

**SUNY DOWNSTATE MEDICAL CENTER  
UNIVERSITY HOSPITAL OF BROOKLYN  
POLICY AND PROCEDURE**

No: MRI-2

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**Subject:** QUALITY ASSURANCE MRI  
EQUIPMENT

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**T.J.C. Standards: EC.02.04.03** Before initial use and after major repairs or upgrades of medical equipment on the medical equipment inventory, the hospital performs safety, operational, and functional checks.

**EC.02.04.03, (EP.15)** The hospital maintains the quality of the diagnostic (magnetic resonance imaging (MRI), images produced. **PI. 01.01.01. (EP.47).**

**Issued by:** Radiology Department

**I. PURPOSE**

To provide direction and assign responsibilities for the Quality Assurance Program of the Magnetic Resonance Imaging in accordance with ACR, NYS, NYC, ABR recommendations and requirements

**II. DEFINITION**

***Magnetic Resonance Imaging (MRI Equipment):*** when energized, the magnet creates a high magnetic field for imaging patients and acquiring diagnostic images.

**III. POLICY**

Radiology Department will maintain a quality assurance manual for monitoring and evaluating the effective management, safety and proper performance of the magnetic resonance imaging equipment. The MRI imaging equipment will be tested to ensure high quality images are obtained safely. MRI equipment will be tested in accordance with recommendations made by ACR, the American Association of Physicists in Medicine (AAPM), the New York City Health Department, the New York

State Health Department Health, and the American Board of Radiology (ABR).

**IV. RESPONSIBILITIES**

MRI technologist, MRI Supervisor, Medical physicist and vendor supplied Service Engineers

**V. PROCEDURE:**

- MRI technologist will visually inspect all equipment on a daily basis and log results of inspection.
- MRI technologist will report, to the MRI supervisor any equipment which appears to have any degree of questionable integrity.
- MRI technologist or MRI supervisor will perform the daily & weekly QA testing as prescribed by the manufacturer recommendation on MRI Quality Control the data will be entered into the electronic QA log for the MRI unit (weekly/daily) See attachment #1(weekly QA check off list).
- MRI technologist is responsible for maintaining accurate and complete logs on all QA testing/unit malfunctions including service calls placed to resolve any malfunction.
- The Medical Physicist will review the Daily & Weekly QA / analyze the data as well as make recommendations for corrective action. These findings and corrective actions should be reviewed with the attending Radiologist responsible for the MRI division.
- The Medical Physicist will conduct an annual system performance evaluation. The evaluation criteria utilized are in accordance with ACR guidelines. See attachment #2 (annual MRI system performance tests).
- The Medical Physicist will utilize the results of weekly testing and annual system review to make recommendations for changes in the QC program.
- The Medical Physicist will also conduct annual MRI safety review sessions and revise safety procedures as warranted.

**VI. REPAIR PROTOCOL**

- a. The Technologist will immediately inform the MRI supervisor of any malfunction or image quality issue. If the supervisor is not present, the technologist will contact the vendor and place a service request.
- b. The service request information, including the type of malfunction, date & time of malfunction, the ticket #, the time the engineer arrived on site and time of completion of repairs will be logged into the error log book.
- c. The supervisor documents the issue as described above and contacts the service engineer to arrange an on- site visit for the unit of the problem.
- d. Service engineers will identify the causes and implement corrective action i.e. part replacement/system tuning/ etc. The physicist will be informed of all major repairs and will, if necessary, perform a system evaluation and verify image quality prior to placing the unit back in service.

**VI. ATTACHMENTS:**

None

**VII: REASON FOR REVISION:**

MRI-2 Quality Assurance MRI Equipment

Review

**VIII: REFERENCES:**  
Joint Commission Standards

Date Reviewed	Revision Required (Check One)		Responsible Staff Name and Title
11//2001	<b>Yes</b>		James Shanahan, Director Radiology Department
04/2005	<b>(Yes)</b>	<b>No</b>	James Shanahan, Director Radiology Department
2/2016		<b>No</b>	Vincent Monte, Associate Director Radiology Department
11/2018		<b>No</b>	Vincent Monte, Associate Director Radiology Department