

Indications for Advanced Imaging Modalities

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

Diagnostic Imaging and Radionuclide Treatment Centers

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