Mammography

Candidates for certification and registration are required to meet the Professional Requirements specified in the ARRT Rules and Regulations. ARRT’s Mammography Structured Education and Clinical Experience Requirements describe the specific eligibility requirements that must be documented as part of the application for certification and registration process.

Successful completion of at least 16 hours of structured education and performance of the clinical procedures specified, in combination with demonstration of the cognitive knowledge and skills covered by the certification examination, provides the basis for the acquisition of the full range of clinical skills required in a variety of settings. ARRT encourages individuals to obtain education and experience beyond these minimum requirements.

The ARRT periodically conducts a practice analysis to delineate the job responsibilities typically required of staff mammographers. This results in a “task inventory.” An advisory committee then determines the number of clinical procedures required to demonstrate adequate candidate experience in performing the tasks on the inventory.

Structured Education Requirements

Beginning January 1, 2016, candidates for post-primary certification and registration are required to document completion of structured education related to the content specifications.

Educational activities must meet the following requirements:

- the educational activities must be distributed among the current ARRT content specifications for this discipline;
- the total number of hours must equal at least 16; and
- at least one hour of structured education must be related to each of the following content areas:
  A. Patient Care: Education and Assessment
  B. Instrumentation and Quality Assurance
  C. Anatomy, Physiology and Pathology
  D. Mammographic Technique and Image Evaluation
  E. Breast Imaging Procedures

Activities must meet the same standards as CE activities [i.e., approved by a Recognized Continuing Education Evaluation Mechanism (RCEEM or RCEEM+)] or must meet the definition of an approved academic course. An approved academic course is a formal course of study that is relevant to the radiologic sciences and/or patient care as it relates to the radiologic sciences and is offered by a post-secondary educational institution accredited by a mechanism recognized by ARRT.

Structured educational activities that are only approved by state licensing agencies will not satisfy these requirements.
Clinical Experience Requirements

Candidates must document performance of a minimum of 75 repetitions of mammography procedures according to the criteria noted below. Procedures are documented, verified and submitted when complete via an online tool accessible through an R.T.’s My ARRT Info account on arrt.org.

Completion of each procedure must be verified by your supervising mammography technologist or a MQSA qualified interpreting physician. The verification process is described within the online tool.

Specific Procedural Requirements

Mandatory Procedures

A. Initial MQSA (Mammography Quality Standards Act)

The candidate must meet initial MQSA requirements including, among other provisions, completion of 25 supervised mammography examinations. Documentation of completion is required by MQSA. ARRT requests confirmation that you completed these initial MQSA requirements.

B. Mammographic Examinations

The candidate must perform mammographic examinations (screening and/or diagnostic) on 75 patients addressing the following tasks in each examination. These 75 examinations are in addition to the 25 examinations that are required by the initial MQSA mammography requirements. All examinations must be performed on patients (not phantoms or simulations).

Patient Preparation/Education

- Provide for patient comfort and cooperation by familiarizing patient with the equipment and procedure, stressing the need for compression, and by providing general psychological support.

- Solicit and record patient clinical history relevant to the performance and interpretation of the mammographic examination.

- Document location of lumps, scars, moles, etc. by means of radiopaque markers on breast and/or diagram on clinical information sheet.

- Respond to patient questions on BSE, CBE, patient dosage, possible need for additional projections, ACS guidelines for screening mammography, and other breast imaging procedures.

Mammographic Procedure

- Select equipment appropriate to the patient and the examination to be performed (e.g., image receptors, grids, compression plates, cassettes).

- Select exposure factors based upon breast tissue density, patient’s age, numerical compression scale and equipment characteristics.

- Select markers to document breast imaged and projection used.

- Position patient and equipment to provide projections specified by department protocol or requisition form.

- Evaluate the images to assure that they contain proper identification and are of diagnostic quality.
C. Quality Control (QC)

The candidate must choose either the analog (C1) or the digital (C2) pathway and participate in the performance, evaluation and recording of all the QC tests. Candidates cannot combine requirements and document tests from analog and digital systems. The analog QC tests are described in the Mammography Quality Control Manual (1999) published by the American College of Radiology. Users of digital systems should follow the manufacturer’s QC recommendations.

If there are any Quality Control requirements that are not available due to the type of equipment in your facility, an exemption must be granted prior to submission of the application for certification. Please see the Exemption section at the end of this document for further detail. If you have questions, please call the Clinical Experience Requirements Department at 651-687-0048, ext. 8570.

C.1 Analog QC Documentation

- Processor QC (20)
- Film-Screen Contact (8 cassettes)
- Darkroom Cleanliness (5)
- Phantom Images (5)
- Screen Cleanliness (4)
- Viewboxes and Viewing Conditions (4)
- Darkroom Fog (2)
- Compression Force (2)
- Repeat Analysis (2)
- Analysis of Fixer Retention in Film (2)
- Visual Checklist (2)
- Review of Medical Physicist’s Annual Survey Report (1)

C.2 Digital QC Documentation

- Laser Imager QC (10)
- Diagnostic Review Workstation (5)
- Monitoring Cleaning (5)
- Phantom Images (5)
- Flat Field (FFDM-DR only) (4)
- Viewing Conditions (4)
- SNR/CNR/MTF as required by the manufacturer (4)
- Compression Force (2)
- Repeat Analysis (2)
- Visual Checklist (2)
- Review of Medical Physicist’s Annual Survey Report (1)

1 “Participate” means being actively involved in the performance of the procedure even though the candidate may not have primary responsibility for performing the procedure.
D. Radiographic Critique/Interpretation (10)

The candidate must review at least 10 mammographic examinations with a MQSA qualified interpreting physician to evaluate radiographic technique, positioning, breast anatomy and pathology.

Elective Procedures

Interventional/Special Examinations

The candidate must observe, assist with or participate\textsuperscript{1} in at least four of the procedures listed below.

- Needle Localization
- Breast MRI
- Breast Ultrasound: imaging, biopsy or FNA
- Stereotactic Procedure
- Breast Implant Imaging
- Ductography
- Diagnostic Work-Up

\textsuperscript{1} “Participate” means being actively involved in the performance of the procedure even though the candidate may not have primary responsibility for performing the procedure.

Exemption

If a candidate is very close, but unable to meet all of the clinical experience requirements due to medical, facility or employer policy limitations, an exemption may be granted for one or two types of required procedures. Requests are made by submitting a letter that includes the following:

- An explanation of your current situation;
- The reason the exemption is necessary; and
- An explanation and source information of the educational activity you have completed to meet the intent and take the place of the requirement.

Letters should be mailed to the Clinical Requirements Department at 1255 Northland Drive, St. Paul, MN 55120, or faxed to (651) 994-8510. Please allow up to two weeks for your request to be reviewed. If the exemption is approved, you will be notified and your Progress tab will be updated to reflect the exempted procedure(s). If you have any questions, please call (651) 687-0048, ext. 8570.

Suggestions for articles for educational opportunities for the Flat Field Test Requirement:

- \texttt{http://radiographics.rsna.org/content/19/2/503.full}
  Quality Assurance in Mammography: Artifact Analysis by Jacquelyn P. Hogge, MD, Carolyn H. Palmer, R.T.(R)(M), Caroline C. Muller, R.T.(R)(M), Sherrill T. Little, MD, Deborah C. Smith, R.T.(R)(M), Panos P. Fatouros, PhD, Ellen Shaw de Paredes, MD

- \texttt{http://www.radiologictechnology.org/}
  CE directed reading: Quality Assurance in Digital Mammography by Jennifer Minigh, PhD

If you are not able to access these links, copies of these articles are available upon request to ARRT.

Call the Clinical Experience Requirements Department at 651-687-0048, ext. 8570.