

SHANDS AT THE UNIVERSITY OF FLORIDA
DEPARTMENT OF RADIOLOGY

POLICY NUMBER: RM 6-18
CATEGORY: Patient Care
DATE: June 2016
NEXT REVIEW DATE: April 2017

SUBJECT: Intravenous Gadolinium Based Contrast Administration

PURPOSE: To prevent complications associated with the administration of gadolinium based contrast agents (GBCA), the Radiology Department has outlined the following policy.

POLICY: Instructions for the safe administration of gadolinium based contrast agents (GBCA).

SPECIAL
INSTRUCTIONS:

1. PREADMINISTRATION PRECAUTIONS:

- a. Nephrogenic Systemic Fibrosis (NSF) has been associated with the administration of some Gadolinium based contrast agents in patients with impaired renal function (High Risk). To date there have been no reported cases of NSF in any patient administered Gadobenate (Multihance) or Gadoterate (Dotarem), even those on dialysis. These are our current routine MRI contrast agents.
- b. Patients considered to be a high risk for NSF should have recent serum Creatinine (Cr) and eGFR prior to contrast administration. A high risk patient is defined as:
 - a. A patient with known history of renal insufficiency/disease or prior elevated creatinine level (eGFR <30)
 - b. Kidney transplant
 - c. Single Kidney
 - d. Kidney surgery
 - e. History of cancer involving the kidneys
 - f. Dialysis dependent
2. Except for those patients currently on dialysis, out-patients considered to be at high risk should have pre-administration Cr/eGFR testing within 6 weeks before receiving contrast.
3. All in-patients receiving contrast will have a renal function testing within 2 days.

4. Patients with a GFR <15 or on dialysis will not receive contrast unless an attending radiologist confirms with the ordering service that an exam with contrast is medically necessary. Written consent will be obtained from the patient by a radiologist. If on dialysis the patient also needs to be scheduled for post procedural dialysis. If possible the patient should be scheduled early in the day so dialysis can be performed on the same day.
5. Patients will also be screened for history of gadolinium contrast allergy. When appropriate, arrangements for premedication will be made through the ordering physician. (See appendix B)
6. Pregnant patients will not receive contrast unless an attending radiologist confirms with the ordering service that the exam is medical necessary with contrast. Pregnant patients must also obtain consent from a radiologist for contrast and will receive category 2 or above GBCA (See appendix A).

7. ADMINISTRATION:

The lowest possible dose will always be used on all patients based on the radiologist's protocol. See dosage chart in appendix A.

- a. Access for contrast injection must adhere to the following guidelines:
- b. Infusaports will not be used for power injections, due to risk of fracturing the device. However, if the port (or power port) is power injectable, it must be verified that it is accessed with the appropriate power access device prior to contrast injection.
- c. PICC lines will only be used for power injections if they are compatible (i.e. Power PICC).
- d. Tunneled catheters may be used only with approval of an Interventional Radiologist.
- e. Power contrast injection should only be made through an upper extremity peripheral IV (18-22g needle) after confirming blood return. IV must be started per procedure protocol.
- f. If access is in the lower extremities, please notify a Radiologist prior to commencing the procedure. It may be necessary to start a new peripheral IV and adjust injection rate and timing of image acquisition.
- g. For MRI, a 20g antecubital IV is preferred when the need for high injection rates of 3-5 cc per second will be used; however, a 22g upper extremity IV is acceptable.

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- h. If a patient has an indwelling IV catheter or unfamiliar central line, a manufacturer specifications rating must be obtained/verified. If specification ratings from the manufacturer cannot be obtained/verified; a peripheral IV must be started.
- i. To assure proper patient access prior to injection the IV patency must be verified by a test flush of normal saline.
- j. The Technologist shall document the drug, dose, route (oral, IV, etc.) and time of dosage in the Electronic Medical Record (EPIC). Additionally, all incidents of extravasation will be documented in a Patient Safety Report (PSR).

Appendix A GBCA class and dosage chart

Class	Multihance(Gadobenate Dimeglumine)
2	0.2mL/Kg up to 30mL
	0.1mmol/Kg

Class	Dotarem(Gadoterate Meglumine)
2	0.2mL/kg up to 30mL
	0.1mmol/kg

Class	Eovist(Gadoxetate)
3	0.1mL/kg up to 15mL
	0.025mmol/kg

Class	Ablavar(Gadofosveset Trisodium)
3	0.12mL/kg up to 20mL
	0.03mmol/kg

Appendix B Pre-Medication of Contrast-Allergic Patients

POLICY STATEMENT:

Any patient that has indicate they are allergic to gadolinium will need to be pre-medicated.

PROCEDURE:

1. The patient's physician will be responsible for ordering the prescription as specified below:
 - a. 50 mg Prednisone PO, total 3 doses, taken 13 hours prior to exam, 7 hours prior, with the last dose taken 1 hour prior to exam.
 - b. 50 mg Benadryl PO to be taken one hour prior to exam.
2. NOTE: Benadryl is known to cause drowsiness so a family member or another individual should drive the patient home when the procedure is complete.

Appendix C Screening form:

<https://com-radiology.sites.medinfo.ufl.edu/files/2008/06/MRI-Screening-Form-2014.pdf>

Appendix D Contrast NSF form:

<http://xray.ufl.edu/files/2008/06/Informed-Consent-for-MR-Gadolinium-Based-Contrast-Material-GBCM.pdf>

APPROVED:

Reviewed/Revised: June, 2016

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