University of Minnesota
Center for Magnetic Resonance Research
Standard Operating Procedure
Contrast Administration

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Approval Date:
Implementation Date:
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1 Purpose

To provide guidelines for the management and administration of contrast media including:

- Storage
- Assessment of patients prior to administration
- Patient monitoring
- Management of complications

2 Scope

This procedure will apply to all personnel who are involved in conducting human subjects' research at CMRR involving the use of gadolinium based contrast agents.

3 Definitions

Contrast is defined as a medication and therefore pharmacy guidelines apply.

IV contrast has been known to cause contrast induced nephropathy(CIN) or in the case of Gadolinium based contrast, Nephrogenic Systemic Fibrosis(NSF) and those at higher risk must be identified.

Extravasation – accidental leakage of medication into the tissue around the infusion site potentially causing serious injury such as tissue necrosis.

4 Responsibility

Compliance to the SOP is the responsibility of protocol staff that administer contrast to human patients/subjects. A physician must be in the building anytime contrast (non-ionic iodinated or gadolinium based) is administered.

5 Procedure

5.1 Contrast shall be stored in a secured environment defined as locked, access restricted to authorized personnel or attended. Expiration dates of contrast are checked by protocol staff at the time of administration and documented on a study case report form.

5.2 Assessment of patients prior to receiving IV contrast includes medical history, and medication review, breastfeeding status.

5.3 The subject is provided information regarding the contrast prior to their study visit and reviewed with them on the day of their study visit prior to consenting.

5.4 **T**he subjects creatinine level is drawn and eGFR calculated on all subjects that receive contrast prior to the administration of the contrast. During the screening process if the subject indicates any history of kidney transplant, one kidney, kidney disease or failure, or dialysis the collaborating physician or medical doctor are consulted. Each individual IRB protocol is reviewed for exclusion criteria.

5.5 A creatinine is not drawn if the subject has an available creatinine result within 30 days with a eGFR > 30 and has been in stable health.

5.6 For a creatinine result of 2.0 or greater (unless dictated by the study protocol), notify the radiologist or collaborating physician to further review the patient/subject's risk and decide whether to proceed with contrast administration.

5.7 The standard prep is to drink 6 – 8 glasses of water the day before and after contrast administration exam unless the subject is on fluid restrictions.

5.8 Subjects expected to receive Gadolinium for MRI exam will be assessed for risk of nephrogenic systemic fibrosis (NSF). If the patient is on dialysis or the eGFR is <30 of if the subject indicates any type of kidney disease it is recommended that Gadolinium not be given. Subject screening is done prior to their arrival to CMRR to identify those at risk for NSF.

5.9 Patients receiving IV contrast shall be monitored immediately following for any signs of allergic reaction. In the case of a severe allergic reaction (shortness of breath, irregular heartbeat, seizures etc.), call 911 immediately.

5.10 Should an extravasation occur, notify the radiologist, document size of the extravasation and educate the patient on what to watch for and when to notify his/her physician.

6. References:

American College of Radiology Manual on Contrast Administration
National Kidney Foundation.

7 Forms and Templates

8 Appendices / Tables

NA

9 Revision History

Version Number	Approval Date	Change from Previous Version