

Title	Intravenous Contrast Media	Policy #	02-010
--------------	----------------------------	-----------------	--------

POLICY

It is the policy of the Division of Diagnostic Imaging and Radiology to ensure patient safety during the administration of intravenous (IV) contrast media and to respond appropriately in the event of an adverse reaction to contrast media.

PURPOSE

1. To allow for the safe intravenous administration of contrast media for Radiology procedures.
2. To provide radiology personnel with specific procedures to follow pertaining to the administration of contrast media.
3. To list personnel designated to perform venipuncture and intravenous contrast media administration.
4. To define practices and policies for the prevention and treatment of contrast media reactions and contrast media extravasation.
5. To comply with medication reconciliation standards on the MAR.

STAFF QUALIFICATIONS:

1. Intravenous injections of contrast media are only to be performed by Radiologists, Cardiologists, Radiology nurses and Radiologic technologists.
2. CPR certified personnel are present during contrast injections.

PATIENT SCREENING AND PREPARATION:

1. A Radiologist, Radiology nurse or Radiologic technologist is responsible for observing the patient before, during, and after the injection. The patient is not to be left unattended during the administration of contrast.
2. No IV contrast media injection shall be administered unless a certified LIP is available to intervene in a timely manner in the event of an emergency.
3. All personnel assisting with the injection of contrast media must be familiar with the location of emergency equipment.
4. Administration of contrast media will be documented on the MAR.
5. Patient history will be taken to determine if potential contraindications to IV contrast exist. The history will be obtained from patient, patient chart/clinical team, or patient's legal guardian. This information will be documented on the Contrast Administration Screening Form to determine if there is a history of:
 - a. Allergies
 - b. Asthma
 - c. Sickle Cell Anemia

- d. Heart Failure
- e. Diabetes
- f. Renal Insufficiency
- g. Dialysis
- h. IV contrast administered in last 24 hours
- i. MRI contrast- Document pregnancy screening
- j. Current medications i.e. glucophage (metformin, etc.) known to negatively interact with CT contrast media- screen only if patient has renal insufficiency
- k. Previous reaction to contrast media: this may include hives, flushing, dizziness, itching, swelling, pain, shock, convulsions, cardiac arrest, extreme difficulty breathing, and arrhythmia. For patients with known contrast allergies, please see attached pre-medication guidelines for IV contrast allergy.
- l. If any potential contraindications are noted, the Radiologist will be contacted immediately. The Radiologist will determine if the contrast can be safely administered.

PROCEDURE

1. Have equipment available in the imaging room and identify the patient using two patient identifiers.
2. Review physician order for exam to ensure the correct procedure is scheduled.
3. Review contrast administration screening form and electronic order for contrast prior to drawing up contrast, alert radiologist of any potential contraindications to contrast media usage.
4. Use aseptic technique throughout the procedure.
5. Explain procedure to patient and/or family member. Inform patient of possible reactions and when to alert staff of any discomfort. Ensure the explanation is provided at patient's level of understanding and in clear terminology.
6. Administration of contrast:
 - a. Carefully check all information on requisition.
 - b. Assess condition of existing site.
 - c. Double check vial or ampule for positive identification of material.
 - d. Load syringe.
7. Prior to Contrast injection, assess for blood return in existing IV and flush with Normal Saline. If power injection required, confirm power injectable site. Documentation of IV-line assessment will be completed to include:
 - a. Blood return
 - b. NS flush
 - c. Patient complaint of any discomfort during assessment.
8. All other running IV fluid must be disconnected, flush site with normal saline prior to injection, and flush with normal saline following contrast administration

9. Radiologists, Cardiologists, and Radiology nurses may administer contrast media into a central or peripheral intravenous line, intermittent medication lock (IML), subclavian line, Mediport, PICC line, or Power-PICC line containing normal saline.
10. Radiologic technologists may only administer contrast media through a subclavian line, Mediport, PICC line, or a Power-PICC line containing normal saline which has been accessed and assessed by a qualified provider. Radiologic technologists may also assess and administer contrast into a peripheral intravenous line.

COMPLICATIONS

Do not continue with the injection if the IV is not infusing properly or there is swelling, tenderness, or pain at insertion site. Please refer to attached Extravasation Management guidelines for IV infiltrates.

For serious reactions to contrast media infusion (shock, convulsions, cardiac arrest, extreme breathing difficulty, arrhythmia, etc.) that require immediate lifesaving measures:

1. Call 2222 and activate the Code Blue Response System. If at PG ROC or CNI call 911.
2. Alert the LIP immediately.

Approved by:

Dorothy I Bulas, MD
Division Chief, Diagnostic Imaging and Radiology

6/30/2021

Date

Laurie Hogan, MBA, CRA
Director, Diagnostic Imaging and Radiology

6/30/2021

Date

Iris Cabading, BSN, RN, CPN
Nurse Manager, Diagnostic Imaging & Radiology

6/30/2021

Date

Dates of review

Original: July 27, 2007
Revised: June 24, 2009
Reviewed: June 22, 2010
Reviewed: January 25, 2013

Revised: May 10, 2014
Revised: May 10, 2016
Revised: May 10, 2017
Revised: June 30, 2021

Management of Radiologic IV Contrast Extravasations

IMMEDIATE CARE:


1. Apply ice pack wrapped in dry towel and elevate extremity.
2. Notify Radiology nursing and Radiologist or LIP.
3. Estimate amount of contrast extravasated.
4. Nurse and LIP assess site and document in Cerner under tubes, lines, and drains:

Peripheral IVs

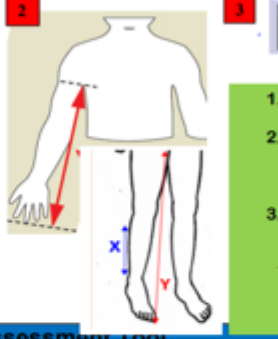
- ▾ L. Antecubital 22ga. PIV 0
- Infusing
- ◇ Activity
- ◇ Touch Look Compare:
- ◇ *Complications:
- ◇ Measure Site Swelling:
- ◇ Measure Arm/Leg Length:
- ◇ Calculated Percentage:
- ◇ Site Assessment:
- ◇ PIVIE Score:
- ◇ PIVIE Classification:
- ◇ Interventions
- ◇ Flow/Patency
- ◇ Drainage Description
- Dressing/Activity

Appendix C
PIVIE Measurement Tool

PIV Infiltrate/Extravasation (PIVIE) Assessment Tool



1



2

3

Calculate

$(\frac{X}{Y}) \times 100 = \text{ } \%$

1. X= Maximum dimension of swelling (length or width)
2. Y= Length of extremity: (Arm)Axilla to tip of longest finger or (leg) groin to longest toe
3. Calculate and determine severity (see chart)

*For Scalp PIVIE Y= arm

PIVIE Assessment Tool		
Mild	Moderate	Serious
<ul style="list-style-type: none"> 0-60% 	<ul style="list-style-type: none"> >60% swelling Superficial partial thickness burns (red skins that blanch and/or clear blisters) Diminished pulse 	<ul style="list-style-type: none"> No palpable pulse Full thickness skin loss Deep partial thickness burns (red and white skin w/ no blanching and/or bloody blisters) Fasciotomy Skin graft or tissue

5. Obtain Plastic Surgery Consult if skin blistering, altered tissue perfusion (↓ cap refill), increasing pain or change in sensation are present.
6. If the extravasation is moderate or severe, the referring provider should be notified
7. Monitor patient for 2 hours. Inpatients may return to the unit after a hand-off report is given to the care provider or in-patient unit.
8. Give instructions to patient to go to ED if symptoms worsen
9. Radiologic technologist to notify Radiology nursing manager, to perform 24hour follow up. If unavailable, contact the bear station and ask for the name of the charge nurse on duty during time follow up required. Email the patients MRN, brief description of event, and patient contact information for follow up.

Documentation Checklist:

1. Radiology attending; include details of event in dictation of examination.
2. Technologist or Radiology nursing; **Submit safety event report**. Please include patients phone number, estimated amount of contrast extravasated, physical findings, and immediate care. Radiology nursing manager/PIC will add results of 24hour follow up.
3. Radiology nursing; complete assessment in CERNER.