



Bone Densitometry

Candidates applying 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 candidates must document as part of the application for certification and registration.

The purpose of the clinical experience requirements is to document that candidates have performed 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 as documented by the examination requirement, provides the basis for the acquisition of the full range of clinical skills required in a variety of settings.

ARRT periodically updates the requirements based on a [practice analysis](#), which is a systematic process to delineate the job responsibilities typically required of bone densitometry (BD) technologists. The result of this process is a [task inventory](#). A practice analysis committee then determines the number of clinical procedures required to demonstrate adequate candidate experience in performing the tasks on the inventory.

Candidates for BD certification and registration must document independent completion of BD clinical procedures according to the criteria noted below in the mandatory and elective procedures sections. Procedures are documented, verified, and submitted when complete via an online worksheet accessible through the candidate's ARRT account on www.arrt.org. ARRT encourages individuals to obtain education and experience beyond these minimum requirements.

A certified and registered technologist (postprimary certification not required), supervisor, or licensed physician must verify completion of each procedure. The online worksheet describes the verification process.

The candidate can document up to 15 BD procedures per day in the online worksheet.

Remote scanning is not acceptable for completion of ARRT Clinical Requirements. The candidate must complete the examination or procedure at the facility where the patient and equipment are located. The candidate must be physically present during the examination or procedure.

For postprimary clinical experience requirement procedures, clinical verifiers are responsible for verifying the candidate's completion of procedures in accordance with ARRT requirements. Clinical verifiers are not required to directly observe the candidate performing the procedure and may perform their verification responsibilities remotely.



Specific Requirements for BD Procedures

Candidates must document a minimum of 125 mandatory procedures and 3 different elective procedures. Scans must be performed on humans; scans of phantoms and other types of simulated tissue cannot be counted as scans.

A. Mandatory Procedures

- Daily Quality Control (QC)
 - Candidates must perform and interpret results of the required QC tests on Dual Energy X-Ray Absorptiometry (DXA) scanning equipment, according to manufacturer guidelines, at least 25 times.
- Scan Patient Using DXA Equipment
 - Spine
 - Femur

Candidates must perform 50 scans of both the lumbar spine and proximal 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. Also, scanning the same site two or more times on a single patient the same day counts only as one scan.

Candidates must incorporate the following clinical activities into each DXA examination:

Prepare the Patient and Explain the Procedure

- Obtain relevant patient history (including screening for possible pregnancy)
- Ensure all artifact-producing objects have been removed
- Verify the patient has not had procedures or medications that may invalidate the scan results (e.g.,* received contrast media, prosthetic devices)

Acquisition and Analysis

- Enter patient data required to use reference data
- Select positioning aids and position patient
- Record unusual positioning details
- Perform DXA scan

Evaluation of Results

- Verify regions of interest
- Evaluate quality of measurements for problems (e.g., artifacts, pathology, motion)
- Perform additional scans as necessary
- Flag values that require provider's attention (e.g., low T-score, unreliable results)
- Archive results

*"e.g." indicates examples of the topics covered, but is not a complete list



B. Elective Procedures

Candidates must complete at least 3 of the following activities the number of times specified. A maximum of 2 elective procedures may be counted **per patient** per day.

Perform and analyze a DXA scan of the forearm	10
Perform and analyze a DXA scan of the whole body	3
Perform and analyze a VFA scan using DXA equipment	2
Perform postprocessing analysis (e.g., auto-calculate) to create a TBS	3
Perform and analyze scans for in vivo precision study	1
Perform and analyze a DXA scan on pediatric patients (age 5-19 years)	2
Perform a FRAX® assessment using an online FRAX® calculation tool	10
Perform follow-up scan for rate of change measurements from two occasions (for the same patient) to assess changes over time (candidate performance of initial scan on same site is not necessary)	10
Answer basic questions the patient, the patient's family, or authorized representative asks about radiation dose/effects, lifestyle choices related to bone health, fall prevention, and/or drug therapies	20
Give lecture to other health care professionals, or provide community education workshop, related to bone health and bone densitometry	1