



Radiography

1. Introduction

Candidates for certification and registration are required to meet the Professional Education Requirements specified in the *ARRT Rules and Regulations*. *ARRT's Radiography Didactic and Clinical Competency Requirements* are one component of the Professional Education Requirements.

The requirements are periodically updated based upon a [practice analysis](#) which is a systematic process to delineate the job responsibilities typically required of radiographers. The result of this process is a [task inventory](#) which is used to develop the clinical competency requirements (see section 4 below) and the content specifications which serve as the foundation for the didactic competency requirements (see section 3 below) and the examination.

2. Documentation of Compliance

To document that the Didactic and Clinical Competency Requirements have been satisfied by a candidate, the program director (and authorized faculty member if required) must sign the ENDORSEMENT SECTION of the *Application for Certification and Registration* included in the *Certification and Registration Handbook*.

Candidates who complete their educational program during 2017 or 2018 may use either the 2012 Didactic and Clinical Competency Requirements or the 2017 requirements. Candidates who complete their educational program after December 31, 2018 must use the 2017 requirements.

3. Didactic Competency Requirements

The purpose of the didactic competency requirements is to verify that individuals had the opportunity to develop fundamental knowledge, integrate theory into practice and hone affective and critical thinking skills required to demonstrate professional competency. Candidates must successfully complete coursework addressing the topics listed in the [ARRT Content Specifications](#) for the Radiography Examination. These topics would typically be covered in a nationally-recognized curriculum such as the ASRT Radiography Curriculum. Educational programs accredited by a mechanism acceptable to ARRT generally offer education and experience beyond the minimum requirements specified here.

4. Clinical Competency Requirements

The purpose of the clinical competency requirements is to verify that individuals certified and registered by the ARRT have demonstrated competency performing the clinical activities fundamental to a particular discipline. Competent performance of these fundamental activities, in conjunction with mastery of the cognitive knowledge and skills covered by the radiography examination, provides the basis for the acquisition of the full range of procedures typically required in a variety of settings. Demonstration of clinical competence means that the candidate has performed the procedure independently, consistently, and effectively during the course of his or her formal education. The following pages identify the specific procedures for the clinical competency requirements. Candidates may wish to use these pages, or their equivalent, to record completion of the requirements. The pages do NOT need to be sent to the ARRT.



4.1 General Performance Considerations

4.1.1 Patient Diversity

Demonstration of competence should include variations in patient characteristics such as age, gender, and medical condition.

4.1.2 Simulated Performance

The ARRT requirements specify that certain clinical procedures may be simulated as designated in the specific requirements below. Simulations must meet the following criteria:

- The candidate must simulate the procedure on another person with the same level of cognitive, psychomotor, and affective skills required for performing the procedure on a patient. Examples of acceptable simulation include positioning another person for a projection without actually activating the x-ray beam and performing venipuncture by demonstrating aseptic technique on another person, but then inserting the needle into an artificial forearm or suitable device;
- The program director must be confident that the skills required to competently perform the simulated procedure will transfer to the clinical setting, and, if applicable, the candidate must evaluate related images.

4.1.3 Elements of Competence

Demonstration of clinical competence requires that the program director or the program director's designee has observed the candidate performing the procedure independently, consistently, and effectively during the course of the candidate's formal educational program.

4.2 Radiography-Specific Requirements

As part of the educational program, candidates must demonstrate competence in the clinical activities identified below:

- Ten mandatory general patient care activities;
- 37 mandatory imaging procedures;
- 15 elective imaging procedures selected from a list of 34 procedures;
- One of the 15 elective imaging procedures must be selected from the head section; and
- Two of the 15 elective imaging procedures must be selected from the fluoroscopy studies section, one of which must be either upper GI or contrast enema.

These clinical activities are listed in more detail in the following sections.



4.2.1 General Patient Care

Candidates must be CPR certified and demonstrate competence in the remaining nine patient care activities listed below. The activities should be performed on patients whenever possible, but simulation is acceptable.

General Patient Care Procedures	Date Completed	Competence Verified By
CPR Certified		
Vital Signs – Blood Pressure		
Vital Signs – Temperature		
Vital Signs – Pulse		
Vital Signs – Respiration		
Vital Signs – Pulse Oximetry		
Sterile and Medical Aseptic Technique		
Venipuncture		
Transfer of Patient		
Care of Patient Medical Equipment (e.g., Oxygen Tank, IV Tubing)		

4.2.2 Imaging Procedures

Candidates must demonstrate competence in all 37 procedures identified as mandatory. Procedures should be performed on patients whenever possible. A maximum of eight mandatory procedures may be simulated if demonstration on patients is not feasible.

Candidates must demonstrate competence in 15 of the 34 elective procedures. Candidates must select at least one of the 15 elective procedures from the head section. Candidates must select either upper GI or contrast enema plus one other elective from the fluoroscopy section as part of the 15 electives. Elective procedures should be performed on patients whenever possible. If demonstration on patients is not feasible, electives may be simulated.

Institutional protocol will determine the positions and projections used for each procedure.

Demonstration of competence must include:

- patient identity verification
- examination order verification;
- patient assessment;
- room preparation;
- patient management;
- equipment operation;
- technique selection;
- patient positioning;
- radiation safety;
- imaging processing; and
- image evaluation.



4.2.2 Imaging Procedures (continued)

Imaging Procedures	Mandatory or Elective		Date Completed	Patient or Simulated	Competence Verified By
	Mandatory	Elective			
Chest and Thorax					
Chest Routine	✓				
Chest AP (Wheelchair or Stretcher)	✓				
Ribs	✓				
Chest Lateral Decubitus		✓			
Sternum		✓			
Upper Airway (Soft-Tissue Neck)		✓			
Upper Extremity					
Thumb or Finger	✓				
Hand	✓				
Wrist	✓				
Forearm	✓				
Elbow	✓				
Humerus	✓				
Shoulder	✓				
Trauma: Shoulder or Humerus (Scapular Y, Transthoracic or Axial)*	✓				
Clavicle	✓				
Scapula		✓			
AC Joints		✓			
Trauma: Upper Extremity (Non Shoulder)*	✓				
Lower Extremity					
Toes		✓			
Foot	✓				
Ankle	✓				
Knee	✓				
Tibia-Fibula	✓				
Femur	✓				
Trauma: Lower Extremity*	✓				
Patella		✓			
Calcaneus		✓			

* Trauma is considered a serious injury or shock to the body and requires modifications in positioning and monitoring of the patient's condition.



4.2.2 Imaging Procedures (continued)

Imaging Procedures	Mandatory or Elective		Date Completed	Patient or Simulated	Competence Verified By
	Mandatory	Elective			
Head – Candidates must select at least one elective procedure from this section.					
Skull		✓			
Paranasal Sinuses		✓			
Facial Bones		✓			
Orbits		✓			
Zygomatic Arches		✓			
Nasal Bones		✓			
Mandible		✓			
Temporomandibular Joints		✓			
Spine and Pelvis					
Cervical Spine	✓				
Thoracic Spine	✓				
Lumbar Spine	✓				
Cross-Table (Horizontal Beam) Lateral Spine	✓				
Pelvis	✓				
Hip	✓				
Cross-Table (Horizontal Beam) Lateral Hip	✓				
Sacrum and/or Coccyx		✓			
Scoliosis Series		✓			
Sacroiliac Joints		✓			
Abdomen					
Abdomen Supine (KUB)	✓				
Abdomen Upright	✓				
Abdomen Decubitus		✓			
Intravenous Urography		✓			



4.2.2 Imaging Procedures (continued)

Imaging Procedures	Mandatory or Elective		Date Completed	Patient or Simulated	Competence Verified By
	Mandatory	Elective			
Fluoroscopy Studies – Candidates must select either upper GI or contrast enema plus one other elective procedure from this section.					
Upper GI Series, Single or Double Contrast		✓			
Contrast Enema, Single or Double Contrast		✓			
Small Bowel Series		✓			
Esophagus		✓			
Cystography/Cystourethrography		✓			
ERCP		✓			
Myelography		✓			
Arthrography		✓			
Hysterosalpingography		✓			
Mobile C-Arm Studies					
C-Arm Procedure (Requiring Manipulation to Obtain More Than One Projection)	✓				
Surgical C-Arm Procedure (Requiring Manipulation Around a Sterile Field)	✓				
Mobile Radiographic Studies					
Chest	✓				
Abdomen	✓				
Orthopedic	✓				
Pediatric Patient (Age 6 or Younger)					
Chest Routine	✓				
Upper Extremity		✓			
Lower Extremity		✓			
Abdomen		✓			
Mobile Study		✓			
Geriatric Patient (Physically or Cognitively Impaired as a Result of Aging)					
Chest Routine	✓				
Upper Extremity	✓				
Lower Extremity	✓				