DARNALL ARMY COMMUNITY HOSPITAL
DEPARTMENT OF RADIOLOGY

MRI EXAMINATIONS ON PREGNANT PATIENTS

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1. PURPOSE: To outline the standard operating procedures for performing MRI examinations on pregnant patients.

2. SCOPE: Applicable to all clinicians at Darnall Army Community Hospital and affiliated clinics referring pregnant patients for MRI examinations.

3. DISCUSSION: The Safety Committee of the Society for Magnetic Resonance Imaging and the American College of Radiology has adopted policies which state that "MR imaging may be used in pregnant women if other non-ionizing forms of diagnostic imaging are inadequate or if the examination provides important information that would otherwise require exposure to ionizing radiation (e.g., fluoroscopy, CT)" [1] Use of gadolinium-based contrast is not recommended during pregnancy because of gadolinium-chelates crosses the placental barrier and any delay in clearance of the gadolinium complex can potentially increase deleterious effects, especially in the first trimester.[2] There is inconclusive scientific evidence that risk to the fetus is increased during the first trimester. However because this is the period when active organogenesis occurs, MR imaging is to be avoided unless the potential benefits clearly outweigh the risks.[3] In summary, because MRI effects on the developing fetus have not been clearly established, MRI examinations on pregnant patients should be performed only when compelling clinical indication exists.

4. PROCEDURES:

    a. All requests for MRI examinations will be discussed with the radiologist covering MRI interpretation at time of request. If after discussion between the radiologist and referring clinician, it is deemed that the benefits outweigh the risks, the patient will undergo counseling concerning the potential risks to the fetus and sign written consent in addition to filling out the standard MRI safety questionnaire.

    b. The MR examination will protocolled to obtain sufficient information with the least number of pulse sequences to minimize any potential effects on the fetus.

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References:

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2. Amin RS et al. Normal Anatomy of the Fetus at MR Imaging. Radiographics 1999; 19:S201-S214
3. Leyendecker JR et al. MR Imaging of Maternal Diseases of the Abdomen and Pelvis during Pregnancy and the Immediate Postpartum Period.