



# Radiography

## 1. Introduction

Candidates [applying](#) for certification and registration [under the primary eligibility pathway](#) 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 Primary Eligibility Pathway Handbook*.

Candidates who complete their educational program during [2017-2022](#) or [2018-2023](#) may use either the [2012-2017](#) Didactic and Clinical Competency Requirements or the [2017-2022](#) requirements. Candidates who complete their educational program after December 31, [2018-2023](#) must use the [2017-2022](#) 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~~ ~~curricula published by organizations~~ such as the ASRT [-Radiography Curriculum. Radiography Curriculum](#). Educational programs accredited by a mechanism acceptable to ARRT generally offer education and experience beyond the minimum requirements specified [here in the content specifications and clinical competency documents](#).

## 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 ~~eognitive~~ [cognitive](#) knowledge and [cognitive](#) 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 candidates has~~ [have](#) performed the ~~procedures~~ [procedures](#) independently, consistently, and effectively during ~~the course of his or her~~ [their](#) 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.

### 4.1.32 Simulated Performance

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4.1.3

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 competency demonstrate skills as similar as circumstances permit to the~~ cognitive, psychomotor, and affective skills required for performing the procedures on ~~a~~ patients. ~~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 ~~or their designee~~ 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.
- A total of ten imaging procedures may be simulated. Imaging procedures eligible for simulation are noted within the chart.
- Simulation of imaging procedures requires the use of proper radiographic equipment on a live human being.
- 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.

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4.1.2

### 4.1.23 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-procedures~~ identified below. ~~These clinical procedures are listed in more detail in the following sections.:~~

- Ten mandatory general patient care ~~activities-procedures~~;
- ~~357~~ 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.~~
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~~These clinical activities are listed in more detail in the following sections.~~

One patient may be used for documentation of several procedures. However, each procedure may be used for only one competency (e.g., a portable femur can only be used for a portable extremity or a femur but not both).



#### 4.2.1 General Patient Care Procedures

Candidates must be CPR/BLS certified and have demonstrated competence in the remaining nine patient care ~~activities-procedures~~ listed below. The ~~activities-procedures~~ should be performed on patients whenever possible, but simulation is acceptable if state or institutional regulations prohibit candidates from performing the procedures on patients.

General Patient Care Procedures	Date Completed	Competence Verified By
CPR/BLS Certified		
Vital Signs – Blood Pressure		
Vital Signs – Temperature		
Vital Signs – Pulse		
Vital Signs – Respiration		
Vital Signs – Pulse Oximetry		
Sterile and Medical Aseptic Technique		
Venipuncture		
<del>Transfer of Patient</del> Assisted Patient Transfer (e.g., Slider Board, Mechanical Lift, Gait Belt)		
Care of Patient Medical Equipment (e.g., Oxygen Tank, IV Tubing)		

#### 4.2.2 Imaging Procedures

~~Candidates must demonstrate competence in all the 37 mandatory procedures identified as mandatory listed on the following pages. 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 must 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.

When performing imaging procedures, the candidate must independently demonstrate appropriate: ~~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;
- image~~ing~~ processing; and
- image evaluation.



#### 4.2.2 Imaging Procedures (continued)

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

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



#### 4.2.2 Imaging Procedures (continued)

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



4.2.2 Imaging Procedures (continued)

Imaging Procedures	Mandatory or Elective		Eligible for Patient or Simulation <sup>ed</sup>	Date Completed	Competence Verified By
	Mandatory	Elective			
<b>Fluoroscopy Studies</b> – Candidates must select <b>two procedures either upper GI or contrast enema plus one other elective procedure</b> from this section and perform per site protocol.					
Upper GI Series, Single or Double Contrast		✓			
Contrast Enema, Single or Double Contrast		✓			
Small Bowel Series		✓			
Esophagus ( <i>NOT</i> Swallowing Dysfunction Study)		✓			
Cystography/Cystourethrography		✓			
ERCP		✓			
Myelography		✓			
Arthrography		✓			
Hysterosalpingography		✓			
<b>Mobile C-Arm Studies</b>					
C-Arm Procedure (Requiring Manipulation to Obtain More Than One Projection)	✓		✓		
Surgical C-Arm Procedure (Requiring Manipulation Around a Sterile Field)	✓		✓		
<b>Mobile Radiographic Studies</b>					
Chest	✓				
Abdomen	✓				
<b>Orthopedic Upper or Lower Extremity</b>	✓				
<b>Pediatric Patient</b> (Age 6 or Younger)					
Chest Routine	✓		✓		
Upper or Lower Extremity		✓	✓		
<del>Lower Extremity</del>		✓			
Abdomen		✓	✓		
Mobile Study		✓	✓		
<b>Geriatric Patient</b> (At Least 65 Years Old and Physically or Cognitively Impaired as a Result of Aging)					
Chest Routine	✓				
Upper or Lower Extremity	✓				
<del>Lower Extremity</del> Hip or Spine	✗	✓			

<b>Subtotal</b>					
Total Mandatory exams required	35				
Total Elective exams required		15			
Total number of simulations allowed			10		

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