Mammography Accreditation Program
Testing Instructions

These instructions refer to both paper and online applications. There are additional instructions within the online Testing Package at https://acredit.acr.org. Submit both clinical and phantom images for INITIAL accreditation, accreditation RENEWAL, or a REINSTATEMENT. If you are REPEATING a test for a deficiency, only submit images from the deficient test (i.e., all clinical images and/or the phantom). The accreditation cycle that your facility is currently undergoing can be found in the online system.

CLINICAL IMAGES

A. Required items for testing

1. **For hard copy film submission:** Bar-coded identification labels to be affixed to the clinical images and the Test Image Data form. **IMPORTANT:** These labels are for a specific unit and are marked “Fatty Images,” “Dense Images,” “Clinical Images” (for validation image checks) and “Test Image Data.” Be sure to put the appropriate label on the appropriate item. If you are REPEATING this test for a clinical accreditation deficiency, you must submit both fatty and dense cases performed after the date on your DEFICIENCY REPORT.

2. One Test Image Data form in your online Testing Package for each examination and mammography unit you are testing.

B. Procedure

1. For INITIAL accreditation, accreditation RENEWAL, or a REINSTATEMENT, the clinical and phantom images from each unit must be taken within 30 days of each other. All clinical images should be clearly dated.

2. For a validation image check submission, the images must be from the date specified in the validation image check instruction email (clinical images only).

3. Submit the following cases (see “Submitting Clinical Images” for further guidance):
   a. For accreditation (initial, renewal, repeat, or reinstatement): one dense case and one fatty case.
   b. For validation image checks: two cases, one each of fatty and dense breast examples, if available.

4. Select cases consisting of CC and MLO images of both breasts. (All images for each 4-view exam must be from the same patient.)
   a. The cases must be “negative” (BI-RADS® Assessment Category 1). Do not submit “benign” (Category 2) cases or “incomplete” (Category 0) cases. If you cannot submit “negative” images (e.g., you do diagnostic exams only), call the ACR.
   b. For accreditation, select examples of your facility’s best work. The ACR reviewers will evaluate them accordingly. (See the “Clinical Image Evaluation” section of the 1999 ACR Mammography Quality Control Manual for the review criteria.)
   c. Do not submit images that are performed on models or volunteers.
   d. Only select cases where the entire breast can be imaged in a single exposure on each projection.
   e. Images must be labeled with the MQSA-required image identification information; ACR reviewers will evaluate this.
   f. The images must be of “final interpretation quality”.

5. Hard Copy Film Submission
   a. Full-Field Digital Mammography (FFDM):
      i. Adjust the image display and process the image as typically done when interpreting digital mammography.
      ii. Print the clinical images as close to “true size” as possible (i.e. without magnification or minification). Use the film printer normally used to make hardcopies of digital mammograms for transfer purposes.
      iii. Complete the Clinical Test Image Data Form in your online Testing Package.
      iv. Important: Your supervising radiologist must review and approve the hardcopy image selection prior to labeling them and sending them to the ACR.
      v. Label each image with the bar-coded labels; do not cover the patient ID information or any part of the breast with the label.

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vi. Fill out one Test Image Data form for each mammography unit tested.
   b. Screen-film:
      i. Process the image using the film processor normally used to process mammograms.
      ii. Your supervising radiologist must review and approve the hard-copy phantom image prior to labeling it and sending it to the ACR.
      iii. Label the film with the appropriate bar-coded label; do not cover the patient ID information or any part of the breast with the label.
      iv. Fill out one Test Image Data form for each mammography unit tested.

6. Electronic Submission
   a. **Process the images** as typically done for digital mammography.
   b. Upload the DICOM image into your online Testing Package using TRIAD Windows Client or TRIAD Web Client (see User Instructions for Electronic Submission of Images).
   c. Your supervising radiologist must review and approve the DICOM image selection prior to submitting your online Testing Package.
   d. Fill out the Test Image Data Form in your online Testing Package.

**IMPORTANT: Submit only clinical images that are “negative”.** If ACR reviewers determine that any submitted cases require additional evaluation or follow-up they will be returned immediately. In these situations, the supervising radiologist must attest that he or she will review the findings and follow up with the patient as appropriate before a final accreditation report is issued.

*****There should be 8 clinical images submitted for each unit.*****

SELECTING CLINICAL IMAGES

In order for the ACR Clinical Image Reviewers to assess your image quality for a range of breast types, you must submit one complete exam of fatty breasts and one complete exam of dense breasts. If you are **REPEATING** because you received a deficiency for clinical image quality, you must resubmit both fatty and dense cases. **If the ACR Reviewers do not believe that your images are of an appropriate density, we will return them to you and request another examination.** (Note: Validation Image Check images may be of any breast density.) In addition, **ALL IMAGES MUST BE INTERPRETED AS NEGATIVE** (i.e., BI-RADS® Assessment Category 1: “There is nothing to comment on. The breasts are symmetrical and no masses, architectural disturbances or suspicious calcifications are present”). If you have difficulty submitting negative images, please call the ACR.

Examples of Fatty Breast Images

![Images submitted for the fatty examination should be at least as fatty as the images above.](image)

Fatty breast images **must meet** one of the two fatty BI-RADS® Breast Composition Categories: “the breasts are almost entirely fatty” or “there are scattered areas of fibroglandular density.”

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Revised: 10/5/17
Examples of Dense Breast Images

Images submitted for the dense examination should be at least as dense as the images above.

Dense breast images must meet one of the two dense BI-RADS® Breast Composition Categories: “the breasts are heterogeneously dense, which may obscure small masses” or “the breasts are extremely dense, which lowers the sensitivity of mammography.”

PHANTOM IMAGE

A. Required items for testing
   1. One approved accreditation mammographic phantom (see Program Requirements).
   2. For Hard-Copy Film Submission: Bar-coded identification labels to be affixed to the phantom image and the Test Image Data form (If you chose to upload your images you will not have image labels). IMPORTANT: These labels are for a specific unit and are marked “Phantom Image” and “Test Image Data.” Be sure to put the appropriate label on the appropriate item.
   3. One Test Image Data form for each mammography unit you are testing.

Note: If you are accrediting both FFDM computed radiography and screen-film on a single mammography unit, you will test that unit twice, once for CR and once for screen-film. Be sure to use the labels marked “CR” for the computed radiography testing.

B. Procedure
   1. For INITIAL accreditation, accreditation RENEWAL, or a REINSTATEMENT the phantom and clinical images from each unit must be taken within 30 days of each other.
   2. When positioning the ACR phantom, center it laterally on the image receptor so that the chest-wall edge of the phantom is aligned with the chest-wall edge of the image receptor. (Follow the Phantom Exposure Instructions below that are specific to your unit.)
   3. Submit only 1 phantom image for each unit.
   4. Hard-Copy Film Submission
      a. For FFDM:
         i. Process the image as typically done for digital mammography.
         ii. Window and level the display to best show the test objects.
         iii. Do not zoom or rotate the image.
         iv. Using the film printer normally used to make hardcopies of digital mammograms for transfer purposes, print the phantom image so that
            • Calcifications appear white, and
            • The phantom image is as close to “true size” as possible (i.e. no magnification or minification).
      b. For screen-film, process the image using the processor normally used to process mammograms.

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c. Your supervising radiologist must review and approve the hardcopy phantom image prior to labeling it and sending it to the ACR.
d. Label the film with the appropriate bar-coded label.
e. Complete one Test Image Data form for each mammography unit tested.

6. Electronic Submission
   a. Process the images as typically done for digital mammography.
   b. Upload the DICOM image into your online Testing Package using TRIAD Windows Client or TRIAD Web Client (see User Instructions for Electronic Submission of Images).
   c. Your supervising radiologist must review and approve the DICOM phantom image prior to submitting your online Testing Package.
   d. Complete the Phantom Test Image Data Form in your online Testing Package.

*****There should be only 1 phantom image for each unit.*****

PHANTOM EXPOSURE INSTRUCTIONS

All Systems Using the ACR Digital Mammography Phantom and the 2016 ACR Digital Mammography Quality Control Manual

1. Position the phantom as shown. The chest wall side of the phantom must be completely flush with the chest wall side of the image receptor.
2. Lower the compression paddle to approximately 5 daN (or 12 pounds) of compression force.
3. If applicable, position the AEC sensor so that it is under the center of the wax insert.
4. Set the imaging mode and technique (AEC mode, target, filter, kVp, density control setting, etc.) currently used for a 4.2-cm compressed breast of average density.
5. Make an exposure.
6. Record the technical factors on the Test Image Data form.

General Electric FFDM Units Using the Small ACR Mammography Phantom

1. If you are using the Automatic Optimization of Parameters (AOP) AEC mode (which involves auto-timing with auto kVp and/or auto selection of target and filter) for your clinical examinations, the phantom will not appropriately simulate the attenuation of an average breast due to the nature of the unit’s automatic parameter selection and exposure control. Consequently, you must first use GE’s 4.0 cm thick acrylic plates to find a manual technique to expose the phantom.
   a. Position the acrylic plates on the image receptor as typically done for the AOP and SNR Check.
   b. Lower the compression paddle onto the acrylic plates and apply moderate compression force.
   c. Make an exposure under routine clinical AOP conditions (CNT, STD or DOSE) currently used for a 4.2 cm compressed breast of average density.
   d. Make a note of the technical factors (AOP mode, kVp, mAs, focal spot size, target and filter). These will be used to set a manual technique to expose the phantom.
2. Position the phantom as shown in the photo of the small phantom below. The chest wall side of the phantom must be completely flush with the chest wall side of the image receptor.
3. Do NOT use an acrylic disk on the phantom.
4. Lower the compression paddle until it just touches the phantom.
5. Reproduce the kVp, focal spot size, target and filter, and select a manual mAs as close as possible to the one determined by the acrylic plates in the first step. Do not use the technical factors in the GE QC Manual.
6. Make an exposure.
7. Record the technical factors on the Test Image Data form.
All Other FFDM Systems (Including Computed Radiography) Using the Small ACR Mammography Phantom

1. Follow your manufacturer directions for exposing the phantom with the imaging mode and technique (AEC mode, target, filter, kVp, density control setting, etc.) currently used for a 4.2-cm compressed breast of average density.

2. Position the phantom as shown in the photo. The chest wall side of the phantom must be completely flush with the chest wall side of the image receptor.

3. Follow your manufacturer’s directions for your weekly phantom QC for using the acrylic disc. If your manufacturer requires you to use the acrylic disc, place the acrylic disk on the phantom, as it would be for routine QC. Be sure that the disk does not cover any test object locations. (If your manufacturer’s QC manual specifies that the acrylic disk not be used, don’t use it.)

4. Lower the compression paddle until it just touches the phantom.

5. If applicable, position the AEC detector so that it is under the center of the wax insert.

6. Make an exposure.

7. Record the technical factors on the Test Image Data form.

All Screen-Film Units

1. Position the phantom as shown in the photo above for the small ACR Mammography Phantom.

2. Place the acrylic disk on the phantom as it would be for routine QC. Be sure that the disk does not cover any test object locations.

3. Take preliminary images of the phantom to ensure correct positioning of the phantom.

4. Lower the compression device until it just touches the phantom.

5. Move the AEC detector so that it is under the center of the wax insert.

6. Set the clinical technical factors (AEC mode, target, filter, kVp, density control setting, etc.) currently used for a 4.2-cm compressed breast of average density.

7. Make an exposure.

8. Record the technical factors on the Test Image Data form.
REQUIRED FORMS AND DOCUMENTS

Determine the type of accreditation cycle that your facility is currently undergoing from the online accreditation system and follow the column to see the items required for submission:

<table>
<thead>
<tr>
<th>Required Forms and Documents</th>
<th>Initial</th>
<th>Renewal</th>
<th>Reinstatement</th>
<th>New Unit Reinstall</th>
<th>New Unit Addendum</th>
<th>Repeat</th>
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<td>Yes</td>
<td>Yes</td>
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<td>Yes, if new personnel were entered</td>
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<td><strong>Personnel Forms:</strong></td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes, if this is your facility’s 1st submission for a new modality</td>
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<td>(Forms Available at <a href="http://www.acr.org">www.acr.org</a>)</td>
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<tr>
<td>(Include a completed Evaluation of Site’s Tech QC Program Summary)</td>
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<td>Yes</td>
<td>Yes</td>
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<td>Yes</td>
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<td>Daily and Weekly Checklist (send 1 month, must include the dates that the accreditation clinical and phantom images were taken. (if this is a new unit, send all available)</td>
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<td>Monthly, Quarterly and Semi-Annual Checklist (send previous calendar 12 months. (if this is a new unit, send all available)</td>
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MAILING INSTRUCTIONS

For Facilities Submitting by Hard-Copy Film

Return the required forms and documents (see table above), along with your phantom image and/or the clinical images to the following address:
Please note that your submission contains HIPAA data, so we strongly recommend that you send your submission via a traceable method with a signature required for delivery.

The images submitted for review will be returned once the accreditation evaluation is complete. However, you should **maintain copies of all images** as well as a record of the patient names whose clinical images were sent for accreditation purposes until you receive official notification your accreditation is approved.

**For Facilities Submitting Images Electronically**

Upload all images, forms and documents (see table above) into your online testing package in the ACRedit Database:

https://acredit.acr.org