

**CT Head w/o contrast**

Headache (thunderclap, worst headache of life)

Trauma

Suspected intracranial hemorrhage

Altered mental status

Assess VP shunt malfunction or hydrocephalus

Suspected stroke

**MRI Brain w/ and w/o contrast or CT w/ and w/o contrast**

New-onset seizure (CT only if unstable / concern for hemorrhage or increased ICP / tumor)

Suspect tumor (CT if MRI unavailable)

Suspect infection / abscess (CT if MRI unavailable)

**CTA Head**

Suspected stroke w/in TPA window

Suspected aneurysm

**CT Face**

Trauma: w/o contrast

Suspected sinus disease: w/o contrast

Suspected infection incl. orbital cellulitis, abscess: w/IV contrast (orbital cuts prn)

**CT Temporal Bone**

Suspected mastoiditis or cholesteatoma: w/o contrast

**CT Neck**

Suspected tumor / malignancy: w/ IV contrast

Suspected infection / deep purulent collection (including retropharyngeal abscess): w/ IV contrast

**CTA Neck**

Suspected carotid or vertebral artery injury: w/ and w/o IV contrast

**MRA neck**

Suspected carotid or vertebral artery dissection: w/ and w/o IV contrast

**CT Chest**

Trauma: w/ IV contrast

Suspected pulmonary embolism: CT pulmonary angiogram

Suspected aortic aneurysm or dissection: CT angiogram w/ and w/o IV contrast (consider ECG gated CT if dissection suspected to involve aortic root)

Characterize pneumothorax: w/o contrast

Suspected complicated pleural effusion: w/ IV contrast (CT not indicated for simple effusion)

Mass or lung nodule: w/ IV contrast

### **Spine imaging**

Trauma: CT spine w/o contrast (specify cervical, thoracic, or lumbar)

Neurologic deficit, radiculopathy: MRI spine w/o contrast (CT w/o contrast or CT myelogram if MRI unavailable)

Suspected mass or tumor: MRI w/ and w/o contrast (CT w/ and w/o contrast if MRI unavailable)

Suspected infection or abscess: MRI w/ and w/o contrast (CT w/ and w/o contrast if MRI unavailable)

Suspected spondylolysis: PA, lateral, and oblique plain films, or CT scan w/o contrast

### **CT Abdomen / Pelvis**

Trauma: w/ IV contrast

Suspected nephrolithiasis: w/o contrast (consider using IV contrast if H&P is not completely specific for stone disease or if suspected complication)

Suspected appendicitis, SBO, diverticulitis, abscess, IBD, post-op complication: w/ IV and PO contrast (skip PO contrast if suspected high grade SBO with bowel ischemia)

Palpable mass: w/ IV contrast (limit to either CT abdomen or CT pelvis if possible)

Suspected abdominal aortic aneurysm: w/ IV contrast

Suspected retroperitoneal hemorrhage: w/ IV contrast

### **CT Cystogram**

Suspected bladder injury or gross hematuria in trauma patient

### **Musculoskeletal plain films**

Clavicle: dedicated clavicle (not CXR)

Shoulder: AP, lateral, scapular Y view

Humerus: AP, lateral

Elbow: AP, lateral (sometimes obliques)

Forearm: AP, lateral

Wrist: AP, lateral, dedicated scaphoid view if suspect fracture

Hand: AP, lateral

Finger: AP, lateral

Hip: AP pelvis and frogleg lateral

Femur: AP, lateral

Knee: AP, lateral, sunrise view

Tibia / fibula: AP, lateral

Ankle: AP, lateral, mortise view (add tibia/fibula if pronation external rotation fracture pattern)

Foot: AP, lateral

### **CT extremities**

Trauma (r/o vascular injury): angiogram

Trauma (characterization of known fracture per ortho request): w/o contrast

Suspected infection or mass: w/IV contrast

**Kidney and bladder ultrasound**

Suspected hydronephrosis

Hematuria

**Abdominal ultrasound**

Abdominal pain, elevated liver enzymes, suspected pancreatitis: complete abdominal US

Suspected intussusception, pyloric stenosis: limited abdominal US

Suspected cholecystitis: Limited abdominal US: RUQ

Suspected appendicitis: Limited abdominal US: RLQ

Splenomegaly, LUQ pain, suspected mono: Limited abdominal US: spleen

**Pelvic ultrasound**

Suspected ovarian or uterine pathology

Intrauterine vs ectopic pregnancy

First trimester bleeding: transvaginal probe

Second, third trimester bleeding: transabdominal

**Scrotal ultrasound w/Doppler**

Suspected testicular torsion

Suspected epididymitis/orchitis

Testicular trauma

**Venous ultrasound w/Doppler**

Suspected DVT

**Spine ultrasound**

R/o spina bifida

**Hip ultrasound**

R/o developmental dysplasia of the hip

Suspected septic arthritis / hip effusion

**STAT MRI at Harbor**

Acute spinal cord injury, suspected spinal instability, suspected spinal compression or ischemia

Concern for epidural abscess or discitis, meningitis, encephalitis, or CNS vasculitis

Suspected acute/subacute myelopathy or focal neurological deficit

Concern for acute/subacute cauda equine/conus medullaris syndrome

Acute stroke symptoms with non-diagnostic head CT

Concern for CNS tumor or abscess with acute change in neurological status

Evaluation for cerebral hemorrhage

Emergent arterial imaging (aortic dissection, aneurysm leak, etc.) if IV contrast contraindication

Pregnant female with equivocal physical examination and ultrasound for appendicitis

Urgent Magnetic Resonance Cholangiopancreatography (MRCP)

Assessment of VP shunt malfunction