*Please read the Diagnostic Modality Accreditation Program Overview, the Breast MRI Accreditation Program Requirements, and the Breast MRI Clinical Image Quality Guide **before** beginning this process.*

GENERAL INFORMATION

A. There are 2 portions to your ACR Breast MRI Accreditation Program submission:
   1. Annual System Performance Evaluation and Technologist's Quality Control (QC) Evaluation
   2. Clinical Image testing

B. Materials due date:
   1. See enclosed labels for the image submission due dates. You must collect your test images and return them with your completed application to the ACR by the date indicated on the labels. ***Incomplete applications will be returned.***
   2. Failure to meet the due date will jeopardize completion of your accreditation. Thus, if your facility is renewing its accreditation, we cannot guarantee completion before your ACR certificate expires.
   3. If your site cannot submit the required materials by your due date, please notify the ACR immediately.

C. Your lead interpreting physician ***must*** review and approve all cases and forms submitted for accreditation. (Incorrect clinical images or incorrect information on the form may result in accreditation failure.)

D. Make and retain ***copies*** of all images, forms and other documents submitted for accreditation.

E. For help or more information:
   1. Breast MRI Accreditation Program Frequently Asked Questions (see Accreditation menu at www.acr.org)
   2. Email: *breastmri-accred@acr.org*
   3. Breast Imaging Accreditation Help Line: (800) 227-6440
   4. Contact your MRI manufacturer's representative if you have difficulty obtaining the requested items.

ANNUAL SYSTEM PERFORMANCE EVALUATION AND TECHNOLOGIST'S QC EVALUATION

A. Required items for testing:
   1. MRI Equipment Evaluation Summary form (also see page 131 in the *2004 ACR Magnetic Resonance Image Quality Control Manual*)
   2. Evaluation of Site's Technologist QC Program form (also see page 129 in the *2004 ACR Magnetic Resonance Image Quality Control Manual*)
   3. Identification labels to be affixed to the forms

B. Compliance with the ACR requirements for the medical physicist/MR scientist's Annual MRI System Performance Evaluation and QC:
   1. The ***entire***, most recent ***Annual System Performance Evaluation*** report that includes:
      - ❒ A completed ***MRI Equipment Evaluation Summary*** form signed by the medical physicist/MR scientist (with a survey date within 1 year of the application date for ACR accreditation)
      - ❒ A completed ***Evaluation of Site's Technologist QC Program*** form
      - ❒ ***All*** data pages
   2. ***Corrective action*** taken if the medical physicist/MR scientist's Annual System Performance Evaluation noted any problems (i.e., test failures or data outside of action limits)

C. Label the forms as indicated on the enclosed labels. (For multiple pages of the same form, staple pages together, and place the label on the first form.)

IMPORTANT: You ***must*** utilize the services of a qualified medical physicist/MR Scientist for the Annual System Performance Evaluation. The ACR requires these evaluations be performed ***at least annually***. The ACR strongly recommends using the services of a qualified medical physicist or MR scientist during both the process of accreditation and for oversight of your site's technologist quality control program.

CLINICAL IMAGES

A. Required items for testing:
   1. Breast MRI Test Image Data form
   2. Identification labels to be affixed to the clinical images and the Test Image Data form

B. Select clinical images for accreditation:
   1. Review the ***Program Requirements*** and ***Clinical Image Quality Guide*** for guidance on image quality.
   2. Submit 1 case with a ***known, enhancing, biopsy-proven carcinoma*** clearly visible in the breast parenchyma. Indicate its ***laterality and location*** on the form.
      - ❒ Select an example of your facility's **best work**. ACR reviewers will evaluate the case accordingly.
      - ❒ The case may ***not be older than 6 months*** from the date on the Testing Memorandum.
      - ❒ The case must be a ***bilateral exam of*** native breasts (i.e., no TRAM or autologous tissue reconstructions).
      - ❒ The MRI must be performed ***prior to any surgery*** on the breast with cancer (e.g., excisional biopsy or lumpectomy).
      - ❒ Do ***not*** submit exams from ***mastectomy*** patients.
      - ❒ The case must be of a patient (***not a model or volunteer***) and must have been formally interpreted (but, do ***not*** submit the patient's ***report***).
      - ❒ All images of a case must be from the ***same patient***.

C. Sequences - the case must include the following:

Required Sequences

- ❒ Scout/localizer images
- ❒ T2-weighted/bright fluid series
- ❒ Multi-phase T1-weighted series:
  - Pre-contrast T1
  - Early phase (first) post-contrast T1
  - Delayed phase (last) post-contrast T1

   1. If possible, ***only submit the required sequences***.
   2. Incomplete or incorrect sequences will fail the unit.
   3. If possible, each sequence should be presented separately and ***not*** as ***"stacked" or "interleaved"*** sequences. (Contact your MRI manufacturer representative for assistance).
   4. All sequences must demonstrate ***adequate breast positioning*** and include both breasts, including the axillary tails. The T2-weighted/bright fluid series may be run as a single series on both breasts or as 2 separate series, 1 on each breast. In the latter case, ***enter the 2 separate series numbers*** on the Test Image Data form.
   5. ***Aurora systems only***: These units acquire a ***pre-contrast scan that is weighted to give bright fluid***. If this pre-contrast series is sufficiently T2-weighted, it can be evaluated as both the T2-weighted/bright fluid series and the pre-contrast T1-weighted series. In this case:
      - ❒ Enter the acquisition parameters under "Pre-Contrast T1" on the Test Image Data form.
      - ❒ In the "Sequence name/type" space under "T2-Weighted/Bright Fluid Series," check "see pre-contrast T1W."
      - ❒ Do not fill out the remaining parameters for the T2-weighted/bright fluid series.
   6. All multi-phase ***T1-weighted series should match in terms of spatial and temporal parameters***, with the exception noted above. (Some manufacturer's systems may display small, unavoidable differences in TR and TE that are tenths of milliseconds or less in their DICOM headers; these differences are acceptable. Aurora EDGE software uses a distinctly different acquisition time for the pre- contrast series compared with that of the post-contrast series. This difference is acceptable.)
   7. If chemical-shift (i.e., frequency-selective) fat suppression is not used or is not evident in the multiphase T1-weighted series, subtraction of pre-contrast from post-contrast series may be used to eliminate the bright signal from fat. If this is done, then both the ***unsubtracted (source) series and the subtracted series*** (i.e., pre-contrast subtracted from post-contrast, slice by slice) must be submitted for both the early and delayed phases.

D. Fill out the entire Test Image Data form.
   1. Indicate the ***laterality and location*** of the malignancy with the "***reason for exam***."
   2. Provide all information in the ***units specified*** on the form (e.g., FOV must be in mm).
   3. ***Leave no blanks***. Incomplete or incorrect forms will be returned. (Contact your MRI manufacturer representative if you have difficulty finding the requested information.)

E. Check the ***exam identification and labeling*** - ***all*** of the parameters below should be displayed on the image or be available through the DICOM header. If ***laterality is absent or incorrect***, the case will ***fail***.

Exam Identification and Labeling Requirements Checklist	
❒ Patient's first and last names	❒ Facility name
❒ Patient age or date of birth	❒ Examination date
❒ Patient Identification number	❒ Laterality, left or right of midline section

F. Burn the images on discs
   1. You may submit your clinical images on ***5¼ inch CD or DVD*** media; 3 inch discs are not acceptable.
   2. ***Burn the discs from the acquisition station***, rather than from a CAD system (if possible).
   3. Burn ***2 copies of the carcinoma case***, each on a separate disc.
   4. Images must be in ***DICOM format without compression***. Other formats (jpeg, bitmap, etc.) are not acceptable.
   5. The discs must include an ***embedded viewer***.
   6. After burning, ***open and check each disc*** on a different computer to make sure that:
      - ❒ The embedded viewer displays all required ***exam identification and labeling information*** (or they are easily accessed through the DICOM header).
      - ❒ The case on each disc ***opens within 2 minutes***. (It will be returned for replacement if it does not.)

G. Label the discs and forms (see examples below)
   1. Place the appropriate label (CA-CD1 or CA-CD2) on the ***disc case***. (Do ***not*** put the labels on the disc.)
   2. ***Using a permanent marker***, label the discs with the CD# and your BMRAP ID# (or use a disc label).

   3. Label the Test Image Data form with the indicated label.

IMPORTANT: The correct labeling of your images, forms and discs is critical to properly identify the materials submitted for accreditation. Incorrect or incomplete labeling will delay the accreditation process. The ACR will return your package to you if your images are not labeled properly.

MAILING INSTRUCTIONS

A. Return all requested materials including the discs to the following address ***by a traceable method***:

BREAST MRI ACCREDITATION PROGRAM
AMERICAN COLLEGE OF RADIOLOGY
1891 PRESTON WHITE DRIVE
RESTON, VA 20191-4397

B. The images submitted for review will be returned once the accreditation evaluation is complete.