

movement. Also well documented is the anxiety associated with the underlying medical problem necessitating the MR exam.



1. Give the patient the “squeeze ball” prior to the exam and explain its use.
2. Demonstrate prior to the exam the two-way intercom system and “squeeze ball” to reassure the patient that the MR technologist is readily available during the exam.
3. Communicate with the patient regularly during the exam.

The MR technologist should provide reassurance to the patient before and during the procedure to optimize his/her comfort. Recorded music or narrative of the patient’s choice can be made available via a suitable system and help calm the patient. While the patient should be encouraged to close his/hers eyes and to relax during the MR exam, a two-way intercom must be available to maintain communication between the patient and the MR technologist operating the scanner.

ANXIOLYSIS, SEDATION, ANALGESIA, AND ANESTHESIA

Adult and pediatric patient anxiolysis, sedation, analgesia, and anesthesia for any reason must be administered according to hospital policy and/or standards defined by the American College of Radiology and/or The Joint Commission.

GADOLINIUM (Gd)-BASED MR CONTRAST AGENTS

Contrast Administration

MR technologists may administer FDA-approved Gd-based MR contrast agents by means of peripheral IV routes such as a bolus or slow or continuous injection as directed by the MR Radiologist. These technologists must undergo competency training for contrast administration. (Radiology Administration is responsible for providing this training and maintaining the related documentation.)

A pharmacist is not required to review the IV contrast order when used in Radiology or as part of an imaging study under an approved exam protocol. However, a physician or physician extender must be available for timely intervention in the event of a patient emergency.

The name of the administered contrast agent, the administered dose, the route (and, if applicable, rate) of administration, and any adverse reactions (if any) must be recorded on the *MRI Patient Screening Questionnaire*.



Screening for Renal Dysfunction

See the *TRA Contrast Manual* (February 2016).

Policies Specific for Gd-Based IV Contrast

See the *TRA Contrast Manual* (February 2016).

MR Contrast and Pregnant Patients

Gd-based contrast agents should not be routinely administered to pregnant patients. This decision must be made on a case-by-case basis by an MR Radiologist who will assess the risk-benefit ratio for that particular patient. While the risk to the fetus with administration of Gd-based contrast agents remain unknown and may be harmful, the radiologist may decide to administer the contrast based on overwhelming potential benefit to the patient or fetus outweighing the theoretical but potentially real risks of long-term exposure of the developing fetus to free gadolinium ions.

If Gd-based contrast will be used for the MR exam and the woman is uncertain of her pregnancy, a pregnancy test must be performed and the results obtained before continuing with the procedure.

If the patient is pregnant and Gd-based contrast will be used:

- The patient must provide written consent for the procedure.
- The MR Radiologist must sign the consent before the technologist begins the procedure.
- The technologist must scan the signed and dated consent form into PACS.

MR Contrast and Nursing/Lactating Patients

Review of the literature shows no evidence to suggest that oral ingestion by an infant of the tiny amount of gadolinium-based contrast excreted into breast milk would cause toxic effects. Therefore, the American College of Radiology (ACR 2017) considers it safe for the mother and infant to continue breast-feeding after the mother receives such contrast.

If the mother remains concerned about any potential ill effects, she should be given the opportunity to make an informed decision as to whether to continue or temporarily abstain from breast-feeding after receiving the gadolinium contrast. If the mother so desires, she may stop breast-feeding for 24 hours with active expression and discarding of breast milk from both breasts during that period. In anticipation of this, she may wish to use a breast pump to obtain milk before the contrast study to feed the infant during the 24-hour period following the MR procedure.