
Nursing Services- Department of Radiology- Diagnostic Division

SUBJECT/TITLE: Cardiac Stress Testing of Adult Patients using MR Imaging

PURPOSE: To provide guidelines for the Registered Nurse, LIP, or Paramedic for the proper identification, assessment, medication administration and monitoring of adult patients undergoing cardiac stress testing using magnetic resonance imaging (MRI) that require magnetic resonance imaging (MRI) as part of the patient's diagnostic evaluation.

POLICY: The Department of Radiology and the Heart and Vascular Service at the University of Iowa Hospitals and Clinics have developed the following procedure for performing cardiac stress testing using magnetic resonance imaging (MRI).

REGISTERED NURSE, LIP, OR PARAMEDIC DOCUMENTATION AND MEDICATION ADMINISTRATION REQUIREMENTS:

- Cardiology LIP will be present to monitor during the stress portion of the test from injection of regadenoson through the injection of aminophylline.
- RN, LIP, or paramedic will remain with the patient until completion of stress imaging.
- RN, LIP, or paramedic will document vitals every 3 minutes during the duration of regadenoson and aminophylline administration.
- Document vitals (HR, BP, SaO₂, RR) in EPIC flow sheet prior to regadenoson injection.
- Under direct supervision from an heart and vascular licenced independent practitioner, inject regadenoson 0.4 mg/5 ml IV bolus injection, injection over 10 seconds and follow with no more than a 5ml NS flush over 10 seconds with patient outside of the magnet bore (do not change patient position unless absolutely required). Immediately attach contrast line and return patient to the bore of the magnet (within one minute of injection of regadenoson).
- Inject Aminophylline (reversal), 100 mg of Aminophylline will be administered over 2-3 minutes; slow IV push. (supplied 250mg/10ml vial: 25mg/ml)
- Return patient to magnet bore, Document vitals every 5 minutes for 15 minutes. (HR, BP, SaO₂, RR) in EPIC flow sheet post aminophylline administration

PRECAUTIONS, CONSIDERATIONS, AND OBSERVATIONS:

- Cardiology LIP will prescreen all patients for necessity of the stress test, risks vs benefits, contraindications for a MRI cardiac stress test, and allergies.

CRITERIA FOR CALLING THE RAPID RESPONSE TEAM AND NOTIFYING A LIP:

- Two of the following:

Temperature less than or equal to 35° C	Temperature greater than or equal to 39° C
Respiratory rate (RR) less than 8 breaths per minute	RR greater than 28 breaths per minute
Oxygen saturation less than 90% while on FIO2 greater than 60%	Acute change in mental status
Systolic Blood Pressure (SBP) less than 90 mmHg	SBP greater than 40 mmHg change
Pulse (P) less than 40 beats per minute	P greater than 120 beats per minute
Urine output less than 50 ml in 4 hours	Staff caring for patient worried or unsure
White blood count (WBC) greater than 14 or serum carbon dioxide level (CO2) less than 16	

- Any healthcare provider may call a Rapid Response. **ONCE A RAPID RESPONSE HAS BEEN CALLED, IT CANNOT BE CANCELLED.**

EQUIPMENT:

[A-1c Rapid Response Team Record](#)

Crash Cart - for contents refer to [Crash Cart \(Locked Contents\) Checklist](#)

Defibrillator

RELATED POLICIES/STANDARDS:

[N-04.062](#) Equipment Crash Cart, Defibrillator/Monitor Care and Check for Code Blue/Emergency Use

[N-04.063](#) HeartStart MRx Emergency Transport Equipment Use, Care and Checks

[N-04.064](#) HeartStart MRx Emergency Defibrillator/Monitor

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