital anomalies of the brain
- Vascular malformations\*
- Parathyroid adenoma\*
- Orbits

- Hydrocephalus\*
- Cerebral infarction\*
- Headache - screening study\*
- Nasopharynx

- Acute hemorrhage
- Head trauma
- Subarachnoid hemorrhage (acute severe headache)
- Middle ear\*
- Calcifications (i.e., Neoplasm)
- Paranasal sinuses

### SPINE

- Congenital anomalies
- Radiculopathy cervical & thoracic spine myelopathy\*
- Neoplasia\*
- Syringomyelia
- Diseases of spinal cord (e.g., MS)\*
- Cranial-cervical junction
- Scar versus recurrent disk\*
- Diskitis/osteomyelitis\*

- Radiculopathy - lumbar spine
- Spinal stenosis
- Disk pathology

- Advanced spondylosis or osteophytosis
- Bony abnormalities
- Spinal trauma - bony

### THORAX

- Cardiac masses

- Aortic dissection\*
- Pericardial disease\* (Mediastinal masses)

- Lung pathology\*
- Pleural disease\*
- Hilar masses\*

### ABDOMEN

- Hemangiomas\*
- Venous thrombosis
- Hemochromatosis

- Liver metastases\*
- Renal tumor staging\*
- Sub-diaphragmatic pathology\*
- Aortic disease\*

- Liver pathology (except hemangioma)\*
- Spleen\*
- Pancreas\*
- Kidney\*
- Adenopathy\*
- Abscess\*
- Abdominal mass\*
- Acute trauma
- Adrenal disease\*

### PELVIS

- Uterine fibroid evaluation
- Endometrial carcinoma staging\*

- Cervical, endometrial, prostate, rectal & bladder carcinoma staging\*

- Adenopathy\*

### BONES, JOINTS AND SOFT TISSUE

- Acute bone injury
- Avascular necrosis
- Bone marrow disorders
- Shoulder-cuff tears & other pathology knee-cartilage, meniscus, ligaments, masses joint loose bodies
- Bone & soft tissue neoplasms\*
- TMJ
- Osteomyelitis
- Ankle
- Hips
- Elbow & wrist

\* Indicates exam which may require intravenous contrast  
(CT Scan patient over age 65 need current BUN and creatinine)



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### COMMON CONTRAINDICATIONS

- Cardiac pacemaker or defibrillator
- Implants neurostimulator (TENS unit)
- All cerebral aneurysm clips
- Insulin pump
- Metallic cardiac valve prosthese
- Procine cardiac valve prostheses
- Ball-valve type penile prostheses (Omni-Phase)
- Permanent hearing aid/cochlear implant  
3M/house and 3M/Vienna
- Undetachable Holter's monitor or defibrillator
- Mandatory respiratory dependency
- Embedded shrapnel fragments or metal foreign body in eye (e.g., known metal worker)
- Persistent tremor or movement disorder (relative contra indication)
- Inability to maintain supine or prone position (relative contra indication)
- Mandatory continuous IVAC intravenous catheter system
- Esophageal pH monitoring

### WARNINGS

- Implanted surgical clips or other ferromagnetic materials
- Fetuses or infants
- Ferromagnetic materials
- Decompensated cardiac patients and febrile patients
- Permanent eye-liner or make up
- Conductive or magnetically active fragments in or near the eye

### PRECAUTIONS OF PATIENTS

- At great risk of cardiac arrest
- Likely to develop seizures or claustrophobic reactions
- Unconscious, heavily sedated or confused

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