



# Mammography

Candidates **applying** for certification and registration **under the postprimary eligibility pathway** are required to meet the Professional Requirements specified in the *ARRT Rules and Regulations*. ARRT's *Mammography Clinical Experience Requirements* describe the specific eligibility requirements that must be documented as part of the application for certification and registration process.

The purpose of the clinical experience requirements is to verify that candidates have completed a subset of the clinical procedures within a discipline. Successful performance of these fundamental procedures, **in combination** with mastery of the knowledge and cognitive skills covered by the examination, provides the basis for the acquisition of the full range of clinical skills required in a variety of settings.

The requirements are periodically updated based upon a practice analysis which is a systematic process to delineate ~~The the~~ job responsibilities typically required of mammographers. ~~are delineated through a periodic practice analysis. This~~ The results of this process is 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.

Candidates for Mammography certification and registration 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 **My ARRT-Infeyour** account on arrt.org. ARRT encourages individuals to obtain education and experience beyond these minimum requirements.

Completion of each procedure must be verified by a certified and registered supervising mammographer or an MQSA qualified supervising mammographer, or an 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 mammograms. ~~phy procedures.~~ Documentation of completion is required by MQSA. ARRT requests confirmation that ~~you the candidate completed these initials~~ MQSA ~~requirements compliant but does not require online entry of these 25 mammograms.~~

#### B. Mammographic ~~Procedures~~Imaging

The candidate must perform mammographic ~~procedures-imaging~~ (screening and/or diagnostic) on 75 patients addressing the following tasks. ~~in each procedure.~~ These 75 ~~procedures-mammograms~~ are in addition to the 25 ~~procedures-mammograms~~ that are required by the initial MQSA ~~mammography~~ requirements. ~~The procedures may be performed using any mammography modality.~~ All ~~procedures-mammograms~~ must be performed on patients (not phantoms or simulations).



Patient Preparation/Education **Tasks**

- Provide for patient comfort and cooperation by familiarizing patient with the equipment and ~~procedure~~process, stressing the need for compression, and by providing general psychological support.
- Solicit and record patient clinical **and family** history relevant to the performance and interpretation of the mammographic procedure.
- Document location of lumps, scars, moles, etc. by means of radiopaque markers on **the** breast and/or diagram on clinical information sheet, **per department protocol**.
- Respond to patient questions ~~regarding~~ BSE, CBE, patient dose, possible need for additional ~~projections~~views, ACS and ACR guidelines for screening mammography, and other breast imaging procedures.

Mammographic ~~Procedure~~Imaging **Tasks**

- Select equipment appropriate to the patient and the ~~procedure~~views to be performed (e.g., ~~image receptors, grids,~~ compression ~~plates~~paddles, magnification stand).
- ~~Select~~Adjust exposure factors, ~~based upon breast tissue density, patient's age, numerical compression scale and equipment characteristics~~as needed (e.g., implanted devices, augmentation, post-radiation changes).
- ~~Document breast imaged laterality and projection views used.~~
- Position patient and equipment to ~~provide~~acquire ~~projections~~views specified ~~by~~per department protocol or requisition.
- Evaluate the images to assure that they contain proper identification **and labeling**, and are of diagnostic quality.

C. Quality Control (QC)

The candidate must participate<sup>1</sup> in the performance, evaluation and recording of all the QC tests **as indicated in the 2018 ACR Digital Mammography Quality Control Manual or according to equipment manufacturer's recommendations.**

Manufacturer's QC recommendations for date intervals should be followed.

~~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 and registration. Please see the Exemption section at the end of this document for further detail. If you have questions, please call the Clinical Requirements Department at 651-687-0048, ext. 8570.~~

QC Documentation

- Phantom Image **Quality** (510)
- **Compression Thickness Indicator** (5)
- Visual Checklist (5)
- **Acquisition Workstation Monitor** ~~Cleaning~~QC (5)
- ~~Interpretation~~Radiologist's Workstation Monitor QC (52)
- Compression Force (2)
- **Facility QC Review** (1)
- Repeat Analysis (21)
- Review of Medical Physicist's Annual Survey Report (1)
  - **Including Signal-To-Noise Ratio (SNR), Contrast-To-Noise Ratio (CNR), Modulation Transfer Function (MTF), Manufacturer Detector Calibration, Artifact Evaluation, Flat Field, as applicable.**



- ~~• Artifact Evaluation \* (e.g., Flat Field, Detector Calibration) FFDM-DR only (5) \*Important FFDM-DR users: If you are unable to complete this requirement, please see the Exemption section at the end of this document. (optional)~~
- ~~• Signal-to-Noise Ratio (SNR), Contrast-to-Noise Ratio (CNR), Modulation Transfer Function (MTF), as required by the manufacturer (5)~~

<sup>1</sup> "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 Technologist Mammographic Image Evaluation Critique/Interpretation (10)~~

Candidate must ~~consult~~ with an MQSA qualified interpreting physician to review ~~image quality positioning ( at least 10 mammographic procedures images cases for breast anatomy, pathology, and image quality, ) and establish corrective action, per EQUIP regulations. Evaluate radiographic technique, breast anatomy and pathology. (part 1&2 of EQUIP)~~

## Elective Procedures

### Interventional/Special Procedures

The candidate must observe, assist with or participate<sup>1</sup> in at least four of the procedures listed below.

- Wire/Needle Localization
- Breast MRI
- Breast Ultrasound: (e.g., diagnostic ultrasound imaging, biopsy, FNA or cyst aspiration)
- Stereotactic Procedure Biopsy with Clip Placement
- Breast Implant Imaging
- ~~• Ductography/Galactography~~
- Tissue Marker Clip Placement Imaging
- Stereotactic Specimen Imaging
- Surgical Specimen Imaging
- Localization Imaging
- Diagnostic Mammogram
- Recall from a Screening Mammogram

<sup>1</sup> "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 Artifact Evaluation Requirement:

~~<http://www.ajronline.org/doi/full/10.2214/AJR.10.5563>~~

~~*Computed Radiography Image Artifacts Revisited* Chandrakant Manmath Shetty, Ashita Barthur, Avinash Kambadakone, Nilna Narayanan and Rajagopal Kv American Journal of Roentgenology. 2011;196: W37-W47. (CR artifact—but no reference to mammography artifact evaluation—and it's from 2011)~~

~~<http://radiographics.rsna.org/content/19/2/503.full> (THIS RELATES TO FILM ONLY—from 1999)~~

~~*Quality Assurance in Mammography: Artifact Analysis* Jacquelyn P. Hogge, MD, Carolyn H. Palmer, R.T.(R)(M)(ARRT), Caroline C. Muller, R.T.(R)(M)(ARRT), Sherrill T. Little, MD, Deborah C. Smith, R.T.(R)(M)(ARRT), Panos P. Fatouros, PhD, Ellen Shaw de Paredes, MD.~~

~~If you are not able to access these links, copies of these articles are available upon request to ARRT. Call the Clinical Requirements Department at 651.687.0048, ext. 8570.~~