



Breast Sonography

Certification and registration requirements for breast sonography are based on the results of a comprehensive practice analysis conducted by The American Registry of Radiologic Technologist (ARRT) staff and the Breast Sonography Practice Analysis Committee. The purpose of the [practice analysis](#) is to identify job responsibilities typically required of breast sonographers at entry into the profession. The results of the practice analysis are reflected in this document. The attached task inventory is the foundation for both the clinical experience requirements and the content outline which, in turn, is the foundation for the content specifications and the CQR SSA [content specifications](#).

Basis of Task Inventory

In 2024, the ARRT surveyed a large, national sample of breast sonographers to identify their responsibilities. When evaluating survey results, the committee applied a 40% criterion. That is, to be included on the task inventory an activity must have been performed by at least 40% of breast sonographers. The committee could include an activity that did not meet the 40% criterion if there was a compelling rationale to do so (e.g.,* a task that falls below the 40% criterion but is expected to rise above the 40% criterion in the near future).

Application to Clinical Experience Requirements

The purpose of the clinical 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. An activity must appear on the task inventory to be considered for inclusion in the clinical experience requirements. If an activity is designated as a mandatory requirement, survey results had to indicate that breast sonographers performed that activity. The committee may designate clinical activities performed by fewer breast sonographers, or which are carried out in only selected settings, as elective. The *Breast Sonography Clinical Experience Requirements* are available from ARRT's website (www.arrt.org).

Application to Content Specifications

The purpose of the examination requirement is to assess the knowledge and cognitive skills underlying the intelligent performance of the tasks typically required of breast sonographers for practice at entry level. The content specifications identify the knowledge areas underlying performance of the tasks on the task inventory. Every content category can be linked to one or more activities on the task inventory. Note that each activity on the task inventory is followed by a content category that identifies the section of the content specifications corresponding to that activity. The *Breast Sonography Content Specifications* are available from ARRT's website (www.arrt.org).

*The abbreviation "e.g." is used to indicate that examples are listed in parenthesis, but that is not a complete list of all possibilities.



Activity		Content Categories PC = Patient Care S = Safety IP = Image Production P = Procedures FOQ = Focus of Questions
1.	Review imaging request to verify information is accurate, appropriate, and complete (e.g., patient history, clinical diagnosis, physician's orders).	PC:1.C
2.	Review patient's relevant previous imaging exams prior to the breast sonography exam.	PC:1.A.2.C
3.	Interview patient to acquire clinical history (e.g., previous breast exams, personal and family history, prior surgeries) and document findings.	PC:1.A.2.B
4.	Explain the breast sonography examination to the patient.	PC:1.A.1
5.	Respond as appropriate to patient's questions regarding breast health (e.g., screening recommendations).	PC:1.A.5, PC:1.D
6.	Respond as appropriate to patient's questions regarding breast density.	PC:1.A.5.B
7.	Refer patient's questions regarding findings and follow-up to the supervising physician (e.g., radiologist, surgeon) or referring provider.	PC:1.A.5
8.	Respond as appropriate to questions regarding accreditation of the breast imaging center.	PC:1.B.1
9.	Respond as appropriate to questions regarding ultrasound personnel qualifications (e.g., required training, education).	PC:1.B.2
Explain the benefits and limitations of breast imaging using the following:		
10.	breast sonography	PC:1.A.3.A
11.	automated whole-breast ultrasound	PC:1.A.3.B
12.	2D mammography	PC:1.A.3.C
13.	digital breast tomosynthesis (DBT)	PC:1.A.3.C
14.	MRI	PC:1.A.3.D
15.	Perform visual breast examination based on patient communication, documenting location of lumps, scars, and breast skin changes, per protocol.	PC:1.A.2
16.	Select appropriate equipment for the patient and the examination to be performed (e.g., transducer, standoff pad, technical factors).	IP:1.A.3
17.	Adjust equipment to perform the examination (e.g., console, monitors, exam table).	FOQ, IP:2.A
18.	Perform breast ultrasound according to protocol as determined by the supervising physician (e.g., radiologist, surgeon).	P:1, IP:2.A.1
Adjust equipment settings during scanning for image optimization, using the following as appropriate:		
19.	TGC	IP:2.A.4



Activity		Content Categories PC = Patient Care S = Safety IP = Image Production P = Procedures FOQ = Focus of Questions
20.	power	IP:2.A.1
21.	overall gain	IP:2.A.5
22.	frequency	IP:1.B
23.	amplitude	IP:1.B
24.	depth of field	IP:2.A.3
25.	focal zone	IP:2.A.2
26.	harmonic imaging	IP:2.A.7
27.	spatial compounding	IP:2.A.8
28.	dynamic range	IP:1.C, IP:2.A.6
29.	Use automated imaging optimization of equipment (e.g., automated technical factor selection).	IP:2.E
30.	Position patient to demonstrate the desired anatomy (e.g., oblique, supine, decubitus, upright) providing for patient safety, comfort, and modesty.	FOQ, PC:1.A.4
31.	Use proper ergonomics when performing sonographic exams to prevent work-related musculoskeletal disorders.	IP:2.B.1
Optimize the breast sonography exam using the following, as appropriate:		
32.	stand-off pad	IP:2.E.1.D
33.	color Doppler	IP:2.E.1.A.1
34.	power Doppler	IP:2.E.1.A.2
35.	panoramic imaging	IP:2.E.1.C
36.	fremitus	IP:2.E.1.B
37.	static elastography (mechanical compression)	IP:2.E.1.G
38.	Minimize ultrasound bioeffects.	IP:2.B.2
39.	Annotate images to indicate anatomic plane, area of interest, and other relevant information per ACR practice parameters.	IP:2.D.1
40.	Use automated annotation equipment (e.g., automated clock face annotation, distance from nipple annotation, transducer orientation).	IP:2.C, IP:2.D.1
41.	Identify breast tissue components (e.g., skin, fat, fibroglandular tissue, muscle)	P:1
42.	Differentiate normal anatomy from abnormal findings during the breast sonography exam.	P:2
43.	Identify and communicate sonographic echo patterns to the supervising physician (e.g., radiologist, surgeon) using appropriate terminology (e.g., anechoic, hypoechoic, hyperechoic, isoechoic).	PC:1.E.1, P:2
44.	Acquire and annotate images during the breast sonography exam that demonstrate appropriate findings.	IP:2.D.1, IP:2.A.1



Activity		Content Categories PC = Patient Care S = Safety IP = Image Production P = Procedures FOQ = Focus of Questions
45.	Differentiate between artifacts that provide diagnostic versus non-diagnostic value.	IP:3.B
46.	Evaluate scanning technique for diagnostic quality and take corrective action as necessary.	IP:3.A.4
47.	Record, display, archive, and retrieve images using PACS/MIMPS.	IP:3.C.2
Use the following tools after image acquisition:		
48.	cine loop	IP:2.E.1.E, IP:3.C.1.A
49.	overall gain	IP:3.C.1.B
50.	annotations and measurements	IP:2.D.2
Correlate sonographic images and findings with the following:		
51.	physical findings	PC:1.A.2.B
52.	prior ultrasound	PC:1.A.2.C
53.	automated whole-breast ultrasound	PC:1.C.3.E
54.	mammogram	PC:1.C.3.A
55.	ACR BI-RADS® classification	PC:1.A.5.A
56.	breast MRI	PC:1.C.3.B
57.	CT	PC:1.C.3.C
58.	positron emission tomography (PET/CT)	PC:1.C.3.D
59.	Review preliminary breast sonography findings with supervising physician on site (e.g., radiologist, surgeon).	PC:1.E.2
60.	Review preliminary breast sonography findings remotely or through teleradiology with supervising physician (e.g., radiologist, surgeon).	PC:1.E.2
61.	Explain diagnostic findings to patient under the direction of the supervising physician (e.g., radiologist, surgeon).	PC:1.A.5
62.	Perform preventive maintenance (e.g., filters) and quality control on breast sonography equipment as indicated.	IP:3.D
63.	Identify, report, and document any ultrasound equipment malfunctions (e.g., transducer, monitor).	IP:3.D.2
64.	Clean or disinfect instruments and equipment, according to protocol.	IP:3.D.A, FOQ
65.	Perform screening breast ultrasound, per protocol, using a handheld technique with conventional equipment.	PC:1.A.1.B
66.	Perform whole-breast ultrasound for implant integrity.	P:3.D.1
67.	Perform supplemental screening breast ultrasound categorized as dense tissue on previous mammogram.	P:3.D.2
68.	Perform second-look ultrasound for patients with positive screening results from mammography.	PC:1.C.3.A



Activity		Content Categories PC = Patient Care S = Safety IP = Image Production P = Procedures FOQ = Focus of Questions
69.	Perform second-look ultrasound for patients with positive screening results from MRI.	P:3.D.4
70.	Perform complete breast ultrasound to identify multifocal and multicentric disease for patients with a new diagnosis of breast cancer.	P:3.D.3
71.	Perform regional lymph node and axillary sonography.	P:1.E
Perform breast sonography of the following lymph node areas for new cancer diagnoses, per protocol:		
72.	axilla	P:1.E.1
73.	supraclavicular	P:1.E.4
74.	internal mammary (parasternal)	P:1.E.2
Prepare for interventional procedures by:		
75.	responding as appropriate to questions from patient or patient's family regarding interventional procedures.	FOQ, P:3.E
76.	verifying informed consent as necessary.	FOQ, P:3.E
77.	verifying that time-out procedure is performed as necessary.	FOQ, P:3.E
78.	selecting and preparing equipment for interventional procedures.	FOQ, P:3.E
79.	positioning the patient to provide access for interventional procedures.	FOQ, P:3.E
80.	using sterile or aseptic technique as indicated.	FOQ, P:3.E
81.	communicating effectively with the performing physician during interventional procedures.	FOQ, P:3.E
Assist with the following breast ultrasound interventional procedures and associated ultrasound imaging:		
82.	cyst aspiration	P:3.E.1
83.	fluid aspiration	P:3.E.1
84.	fine needle aspiration biopsy	P:3.E.2
85.	needle core biopsy (e.g., spring-loaded)	P:3.E.3
86.	vacuum-assisted core biopsy under ultrasound guidance	P:3.E.4
87.	clip placement	P:3.E.5
Assist with performing pre-op needle localization using:		
88.	wire localization	P:3.E.6.A
89.	non-wire localization (e.g., radar/radiofrequency, magnetic, radioactive seed)	P:3.E.6.B
90.	Provide post-care instructions for interventional procedures.	FOQ, P:3
91.	Follow environmental protection standards for handling and disposing of biohazardous materials (e.g., sharps, blood, body fluids).	FOQ, P:3.E