

## Indications for Advanced Imaging Modalities

Body Part	MRI Preferred	CT Preferred
Brain	<ul style="list-style-type: none"> <li>• Arteriovenous malformation and aneurysm</li> <li>• Congenital anomalies</li> <li>• Extra axial trauma with negative CT</li> <li>• Infarction</li> <li>• Inflammatory disease</li> <li>• Primary and metastatic neoplasia</li> <li>• Sella and pituitary disease</li> <li>• Vasculitis</li> <li>• Virtually all applications, in view of its superior soft tissue visualization and absence of beam hardening artifacts like those seen on CT</li> </ul>	<ul style="list-style-type: none"> <li>• Acute intracranial trauma</li> <li>• Craniocervical junction bony anomalies</li> <li>• Skull Fracture</li> <li>• Skull base tumors</li> </ul>
Orbits	<ul style="list-style-type: none"> <li>• Cortical blindness or optic pathway disease</li> <li>• Optic neuritis</li> <li>• Retrobulbar neoplasms or masses</li> <li>• Retinal hemorrhage or subretinal effusion</li> <li>• Sudden blindness</li> <li>• Vascular abnormalities</li> </ul>	<ul style="list-style-type: none"> <li>• Orbital trauma with fracture</li> </ul>
Head & Neck	<ul style="list-style-type: none"> <li>• Nasal Neoplasia</li> <li>• Neck masses or adenopathy</li> <li>• Otitis - middle and inner ear</li> <li>• Oropharynx and Nasopharynx</li> <li>• Salivary gland masses</li> <li>• Thyroid masses (in conjunction with thyroid scintigraphy)</li> </ul>	<ul style="list-style-type: none"> <li>• Bony head and neck trauma</li> <li>• Dental associated masses</li> <li>• Skull base neoplasia</li> </ul>
Spine	<ul style="list-style-type: none"> <li>• Congenital anomalies</li> <li>• Discospondylitis</li> <li>• Intervertebral disc disease</li> <li>• Myelitis</li> <li>• Primary or secondary or metastatic neoplasia of the spinal cord</li> <li>• Paraspinal/vertebral neoplasia</li> <li>• Post operative recurrence of intervertebral disc disease</li> <li>• Spinal Stenosis</li> <li>• Syringomyelia</li> </ul>	<ul style="list-style-type: none"> <li>• Bony spinal trauma (vertebral fracture)</li> </ul>

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Body Part	MRI Preferred	CT Preferred
Orthopedics	<ul style="list-style-type: none"> <li>• Avascular necrosis (i.e. Legg-Calve-Perthes disease)</li> <li>• Joint effusion</li> <li>• Lymphoma and Multiple Myeloma</li> <li>• Meniscal, tendon or ligamentous injury</li> <li>• Osteomyelitis and septic arthritis</li> <li>• Primary bone tumors (in conjunction with bone scintigraphy)</li> <li>• Soft Tissue Sarcomas</li> </ul>	<ul style="list-style-type: none"> <li>• Complex Fracture</li> <li>• Prosthesis planning</li> </ul>
Abdomen	<ul style="list-style-type: none"> <li>• Adrenal masses</li> <li>• Hepatic masses</li> <li>• Pancreatic masses</li> <li>• Renal masses (in conjunction with renal scintigraphy)</li> <li>• Splenic masses</li> </ul>	<ul style="list-style-type: none"> <li>• Ectopic ureter evaluation</li> <li>• Portosystemic shunt (following positive scintigraphic study)</li> <li>• Renal/ureteral calculus evaluation</li> </ul>
Thorax		<ul style="list-style-type: none"> <li>• Primary or metastatic lung carcinoma</li> <li>• Pleural disease</li> <li>• Pneumothorax</li> <li>• Pneumonia, abscess and empyema</li> <li>• Metastasis screening</li> </ul>
Pelvis	<ul style="list-style-type: none"> <li>• Anal gland adenocarcinoma</li> <li>• Bladder carcinoma</li> <li>• Soft tissue sarcoma</li> <li>• Primary bone tumor</li> <li>• Prostate carcinoma</li> <li>• Uterine neoplasia</li> </ul>	<ul style="list-style-type: none"> <li>• Trauma (complex fractures)</li> </ul>
Cardiovascular	<ul style="list-style-type: none"> <li>• Cardiac and pericardial masses</li> </ul>	
Vascular	<ul style="list-style-type: none"> <li>• Intracranial aneurysm, arteriovenous malformation</li> <li>• Evaluation of thrombosis including aortic, caval, and portal vein.</li> </ul>	<ul style="list-style-type: none"> <li>• Pulmonary embolism</li> </ul>