

**WYOMING VALLEY HEALTH CARE SYSTEM**

*Radiology Department*

*Wilkes-Barre General Hospital*

<b>Should You Order a CT or MRI?</b>			
<b>DIAGNOSIS</b>	<b>STUDY OF CHOICE</b>	<b>IV CONTRAST NECESSARY</b>	<b>COMMENTS</b>
CVA	CT (<24 hours)	No	For symptoms < 6 hours, consider CTA or MRA of head & Neck
Acute Bleed	CT, MR	No	Include gradient echo sequence on MR
Subarachnoid Bleed	CT	No	
Brain Tumor, Metastases	MR, CT	Yes	CT better for tumor calcification
Seizure	MR	Yes	Contrast especially important for first seizure eval
CNS infection, abscess, meningitis	MR	Yes	
AIDS	MR	Yes	
Headache	MR	Yes	Contrast especially important for meningeal/dural disease, mass, meningioma
Dementia	MR, CT	No	MR is best to evaluate white matter change, patterns of atrophy
Neurodegenerative disorder, Parkinsons	MR	No	
Acute SDH	CT	No	
Later SDH	MR	No	
MS	MR	Yes	
Posterior Fossa, Brainstem Lesion	MR	Yes	MR far superior in this area due to streak artifact on CT
Pituitary tumor	MR	Yes	MR far superior in this area
Aneurysm	MRA, STA	No for MRA, Yes for CTA	MRA for screening CTA for detail
Venous sinus Thrombosis	MR, MRV	No	Can usually avoid conventional Venography
Senroineural hearing loss	MR	Yes	
Pulsatile tinnitus	MR, CT	Yes	MRA head & neck sometimes helpful
Herniated Lumbar Disc	MR, CT	Yes, if previous surgery	Contrast needed to distinguish scar from disc post op
Herniated Cervical or Thoracic Disc	MR	??	??
Stenosis	MR, CT	No	CT may be adequate if MR contraindicated
Discitis	MR	Yes	
Osteomyelitis	MR	Yes	
Boney Metastases	MR	No	
Epidural or Intraspinial Metastases	MR	Yes	
Compression Fracture, Vertebroplasty evaluation	MR	No	MR allows evaluation of bone marrow. Include STIR sequence

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Spinal Cord disease or tumor	MR	Yes	Demyelination, syrinx
Sinusitis	CT	No	Evaluate ostial obstruction, bone destruction
Neck mass	CT, MR	Yes	Adenopathy seen better on CT; Tongue and skull base best on MR
Conductive hearing loss	CT	No	Mastoid, middle ear, ossicles
Skull base	MR, CT	Yes	Boney detail better in CT
Squamous cell carcinoma	CT, MR	Yes	
Vocal cord Paralysis	CT, MR	Yes	
Orbit-proptosis	CT, MR	Yes	
Orbit, Graves disease	CT, MR	No	
Optic nerves	MR, CT	Yes	CT better for meningioma or calcification
Cranial Nerves	MR	Yes	
Cavernous Sinus	MR	Yes	
Facial trauma	CT	No	
Salivary Gland	CT	Yes	Without then with contrast
Pulmonary Embolus	CTA	Yes	
Nodule	CT	No	Nodules near the hilum may need IV contrast
Mass, Infiltrate	CT	Yes or No	Contrast helpful for hilar disease
Interstitial Lung Disease	CT	None	High Resolution CT
Abdominal Pain	CT	Yes or No	<b>Oral contrast</b> IV contrast needed for solid organ disease
Appendicitis	CT	Usually no	<b>Oral contrast</b> IV contrast may be helpful in very this patient
Diverticulitis	CT	Usually no	<b>Oral contrast</b> IV contrast may be helpful in very this patient
Hematuria, r/o stone	CT	No	If negative, may need followup with IV contrast
Renal Mass	CT, MR	Yes	Helpful for indeterminate renal lesions on US. Consider MR if CT indeterminate
Cancer Patient	CT	Yes	Oral & IV contrast. May also need CT chest with IV contrast
Adrenal Gland	CT	No	IV contrast may be needed if non-contrast exam is inconclusive
Female Pelvis	MR, CT	???	US best. MR better than CT with contrast <b>Oral contrast</b> for CT
Male Pelvis	CT or MR		<b>Oral contrast</b>