MR/CT Protocols for Common Diagnosis

**HEAD/BRAIN**
CT without contrast
- Acute onset headache
- Acute trauma
- Acute stroke (R/O bleed)
CT with contrast
- Tumor/Infection (If contraindication to MRI)
MRI without contrast
- Dizziness
- TIA/stroke evaluation (MRA also?)
- Subacute or old trauma
MRI with contrast
- Tumor/Infection
- Chronic headaches/known Multiple Sclerosis/prolonged Bell’s Palsy/CN deficits (Cranial Nerve Palsy)/Pulsatile Tinnitus/pituitary
MRA
- Cerebral aneurysm
- Carotid/vertebral stenosis
- Aorta and great vessels
MRV
- Dural venous sinus thrombosis

**NECK/FACE**
CT without contrast
- Paranasal sinus evaluation
- Trauma (R/O fracture)
- Palpable Mass/Abscess/ Lymphoma/Laryngeal CA
CT IAC (Temporal Bones) without contrast
- Inner ear path or basilar skull fracture.
CT Orbit Foreign Body
- Pre-MRI screening for metals
CT with contrast (Facial or Orbital)
- Trauma/Facial Infection/ Tumor
CT with contrast
- R/O mass/Tumor/Infection in neck or orbit
MRI Soft Tissue Neck with and without
- Mass/Fluid collection/Neck primary/Infection

**SPINE**
MRI without contrast
- Preferred for evaluation of disc and facet degeneration leading to pain and neurological symptoms
MRI Lumbar without contrast
  • Radiculopathy
MRI Lumbar with and without contrast
  • Previous lower back surgery/ Tumor/Infection
MRI Thoracic without contrast
  • Pain/Trauma
MRI Thoracic with and without contrast
  • Demyelinating Disease/Tumor/Mets/Infection
MRI Cervical without contrast
  • Neck Pain/HA/Trauma/Radiculopathy
MRI Cervical with and without contrast
  • Known demyelinating Disease/Tumor/Mets/Infection
MRI with contrast
  • Evaluate disc and facet disease WITH history of prior back surgery
  • Spinal cord evaluation – demyelination/Tumor
CT without contrast
  • Preferred for acute fracture evaluation

EXTREMITIES
MRI without contrast
  • Trauma/Pain
MRI with and without contrast
  • Mass or Lump/Osteomyelitis/Sarcoma or Mets
MRI Arthrogram Knee
  • Meniscal surgery (Depends on Physician)
MRI Arthrogram Shoulder
  • Tears (Depends on Physician)
MRI Arthrogram Wrist (Depends on Physician)

CHEST
CT Chest without contrast
  • F/U on lung nodules/or initial evaluation <1cm nodule
CT Chest with contrast
  • Lung mass or nodule >1cm on CXR/known lung CA/Pneumonia/pleural fluid
Hi-Resolution CT Chest without contrast
  • Evaluate for diffuse lung disease/ ILD/Bronchiectasis/Air Trapping
CTA Pulmonary Angiogram with contrast
  • R/O PE/SOB/Hypoxia
  • Preferred over VQ in all cases – including pregnant patient, unless contraindication to IV contrast.
ABDOMEN/PELVIS

CT with Contrast
- All standard abdominal imaging – Pain/Weight loss/ R/O Cancer/Cancer Staging/Diverticulitis/Appendicitis/ Pyelonephritis.

CT without IV or Oral Contrast
- Renal Stones

CT with and without IV Contrast
- Painless Hematuria
- Initial work up of pancreatitis
- Evaluate renal mass or renal cyst

US
- Use first in Pediatrics.
- Initial test of choice for cholecystitis/gallstones.
- Pelvic pain in female.
- Appendicitis – Pediatrics or if young, thin female – can do US first if ovarian cyst is also in the differential.
- Screen for AAA.

CT Coronary Calcium Score
- Screening for coronary vascular risk stratification in asymptomatic patient.

MRI/MRA
- Problem solving or elevated creatinine
MRA or multi-detector CTA with contrast
- Renovascular Hypertension

BODY MRI
- Problem Solving/Lesion Characterization
- CT contrast allergy

MRI ABDOMEN without contrast
- Adrenals/MRCP

MRI ABDOMEN with contrast
- Renals/Liver/Spleen/Pancreas/Mets

MRI Pelvis without contrast
- Uterine anomaly

MRI Pelvis with and without contrast
- Uterus fibroids/Endometriosis/Ovarian