



Computed Tomography

Candidates for certification and registration are required to meet the Professional Requirements specified in the *ARRT Rules and Regulations*. ARRT's Computed Tomography 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, 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 computed tomography 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 Computed Tomography certification and registration must document performance of a minimum of 125 repetitions of computed tomography 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 art.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, supervisor or licensed physician. The verification process is described within the online tool.

Specific Procedural Requirements

The clinical experience requirements for CT consist of 59 procedures in seven different categories:

- A. Head and Neck
- B. Spine and Musculoskeletal
- C. Chest
- D. Abdomen and Pelvis
- E. Special Procedures
- F. Image Display and Post Processing
- G. Quality Assurance

Candidates must document the performance of complete, diagnostic quality procedures according to the following rules:

- Choose a minimum of 25 different procedures out of the 59 procedures on the following pages.
- Complete and document a minimum of three and a maximum of five repetitions of each chosen procedure; less than three will not be counted toward the total.
- No more than one procedure may be documented on one patient. For example, if an order requests chest, abdomen and pelvis scans for one patient, only one of these may be documented for clinical experience documentation.
- Computed Tomography procedures performed in conjunction with a PET or SPECT procedure or Radiation Therapy planning procedure must be of diagnostic quality.
- A minimum total of 125 repetitions across all procedures is required.



General Guidelines

To qualify as a complete, diagnostic quality CT imaging procedure, the candidate must demonstrate appropriate:

- evaluation of requisition and/or medical record
- preparation of examination room
- identification of patient
- patient assessment and education concerning the procedure
- documentation of patient history including allergies
- patient positioning
- protocol selection
- parameter selection
- image display, filming and archiving
- documentation of procedure, treatment and patient data in appropriate record
- patient discharge with post-procedure instructions
- CDC Standard Precautions
- radiation safety
- preparation and/or administration of contrast media
- initiate scan

and evaluate the resulting images for:

- image quality (e.g., motion, artifacts, noise)
- optimal demonstration of anatomic region (e.g., delayed imaging, reconstruction spacing, algorithm, slice thickness)
- exam completeness

Attention: Your certification and registration process has requirements to complete clinical procedures including activating actual CT scans, known as "initiating the scan" or "making the exposure." You are responsible for ensuring state laws allow you to complete this requirement.

Examples

Candidate A: This person who works in a specialized setting wanted to complete the minimum number of procedures and chose 25 procedures from the seven categories. To complete 125 repetitions, each of the 25 procedures was performed five times each.

Candidate B: This person works in a facility that does most types of CT scans, so completing a wide variety of procedures was quite feasible. A total of 30 procedures from all seven categories were completed and documented. Although most of these procedures were performed three times (the minimum), several of them were performed four or five times each until the candidate reached at least 125 procedures.



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Clinical Experience Requirement Procedures

A. Head and Neck

1. head without and/or with contrast
2. sinuses
3. facials (orbits, mandible)
4. temporal bones/IACs
5. trauma head
6. vascular head (CTA)
7. soft tissue neck
8. vascular neck (CTA)

B. Spine and Musculoskeletal

1. lumbar
2. cervical
3. thoracic
4. spinal trauma
5. upper extremity
6. lower extremity
7. pelvic girdle; hips
8. musculoskeletal trauma
9. vascular extremity (CTA)

C. Chest

1. chest without and/or with contrast
2. HRCT
3. vascular chest (e.g., PE, CTA, aorta)
4. chest trauma
5. lung nodule study
6. heart (e.g., calcium scoring, coronary angiography)

D. Abdomen and Pelvis

1. abdomen without and/or with contrast
2. liver (multi-phase)
3. kidneys (multi-phase)
4. pancreas (multi-phase)
5. adrenals

6. enterography study
7. appendicitis study
8. renal stone protocol (without IV contrast)
9. abdominal trauma
10. vascular abdomen (CTA)
11. CT intravenous urogram/IVP
12. pelvis without and/or with contrast
13. bladder
14. pelvic trauma
15. vascular pelvis (CTA)
16. colorectal studies (rectal contrast)

E. Special Procedures

1. biopsies
2. drainage
3. aspirations
4. CT arthrography
5. discography
6. myelography
7. colonography or virtual colonography
8. brain perfusion
9. radiation therapy planning
10. transplant studies

F. Image Display and Post Processing

1. geometric or distance measurements
2. region of interest measurement (ROI)
3. retrospective reconstruction
4. multiplanar reconstruction (MPR)
5. 3D rendering (MIP, SSD, VR)

G. Quality Assurance

1. calibration checks
2. CT number and standard deviation (water phantom)
3. linearity
4. spatial resolution
5. contrast resolution