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| Subject: Intravenous and Intraosseous Contrast Administration | |
| Manual: Policies and Procedures | Guideline # RAD |
| Section: Medical Imaging | Pages: 3 |
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**PURPOSE**

To ensure the patients receive safe dosages of contrast for imaging studies per the protocol established by East Valley ER & Hospital and Radiology departmental protocols with appropriate supervision by a licensed independent practitioner (LIP);

**POLICY**

Intravenous iodinated contrast administration shall be performed in accordance with approved departmental protocols, the most current version of the American College of Radiology Manual on Contrast Media, Medical Director-approved practices, manufacturer recommendations, and applicable regulatory and accreditation standards.

Contrast volume shall be individualized based on patient-specific factors and the clinical indication for the examination. The standard adult contrast administration guideline is not to exceed 100 mL; however, the actual volume administered may be reduced/increased at the discretion of the supervising radiologist and/or ordering provider based upon clinical judgment and patient condition.

Factors that may warrant reduction or modification of contrast volume include, but are not limited to:

- Patient body habitus and weight
- Pediatric or advanced age
- Renal function, including reduced estimated glomerular filtration rate (eGFR/GFR)
- History of renal impairment or increased risk for contrast-associated acute kidney injury
- Cardiac function, hemodynamic status, or altered circulation time
- Examination type, diagnostic indication, and anticipated contrast enhancement requirements
- Trauma, oncology, vascular, transplant, or other complex clinical indications requiring enhanced diagnostic visualization.
- Prior contrast reactions or other patient safety considerations
- Supervising radiologist and/or ordering provider discretion

If contrast administration is anticipated to exceed 100 mL, the supervising radiologist and/or ordering physician must also approve the deviation prior to administration whenever clinically feasible. Documentation shall include:

1. Total contrast volume administered.
2. Clinical rationale for exceeding standard protocol.
3. Ordering physician and/or radiologist approval.
4. Any patient-specific considerations relevant to contrast administration.

The supervising radiologist and/or ordering provider may adjust contrast dose and administration parameters as medically appropriate to optimize diagnostic image quality while minimizing unnecessary contrast exposure.

Any deviation from established protocol shall be clinically justified and documented in the medical record in accordance with departmental policy and accreditation requirements.

All contrast administration practices are subject to ongoing review and approval by Radiology leadership, the Medical Director, and applicable hospital committees as part of the facility's quality assurance and patient safety program.

**Patient Screening Prior to Administration of Iodinated Contrast**

Nurses, technologists, and/or radiologists administering intravascular iodinated contrast media must first assess the patient for risk factors predisposing them to adverse reactions. This is achieved by interviewing of the patient prior to the scan by the technologist. The patient indicates:

1. Previous reactions to iodinated contrast media.
2. All severe allergies and reactions (both medications and food).
3. If they are age 60 years or over, history of diabetes, kidney disease, pheochromocytoma, solitary kidney,kidney or other transplant, or myeloma.
4. For women of child-bearing age, if they are or may be pregnant or if they are breast-feeding. The technologist reviews the answers and enters the date and value of themost recent serum creatinine and eGFR (if available).

**CT Contrast Dosing**

A standard dose is given related to the weight of the patient

- Weight < 45.5kg: 1cc per kg (2.2)
- Weight > 45.5 kg: up to 100cc (if exceeding 100 cc – to be cleared by MD)

| Weight of Patient (kg) | Contrast Dose (ml) |
|---|---|
| 23-27 | 50 |
| 27.5-31.5 | 59 |
| 32-36 | 68 |
| 36.5-40.5 | 77 |
| 41-45 | 86 |
| 50+ | 100 + (if required) |

**Estimated glomerular filtration rate (eGFR)**

The ordering physician and/or Radiologist will be consulted prior to IV contrast injection if the Radiologic Technologist has any concerns about the injection and/or contrast based on the below guidelines and Iodinated Contrast Screening Policy.

1. eGFR > 60 ml/min – Routine contrast dosage
2. eGFR 30- 60 ml/min – Consult with Ordering Physician for possible hydration prior to CT study.
3. eGFR < 30 ml/min – Contact the Ordering Physician and/or Radiologist to clarify injection instructions or consider a non-contrast study based upon ACR standards.

**MRI Contrast Dosing Protocol**

For MRIs ordered with IV Contrast, Prohance will be administered for adult, pediatric, and term neonate patients at 0.1 mmol/kg using this calculation for dose:

Prohance Dose = (0.1 mmol/kg x patient weight in kg) /0.5M (Prohance Concentration)

If the calculated dose is not a whole number, it will be rounded to the nearest whole number.

**Oral Contrast Dosing Protocol**

Gastrografin will be given orally to patients when a CT is ordered with oral contrast.
**The dose is Patient > 80 lbs** 30 ml of Gastrografin in 1000ml of water and 5 years to < 80 lbs 30 ml of Gastrografin in 500 ml of water. The CT technologist will mix 15 ml of Gastrografin into two 16 oz (500 ml) bottles of water and give it to the patient to drink in 30 minutes.
**In patients < than 80 pounds**, the CT Technologist will mix 30ml of Gastrograffin into one 500 ml bottle of water and give it to the patient to drink in 30 minutes. The technologist will wait 60 minutes after the patient is done drinking the Gastrografin to do the CT scan.

**Rectal Contrast Protocol**

Gastrografin will be administered rectally to patients when a CT is ordered with rectal contrast.

**Adult Dilution/Administration, patient is > 80 lbs**
60 ML Gastrografin (2 bottles) mixed with 2000 cc's tap water
* Administer slowly until patient states they are full or uncomfortable

**Pediatric Dilution/Administration Age 5 years to < 80lbs**
30 ML Gastrografin (1 bottle) in 500cc's of tap water
* Administer slowly until patient states they are full or uncomfortable.