



Bone Densitometry

Candidates for certification and registration are required to meet the Professional Requirements specified in the *ARRT Rules and Regulations*. ARRT's *Bone Densitometry 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 cognitive knowledge and 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 job responsibilities typically required of staff bone densitometry technologists are delineated through a periodic practice analysis. 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.

Candidates for Bone Densitometry certification and registration must document performance of 125 mandatory procedures and 3 additional elective procedures according to the criteria noted below. Procedures are documented, verified, and submitted when complete via an online tool accessible through My ARRT Info 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 technologist (post-primary certification not required), supervisor, or licensed physician. The verification process is described within the online tool.

Specific Procedural Requirements

A. Mandatory Procedures

Patient Scanning of the Spine and Femur Utilizing Dual Energy X-Ray Absorptiometry (DXA) Equipment

Candidates must perform 50 scans of both the lumbar spine and femur. If a patient is scanned at two or more anatomical sites, each scan can be counted as a separate occurrence. Dual proximal femur scans are considered one site. However, scanning the same site two or more times on a single patient the same day counts only as one scan. Scans must be performed on humans; scans of phantoms and other types of simulated tissue cannot be counted as scans. Candidates must incorporate the following clinical activities into each DXA examination.

Patient Preparation/Education

- Explain the procedure: Obtain relevant patient history (including screening for possible pregnancy); assure that all artifact-producing objects have been removed; and verify that patient has not been subjected to medical procedures or medications that may invalidate the scan results (e.g., received contrast, prosthetic devices).
- Acquisition and Analysis: Enter patient data required to utilize reference data; select positioning aids and position patient; record unusual positioning details; and perform DXA scan.
- Evaluation of Results: Verify regions of interest; evaluate quality of measurements for problems due to artifacts, pathology, etc.; recommend additional scans as necessary; flag values that require physician's attention (low T-score; unreliable results, etc.); and archive results.



Daily Quality Control Procedures

Candidates must perform and interpret results of the required daily QC tests on DXA scanning equipment, according to manufacturer guidelines, at least 25 times.

B. Elective Procedures

Candidates must complete at least three of the following activities the number of times specified.

- Perform DXA scans of the forearm 10
- Utilize FRAX[®] tool to assess 10 year fracture risk 10
- Perform and analyze scans for in vivo precision study 1
- Perform follow-up scan and compare bone density measurements from two occasions (for same patient) to assess changes over time 10
- Answer basic questions from patients or family members about lifestyle choices related to bone health, fall prevention, and drug therapies 20
- Give lecture to other health care professionals or provide community education workshop related to bone health and bone densitometry 1
- Perform DXA scan on pediatric patients (age 5-19 years) 2