MRI FAQs

Application - General

Q. My facility plans to apply for ACR MRI Accreditation, where do I start?
A. Start by reading the following documents, available on the ACR website:
   • The Diagnostic Modality Accreditation Program Overview
   • The ACR MRI Accreditation Program Requirements
   • The ACR MRI Accreditation Testing Instructions
   • The ACR MRI Accreditation Phantom Testing Instructions

After reading these documents and checking your protocols, you can apply online here:

Q. Will MRI accreditation become mandatory?
A. Currently, the ACR MRI Accreditation Program is a voluntary process. However, effective January 1, 2012 all providers that bill for CT, MRI, breast MRI, nuclear medicine and PET under part B of the Medicare physician fee schedule must be accredited in order to receive reimbursement for the technical component from Medicare.

Q. Is my hospital required to be accredited under the new MIPPA legislation?
A. No. Part B of the Medicare physician fee schedule is for outpatient facilities.

Q. Can any MRI facility apply for MRI accreditation?
A. Yes, any MRI facility may apply for MRI accreditation. For small, extremity-only scanners, there is a smaller phantom that your scanner can accommodate. Simply indicate on your application that your scanner is only capable of extremity scans.

Q. How many people at my facility are involved in the accreditation process?
A. Everyone at your facility is involved with accreditation. Your “core team” should be made up of the following personnel:
   1. Your lead MRI technologist will be the main person we contact if necessary. This should be the primary person who completes accreditation forms and documents, and is the technologist contact listed on your application.
   2. Your MRI supervising physician is the interpreting physician responsible for your MRI protocols, and approves all aspects of the testing materials submission before you send them to the ACR for review.
   3. Your medical physicist/MR scientist should be responsible for supervising your facility’s weekly QC and the annual system performance evaluation. We also recommend that they are closely involved with the phantom portion of your testing materials submission, and assist the supervising physician and lead technologist with your routine clinical protocols.
   4. Your administrative contact, such as the manager, director, etc., will help organize the members of your “core team”, and ensure that everyone on the team has the resources necessary to successfully complete your accreditation process.

Q. Can mobile MRI practices apply for accreditation?
A. Yes. If a unit serves multiple sites and the imaging protocols and interpreting physician group are the same at each site, then one application and fee should be submitted. If a unit serves multiple locations and the protocols and interpreting physician groups vary from site to site, then each site is required to submit separate applications and fees.

Q. Does the ACR accredit 3.0-T magnets?
A. Yes. Starting July 1, 2005, the ACR began accepting MRI accreditation applications for 3.0-T magnets. In order to accurately measure the performance of these units, 2 of the physics tests performed for ACR accreditation will have different pass/fail criteria for 3.0-T units. For the low-contrast object detectability (LCOD), the required number of total spokes for a 3.0-T magnet is equal to or greater than 37. For the image intensity uniformity, the required percent integral uniformity (PIU) for a 3.0-T magnet is equal to or greater than 82%.

Q. What is the cost of MRI accreditation?

A.

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<thead>
<tr>
<th>MRI Accreditation Fees</th>
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<tr>
<td>Cycle</td>
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<tr>
<td>Accreditation (Initial cycle and renewal)</td>
<td>$2900 for the first unit up to four modules, $3100 for five modules, $3300 for six modules</td>
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<td>$2800 each additional unit at one site location applying for four modules, $3000 for five modules, $3200 for six modules</td>
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<tr>
<td>Repeat</td>
<td>$1300 per unit for clinical or phantom images.</td>
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<td>$2100 per unit if repeating both.</td>
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<td>Reinstate/Corrective Action Plan</td>
<td>$2900 for the first unit up to four modules, $3100 for five modules, $3300 for six modules</td>
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<td>Add units (mid cycle)</td>
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<td>Add module (mid cycle)</td>
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<td>Replacement Certificate</td>
<td>$50 per certificate.</td>
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<td>Large Phantom</td>
<td>$1345 (includes shipping and handling).</td>
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<tr>
<td>Small Phantom</td>
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Q. How much time do I have to return the testing package to the ACR?

A. The testing materials are due 45 days from the date the testing materials were mailed to your facility. The time frame is based on calendar days. After you apply for accreditation, you will receive all of the testing materials electronically. The 45 day timeframe is to make sure your facility gets through the accreditation process in a timely manner. If your facility needs extra time, please call an ACR accreditation representative at (800) 770-0145 and ask for an extension.

Q. Do sites have to submit images within a certain time frame?

A. Sites are given 45 days to complete the testing portion of the accreditation process. No images will be accepted for review that predate the application by more than six months.

Q. Do facilities have to undergo a site survey as part of the accreditation process?

A. The accreditation process is conducted primarily by mail. The ACR and/or CMS will conduct site visits without prior notification to validate maintenance of accreditation criteria within the three year accreditation period.

Q. Who can purchase an ACR MRI phantom?
A. At this time, the phantom can be purchased by MRI facilities that apply for accreditation, MRI equipment manufacturers, and consulting physicists or MR scientists only. The order form for the phantom comes with the testing materials packet when a facility applies for, or renews accreditation. For your convenience, you can download the MR phantom order form at http://www.acr.org/accreditation/mri/mri_qc_forms.aspx. This form allows you to order either the large or small phantom. The fees are listed on the form. MRI manufacturers interested in purchasing a phantom should contact the MRI Accreditation Program at (800) 770-0145 or e-mail to MRI@acr.org.

Q. What is the most common cause for failure?
A. Clinical image deficiencies or a combination of clinical and phantom image deficiencies.

Q. What options does a site have if it fails the initial testing cycle?
A. Sites have the option of appealing the results if they disagree with the findings based on the information submitted, or they may reapply for the deficient areas indicated on the final report. For clinical examinations: repeat those examinations on a different patient. For phantom images, repeat the phantom scans (we recommend with the assistance and supervision of a qualified medical physicist/MR scientist).

Q. My facility did not pass accreditation. May we appeal the decision? If so, what's involved?
A. Yes. Facilities that receive a deficiency or a failure may appeal the determination in writing within 15 days of the date of the final report. A letter describing your reason for appealing must be submitted. Only those images from the original exam will be considered during the appeal evaluation. These will be forwarded to an arbitrator (a reviewer who did not participate in the initial review) with a copy of the previous reviews and the appeal letter written by the facility. No other images will be sent to the reviewer for consideration in the evaluation. The arbitrator's determination will be final.

Q. We recently appealed an adverse accreditation decision. When should we receive the results of the appeal?
A. You should receive the appeal results within 30 to 45 days of the date all required appeal materials were received by the ACR.

Q. We did not pass accreditation because our technologists selected and submitted the wrong images. May we appeal the decision and submit new cases?
A. Although you may appeal the decision, you may not submit new cases. During accreditation review, the ACR reviewers assume that the submitted cases were reviewed by the modality's supervising physician (as specified in the Testing Instructions) and are examples of your best work. Consequently, during an appeal, only the original images will be considered.

Q. We did not pass accreditation because our technologist did not submit all required images and provided insufficient information with the images that were submitted. May we appeal the decision and submit the rest of the required information?
A. You may appeal the decision; however, you may only submit the original images. If some sequences from the original exam were not included you may be able to submit those sequences. Please call the Diagnostic Modality Accreditation Information Line at (800) 770-0145 for further guidance on your specific situation.

Q. We are currently accredited under the “whole body” MRI Accreditation. Do we have to go through the new “modular” program to remain in good standing?
A. You will go through the “modular” approach to MRI Accreditation when your facility comes up for renewal. You are not required to go through the process until your normal renewal.

Q. Why did the ACR change the MRI Accreditation Program from whole body to modular?
A. Due to tremendous growth in Magnetic Resonance Imaging and the need for quality assurance in this ever-changing area of imaging care, the American College of Radiology (ACR) developed a
modular MRI accreditation program. In 2006, the ACR Council approved a resolution requiring that the current ACR MRI accreditation program be redesigned into a modular program to best meet the needs of current MR practice.

This new approach offers facilities a more flexible accreditation program that recognizes that facility practice patterns vary, depending on the patient population served and the number of magnets utilized. Facilities will have six modules to choose from, so they can match their accreditation to their practice on each magnet. Breast MR was specifically excluded from this modular concept because it fits better within the framework of the other breast imaging accreditation programs.

Moved Facilities/Adding Units/Adding Modules

Q. How does a facility add a new unit to their existing accreditation?

A. If you need to add another unit to the same location, please go to “My Modalities” and click the link to “Units/Modules”. Click the link to “Add New Unit” under the list of units; this will add the unit to the Modality ID for that location. Note: If there is less than 13 months remaining on the accreditation, the facility will start an early renewal. All units currently performing diagnostic testing will be included on the application. Early renewal requires full application fees and complete phantom and clinical testing for each unit. The expiration date for all units will be three years from the current expiration date.

If there is more than 13 months remaining on the accreditation, the facility has the option to submit a new unit addendum, or a new unit reinstate application.

- New Unit Addendum: The facility will need to submit complete phantom and clinical testing for the new unit. The facility will pay a reduced accreditation fee. The added unit(s) will receive the same expiration date as currently approved units for this modality.

- New Unit Reinstate: The facility will submit complete phantom and clinical testing for all active units. Withdrawn units may also be removed. This application requires full application fees. The expiration date will be three years from the first approval report date.

Q: We are getting ready to upgrade our currently accredited MR unit. How do I know whether the upgrade will require me to apply as a new unit?

A: The majority of software only upgrades do not require testing as a new unit. Major hardware upgrades that require the physicist to perform acceptance testing and/or establish new baselines for technologist QC require new unit accreditation testing. Major upgrades include, but are not limited to replacing the magnet or gradient coils, new gradient drivers/RF transmitter or replacing all/majority of imaging coils. Please contact the ACR for further information.

Q. How do we add a module to our existing application?

A. Log on to your ACRedit home page at https://acredit.acr.org, click on “my modalities” and click on “units”. Once you click on units, click on the add module link associated with the unit you wish to add the module to.
Q. We will be moving our MRI facility to a new address. Do I need to provide any information to the ACR?
A. Yes. Log on to your ACRedit home page at https://acredit.acr.org and then click on “my modalities”. Click on the “modality details” link for the site you wish to relocate, and click the “change” button next to the location address. The online accreditation system will prompt you for additional information.

Q. We are an accredited facility. Can we add a module (such as MRA or Body) before we renew our accreditation through the modular approach?
A. Yes. Through our online application at https://acredit.acr.org, you may add a module to a unit’s accreditation before you renew. Your accreditation expiration date will not change.

Accreditation Testing

Q. May we use a model or a volunteer to obtain clinical images to submit for accreditation?
A. No. Any clinical image submitted for accreditation review must be of an actual patient who needed the examination. Use of volunteers or models, including staff from your facility is prohibited and may result in withholding, denial or revocation of accreditation. Attempting to “pass off” images taken from a volunteer or model as clinical images from a patient may constitute fraud.

Q. Does the ACR require that a physicist or MR scientist perform testing services for a facility to apply for accreditation?
A. Starting July 1, 2005, sites applying for MRI accreditation must submit an annual MRI system performance evaluation performed by a medical physicist or MR scientist. The medical physicist/MR Scientist will follow the ACR MRI Quality Control Manual in order to perform a complete annual system performance evaluation. This evaluation includes an evaluation of the weekly QC performed by a technologist. A technologist may still perform the ACR phantom portion of the accreditation submission, although the ACR strongly recommends the services of a medical physicist or MR scientist for this also.

Q. Does a physician have to be present during injection of intravascular contrast media?
A. A properly certified and/or licensed healthcare professional may perform the injection so long as a radiologist or his or her physician designee is present and immediately available to furnish assistance and direction throughout the performance of the procedure. The physician need not be in the same room.

Q. Is the Dixon Method an acceptable method of fat suppression?
A. Yes, any method that reduces fat signal uniformly is acceptable for fat suppression, such as the Dixon Method or Inversion Recovery.

Q. Is it acceptable to cool the MRI Accreditation Phantom before scanning to improve SNR?
A. No. It is not acceptable to cool the phantom before scanning.

Q. Is it required to perform the homogeneity test for the annual system performance evaluation?
A. Yes, a homogeneity test of some kind is required as part of the annual system performance evaluation for all accredited magnets, and those applying for accreditation. The ACR QC Manual describes this in the Medical Physicist’s/MR Scientist’s section. This is sometimes a difficult test to perform independently. If the techniques described in the QC Manual cannot be performed, please ask the service engineer to provide a field map or equivalent field homogeneity assessment that has been performed within the last 12 months. If the qualified medical physicist/MRI scientist has an alternate method of accurately assessing this measurement, it is acceptable, providing they include
a description of their methodology. A potential alternate method that may be used with systems that do not provide access to either phase-angle images or spectroscopy is the “Bandwidth-difference” method (Chen, et al Med. Phys. 33 (11), 2006).

Q: Should the physicist apply the ACR PIU tolerance for head coils to other volume coils?

A: The ACR limits for PIU apply to images submitted for accreditation of the large ACR phantom in a head coil, with uniformity correction applied (if it’s a phased array coil) and PIU measured over an area of 200 cm². PIU measured during annual coil testing using other phantoms or without intensity correction is not required to meet those limits.

The PIU measured during annual coil testing will vary with coil design and the clinical application for which the coil is used. Results will also depend on the phantom, size of the ROI, positioning of the phantom within the coil, image orientation and whether intensity correction is applied. Uniformity correction may not be applied for annual RF coil testing, so that it doesn’t mask signal loss of malfunctioning coil elements.

If the coil manufacturer provides a uniformity limit (this is not common) the medical physicist can compare their PIU measurement to that value. In the absence of a manufacturer-supplied PIU limit the medical physicist should establish a baseline PIU value and monitor from year to year using the same phantom, phantom setup, protocol and measurement methods.

Quality Assurance/Quality Control

Q. Do sites have to perform weekly laser film quality control if the radiologists read soft copy instead of film?
A. If there is a laser film printer at the address listed on your application, the weekly laser film printer quality control must be performed.

Q. The long-awaited 2015 ACR Magnetic Resonance Imaging Quality Control Manual has recently been released. What has changed since the 2004 version?
A. In addition to the many revisions incorporated to improve the clarity of the manual, several tests and criteria are different from those in the 2004 Manual. They are outlined below:

- Interslice RF interference tests - removed
- RF cross-talk assessment - removed (all modern systems were found to be capable of easily meeting the previous guideline of maintaining at least 80% SNR when comparing 0- gap images to 100% slice-gap images; however, the manual emphasizes that it is the responsibility of the qualified medical physicist/MRI scientist to determine if this assumption is appropriate for each specific system being evaluated and to add a crosstalk assessment if warranted)
- Magnetic field homogeneity assessment - alternative approaches provided to assist the qualified medical physicist/MRI scientist when evaluating systems that do not allow access to phase-angle images
- Radiofrequency coil check: percent image uniformity (PIU) - previously implemented criteria added (PIU ≥87.5% for systems ≤1.5T and PIU ≥82% for 3T systems)
- Radiofrequency coil check: percent signal ghosting (PSG) – new criteria added (PSG <2.5%)
- Low-contrast detectability (LCD) - new criteria added (at least nine spokes of test objects for ≤1.5T systems and at least 37 spokes of test objects for 3T systems)
- MRI safety program assessment – new test and checklist
- Separate large and small phantom weekly technologist QC forms

Q: Is it acceptable to measure SNR for daily/weekly QC instead of recording an LCD score?
A: Yes, SNR is an acceptable alternative to LCD scoring for daily/weekly phantom QC. However, LCD scores must be included in the Annual System Performance Evaluation.
Q: The ACR Large MRI Phantom Guidance document recommends that a weight of 200 lbs/100 kg be entered for the ACR phantom scans. It also mentions that sometimes 200 lbs may not work correctly. When would I enter a different phantom weight?

A: For some 3T scanners using a weight of 200 lbs will cause the ACR T1 series scan time to double from 2:16 to over 4 minutes. The scan time doubles in order to meet head SAR model restrictions. You could reduce the entered weight to approximately 50 lbs so that the scan time is reduced to 2:16. The image quality should not be affected.

Q. When do current MRI- or breast MRI-accredited facilities or new facilities applying for MRI or breast MRI accreditation have to comply with the test criteria in the new 2015 ACR MRI Quality Control Manual?

A. Effective approximately one year from the publication of the 2015 ACR MRI Quality Control Manual, all ACR MRI- or breast-MRI accredited facilities and those applying for accreditation must maintain a documented quality control (QC) program and must comply with the minimum frequencies of testing outlined in the manual. This date is July 1, 2016.