



Sonography

1. Introduction

Candidates for certification and registration are required to meet the Professional Education Requirements specified in the *ARRT Rules and Regulations*. ARRT's *Sonography 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 sonographers. 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

Verification of program completion, including Didactic and Clinical Competency Requirements and all degree-related requirements including conferment of the degree, will be completed on the Program Completion Verification Form on the ARRT Educator website after the student has completed the Application for Certification and Registration.

Candidates who complete their educational program during 2024 or 2025 may use either the 2019 Didactic and Clinical Competency Requirements or the 2024 requirements. Candidates who complete their educational program after December 31, 2025 must use the 2024 requirements.

~~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.~~

3. Didactic Competency Requirements

The purpose of the didactic ~~education competency~~ requirements is to ~~document 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 ~~competence~~ competency. Candidates must successfully complete coursework addressing the topics listed in the [ARRT Content Specifications](#) for the Sonography Examination. These topics would typically be covered in a nationally ~~recognized~~ curricula published by organizations such as Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS). 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 ~~document verify~~ that individuals ~~certified and registered by the ARRT~~ have demonstrated ~~competence~~ 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 ~~as documented covered~~ by the ~~sonography~~ examination ~~requirement~~, 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 ~~their 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:

- ARRT defines simulation of a clinical procedure routinely performed on a patient as the candidate completing the hands-on task of the procedures on a live human being, using the same level of cognitive, psychomotor, and affective skills required for performing a procedure on a patient in a clinical setting standardized to mirror the physical facilities where practice occurs
- ARRT requires that competencies performed as a simulation must meet the same criteria as competencies demonstrated on patients. For example, the competency must be performed under direct observation of the program director or program director's designee and be performed independently, consistently, and effectively.

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 Sonography-Specific Requirements

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

- Five mandatory patient care procedures and be CPR certified;
- ~~Five~~Six mandatory scanning techniques;
- Two mandatory equipment care activities;
- ~~46-17~~ mandatory imaging procedures; and
- 11 elective imaging procedures selected from a list of ~~24~~ 23 procedures.

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



4.2.1 Mandatory Patient Care Procedures, Scanning Techniques, and Equipment Care Activities

Candidates are required to be CPR certified. They must also demonstrate competence in the remaining five patient care procedures, **five** scanning techniques, and two equipment care activities. The activities should be performed on patients whenever possible, but simulation is acceptable if state or institutional regulations prohibit candidates from performing the procedures on patients.

Mandatory Patient Care Procedures	Date Completed	Competence Verified By
CPR Certification		
Vital Signs (blood pressure, pulse, respiration)		
Monitoring level of consciousness and respiration		
Standard Precautions		
Sterile technique		
Verification of informed consent		
Mandatory Scanning Techniques	Date Completed	Competence Verified By
Gray Scale (2D)		
Color Doppler		
Power Doppler		
Spectral Doppler		
M-Mode		
*Ergonomic Evaluation		
Mandatory Equipment Care	Date Completed	Competence Verified By
Prepare transducer for intracavitary use		
Clean and disinfect transducer		

**The candidate should be evaluated for appropriate ergonomic scanning techniques according to the following: [“Industry Standards for the Prevention of Work Related Musculoskeletal Disorders in Sonography.”](#)*



4.2.2 Sonography Procedures

Candidates must demonstrate competence in the 16 17 mandatory procedures listed below. Candidates are also required to demonstrate competence in 11 of the 24 23 elective procedures. Multiple competencies may be demonstrated on one patient. When performing the sonography procedures, the candidate must demonstrate appropriate:

- patient preparation, including evaluation of requisition or medical record, preparation of exam room, identification of patient, infection control procedures ~~(i.e., Standard Precautions)~~, patient assessment, and instruction concerning the procedure;
- exam protocol, including patient positioning, sonographic technique, parameter selection, image display, image annotation and labeling, archiving, and documentation of procedure; and
- image evaluation, including image quality, optimal demonstration of anatomic region and pathology, and exam completeness.

Procedures should be performed on patients; however, up to five procedures may be performed on volunteers, as long as your institution has a policy that assures the protection of both the volunteer's and the institution's interest. Procedures identified as "Patient" on the chart below must be done on a patient.

The candidate's clinical education should include variation in patient characteristics, provide ample opportunity for demonstration of both normal and variant anatomy, as well as important pathologies and medical conditions. A variety of instructional methods may be useful for teaching the clinical skills identified in this document. ~~For purposes of satisfying these requirements, candidates must be evaluated while scanning actual patients. Simulation is not acceptable for final competence assessment of imaging procedures, unless otherwise specified in this document.~~

Abdomen	Mandatory	Elective	Date Completed	Patient or Volunteer	Competence Verified By
Liver	✓			Patient	
Gallbladder/biliary tract/CBD	✓			Patient	
Pancreas	✓			Patient	
Spleen	✓			Patient	
Gastrointestinal tract (e.g., appendix)		✓		Patient	
Kidneys	✓			Patient	
Adrenals		✓			
Urinary Bladder	✓			Patient	
Lymph nodes		✓		Patient	
Prostate		✓			
Aorta	✓			Patient	
IVC	✓			Patient	
Main portal vein	✓			Patient	
Vasculature (e.g., hepatic, renal, aortic branches)		✓		Patient	
Abdominal wall (e.g., hernia)		✓		Patient	

4.2.2 Sonography Procedures (continued)

Superficial Structures	Mandatory	Elective	Date Completed	Patient or Volunteer	Competence Verified By
Scrotum and testes	✓			Patient	
Breast and axilla		✓			
Superficial masses	✓			Patient	
Thyroid	✓			Patient	
Salivary glands/parotid glands		✓			
Musculoskeletal		✓			
Non-cardiac chest (e.g., pleural space, lung)		✓		Patient	
Gynecology	Mandatory	Elective	Date Completed	Patient or Volunteer	Competence Verified By
Uterus	✓			Patient	
Adnexa (including ovaries)	✓			Patient	
Obstetrics	Mandatory	Elective	Date Completed	Patient or Volunteer	Competence Verified By
First trimester	✓			Patient	
Second trimester	✓				
Third trimester	✓				
Fetal biophysical profile		✓			
Interventional Procedures	Mandatory	Elective	Date Completed	Patient or Volunteer	Competence Verified By
Biopsy		✓		Patient	
Aspiration		✓		Patient	
Drainage procedures		✓		Patient	
Vascular Procedures	Mandatory	Elective	Date Completed	Patient or Volunteer	Competence Verified By
Post catheterization complication		✓		Patient	
Venous extremity Doppler (upper)		✓			
Venous extremity Doppler (lower)		✓		Patient	
Carotid Doppler		✓			
Pediatric	Mandatory	Elective	Date Completed	Patient or Volunteer	Competence Verified By
Head		✓			
Spine		✓			
Hips		✓			
Pyloric stenosis		✓			
Bowel (intussusception, appendix)		✓			