

## **Urgent Iodinated Contrast Shortage – Mitigation Strategies for Ordering Providers**

### **1. Consider ordering a non-contrast CT examination**

**Chest:** Can do most exams without contrast unless for clinical trial (pulmonary nodules, cancer follow ups). Trauma chests can be done without contrast unless high energy and concern for vascular injury.

**Abdomen:**

- a) Inpatients/ICU Patients (including postoperative patients)
- b) Hernia Exams
- c) Routine Abdomen Pelvis Scans (no known cancer)

**Indications:** Abdominal pain, hernia, diverticulitis, distension, abscess

- d) Oncology patients

**Indications:** Testicular cancer, lymphoma, myeloma, leukemia, prostate cancer.

- e) IR follow up scans

**Indications:** Post abscess drainage

- f) CT Urograms: Substitute non-contrast for stones in microhematuria.

**Neuro:**

- a) With contrast neuro exams only performed following neurorad approval after discussion with the ordering team. Non-contrast exams and MRI preferred when possible.
- b) Limit trauma CTA neck / head exams to those with identified risk factors (c-spine / Le Fort fractures) or high degree of clinical suspicion (significant mechanism) and only after discussion with neurorad.
- c) Re-protocol to noncontrast studies when applicable (outpatient neck mass without risk factors, orbit for proptosis, screening exams. etc.), after discussion with the ordering team.

**CV:**

- a) All yearly follow-up CTA chest for aortic sizing or aneurysm (without history of dissection, aortic stenting, or aortic surgery) can get the maximum diameter from a non-contrast CT (ECG-gated).

### **2. Utilize alternative studies to answer the clinical question such as MR with or without gadolinium-based contrast media, ultrasound with or without ultrasound contrast agents, nuclear medicine, or PET/CT, as detailed below when feasible.**

- a) Adrenal nodule CT could be replaced with MRI
- b) Renal mass CT should be replaced with MRI or CEUS
- c) Post-ablation follow-up, currently largely done with MRI, could use CEUS if needed
- d) CT Enterography, substitute MRE (largely our current practice)
- e) Evaluation of liver lesion—consider MRI for evaluation (e.g. cirrhosis and HCC, known cancer with new liver lesion); if solitary liver lesions CEUS an alternative as well.

- f) Appendicitis: Could consider non contrast CT, MRI (validated protocol) or US in appropriate pts
  - g) Neuro: All MRI eligible non-"stroke code" ER CTA/Perfusion exams transferred to MRI (quick stroke vs stroke deluxe) when scanner schedules reasonably allow.
  - h) CV:
    - a. Lower extremity run off in patients for claudication and no history of stenting should get MRA instead of CTA
    - b. Thoracic outlet syndrome evaluation – MRA instead of a CTA
    - c. CT PE to MRA – Should be done in conjunction with thoracic team, but may be patients with CTA being done only for positive d-dimer and normal CXR are best suited to convert from CTA to MRA. In young patients (<35 years) – MRA is preferred.
3. **Delay non urgent exams 45-60 days:**
- a) Neuro: Postpone long term follow up exams (1 year or longer) for an additional 6 to 8 weeks (f/u aneurysm, stenosis, etc)
  - b) Abdomen: Delay non urgent routine cancer follow ups, work ups for subacute or chronic abdominal pain
  - c) CV: Delay non urgent vascular evaluations