Practice Analysis Report:
Vascular Sonography - Effective January 2024

Introduction

The ARRT establishes the job relatedness of an examination via a practice analysis (also called a job analysis). Practice analyses document the role to be credentialed, the topics to be covered by the examination used in the credentialing decision, as well as the degree of emphasis that each topic receives. The rationale for practice analyses is outlined in *The Standards for Educational and Psychological Testing* (American Educational Research Association, American Psychological Association, National Council on Measurement in Education, 2014) and in the National Commission for Certifying Agencies (NCCA) *Standards for the Accreditation of Certification Programs* (NCCA, 2021). Legislation and legal precedent also stress the importance of practice analysis in the development and validation of certification exams. The ARRT conducts a practice analysis for each discipline approximately every five years. Regular updates are important for professions that continually evolve due to advances in technology because they help ensure that the content specifications and other certification requirements reflect current practice.

This report describes the practice analysis for Vascular Sonography (VS) conducted from January 2021 to June 2022. The project sought to identify tasks currently required of the typical vascular sonographer and to determine what knowledge and cognitive skills are required to effectively perform those tasks.

To accomplish this task, ARRT hosted several meetings with a committee of subject matter experts (SMEs) to develop a survey of job tasks; evaluate survey results; and revise the content specifications, content outline, and clinical competency requirements. ARRT selected ten SMEs for this committee from across the United States and from a range of practice settings (e.g., hospitals, clinics, educational programs). These SMEs represented a range of expertise including 9 R.T.s with the R.T.(S) and/or R.T.(VS) certifications and 1 radiologist.

All statistical analyses were performed by trained statisticians employed by ARRT and meetings were primarily conducted by ARRT's Exam Development Coordinators with psychometric support provided by ARRT psychometric staff.

The ARRT Board of Trustees reviewed all changes to exam content and eligibility requirements before giving approval in January 2023. The first exam under the new content and eligibility requirements was administered in January 2024. The ARRT Board of Trustees also approved corresponding changes to the Vascular Sonography Structured Self Assessment content specifications.

Task Inventory

Survey Development

ARRT begins the practice analysis process by revising the task inventory, which is a listing of clinical and supporting procedures related to practice. The committee reviewed the previous task inventory and content outline before creating an updated list of job tasks by adding, deleting, or rewording tasks as necessary to reflect changes in the profession.

The committee used the updated job task list to create a survey for distribution to individuals working in the profession. The first section of this survey consisted of 141 questions, two of which were attention checks, asking current vascular sonographers how frequently they perform each task utilizing a six-point scale with the following options: *Never Perform, Yearly, Quarterly, Monthly, Weekly,* and *Daily*. Based on past research, ARRT uses a frequency scale with absolute anchors because data from scales like importance and criticality, which use subjective anchors, have inferior statistical properties (Babcock, Risk, & Wyse 2020). The data gathered by absolute anchor frequency scales also correspond well to medical imaging practice as defined by external data sources (Babcock & Yoes, 2013) and add value beyond advisory committee members' judgement without data (Wyse & Babcock, 2018).

To reduce the length and burden of the practice analysis survey, the committee identified tasks from the previous task inventory that they believed were so ubiquitous in practice that over 90% of respondents would report that they do perform the task:

- Clean, disinfect, or sterilize transducer and equipment.
- Access and review pertinent patient data (*e.g., EMR, previous procedures/reports) for correlation with vascular sonographic studies.

Some tasks that would have otherwise been omitted were not due to additional survey qualities.

The second section of the survey included 17 questions regarding the respondent's role and workplace such as hours worked, primary job title, and department composition.

Survey Sample

One thousand, eighty-nine R.T.s were included in the final VS population. The population may be grouped by years worked as an RT (34% 0-3 years, 22% 4-5 years, 44% 6-10 years).

ARRT's survey vendor sent out surveys on March 15, 2021, and responses were accepted through April 26, 2021. A total of 150 recipients returned their survey by close in April 2021, for an absolute response rate of 15.5%. ARRT staff screened responses to ensure that the surveys were correctly filled out by the intended population, retaining 136 for an effective response rate of 12.5%.

Analysis

ARRT psychometric staff first calculated the percentage of respondents who report performing the task and the percent who report performing the task daily or weekly (Table 1). ARRT allows tasks performed by 40% or more of respondents to be included on the task inventory without further discussion so that committees may focus on discussions most likely to impact task inclusion. However, committees still review all survey results and may choose to include tasks below the threshold or reject tasks above the threshold as they see fit based on their joint expertise.

Finally, ARRT staff summarized results for the 17 items that covered the respondent's role and workplace (Tables 2 - 19).

Table 1
Percent of technologists performing tasks

Item	Task	% Performing	% Daily/Weekly
1.	Schedule patients taking into consideration the length of the procedure, the patient's condition, age, and preparation for the examination.	63	54
2.	Sequence imaging procedures to avoid affecting subsequent examinations.	80	73
3.	Verify the patient's identity.	99	98
4.	Manage interpersonal interactions in an effective manner.	99	97
5.	Evaluate patient's ability to understand and comply with the requirements for the requested examination (e.g., need for medical interpreter, physical, sensory, or cognitive impairments).	99	95
6.	Obtain pertinent medical history.	99	98
7.	Recognize abnormal or missing lab values relative to the examination ordered.	82	74
8.	Explain and confirm the patient's preparation (e.g., diet restrictions, preparatory medications, allergies) prior to the examination.	92	84
9.	Review the examination request to verify the order is accurate, appropriate, and complete.	100	99
10.	Explain procedure to patient, patient's family, or authorized representative (e.g., pre-examination instructions).	98	96
11.	Respond as appropriate to examination inquiries from the patient, patient's family, or authorized representative (e.g., scheduling delays, examination duration, other imaging modalities, clinical decision support).	99	97
12.	Provide for the patient's safety, comfort, and modesty.	100	99
13.	Monitor the patient's auxiliary medical equipment (e.g., IVs, supplemental oxygen).	83	71
14.	Demonstrate and promote professional and ethical behavior (e.g., confidentiality, regulation compliance).	100	99
15.	Notify appropriate personnel of adverse events or incidents (e.g., patient fall, wrong patient imaged).	91	53
16.	Communicate relevant information to appropriate members of the care team.	99	96
17.	Communicate critical findings to the interpreting physician.	99	95
18.	Use positioning aids as needed, to enhance the examination and promote patient comfort and/or safety.	100	90

Item	Task	% Performing	% Daily/Weekly
19.	Use proper ergonomics when performing sonographic exams to prevent work-related musculoskeletal disorders.	99	98
20.	Practice Standard Precautions.	100	99
21.	Follow appropriate transmission-based precautions.	99	99
22.	Obtain vital signs.	53	36
23.	Recognize and communicate the need for prompt medical attention.	97	70
24.	Recognize the need for and administer emergency care.	87	55
25.	Follow environmental protection standards for handling and disposing of bio-hazardous materials (e.g., sharps, body fluids).	96	83
26.	Follow environmental protection standards for handling and disposing hazardous materials (e.g., disinfectants).	96	83
27.	Use sterile or aseptic technique when indicated.	90	71
28.	Verify that informed consent is obtained as necessary.	88	70
29.	Verify that time-out procedure is performed when necessary.	73	56
30.	Provide follow-up instructions to the patient, patient's family, or authorized representative.	83	65
31.	Explain breathing instructions as needed for obtaining optimal images.	99	95
32.	Handle, label, and submit laboratory specimens (e.g., biopsy tissue).	52	37
33.	Communicate effectively with patient care team during interventional procedures.	73	59
34.	Select equipment and accessories for the procedure requested.	91	81
35.	Monitor and adjust TGC, power, and amplification to achieve optimum image quality.	99	99
36.	Minimize ultrasound bioeffects.	96	95
37.	Review and verify patient identifiers and clinical information in clinical software and/or (e.g., PACS, EMR) prior to procedure.	100	98
38.	Modify imaging techniques for circumstances such as body habitus, artifacts inherent to the patient, pathological conditions, and/or patient's inability to cooperate.	100	99
39.	Use annotation to indicate anatomical planes, patient position, or other relevant information.	100	99
40.	Evaluate vascular images for diagnostic quality.	99	96
41.	Evaluate vascular studies for artifacts and determine if any artifact(s) had an effect on the diagnostic quality of the examination.	98	94
42.	Take corrective measures if vascular studies are not of diagnostic quality.	99	88

Item	Task	% Performing	% Daily/Weekly
43.	During the vascular procedure, obtain representative images demonstrating normal anatomy, and/or variants, and/or pathological conditions.	99	97
44.	Verify completeness of study according to facility's protocol.	100	99
45.	Determine if additional areas should be evaluated sonographically.	97	90
46.	Verify vascular procedure coding.	69	59
47.	Recognize and report any limitations of the vascular procedure performed.	100	97
48.	Communicate with the interpreting physician(s) about pertinent patient information and vascular studies.	98	95
49.	Document required information in the patient's medical record (e.g., imaging procedure documentation).	96	93
50.	Recognize and report malfunctions in the vascular sonographic equipment, accessories and PACS.	99	71
51.	Use teleradiology.	47	33
52.	Please mark 'Yearly'.	99	2
53.	Operate electronic imaging and record keeping systems (e.g., PACS, HIS, RIS, EMR).	97	95
	Use the following enhanced sonographic techniques:		
54.	volume flow (e.g., hemodialysis fistulas)	65	37
55.	augmentation/provocative maneuvers for DVT	98	95
56.	augmentation/provocative maneuvers for reflux study	74	58
57.	Select Doppler setting to achieve optimal image quality.	99	98
	Following clinical protocols, position patient and transducer using appropriate technical factors to produce diagnostic vascular studies and recognize pathology (when applicable) of:		
	Abdominal/Pelvic Vasculature		
	Arterial		
58.	aorta	93	82
59.	celiac	64	21
60.	hepatic	77	48
61.	splenic	69	33
62.	superior mesenteric	62	21
63.	inferior mesenteric	47	16

Item	Task	% Performing	% Daily/Weekly
64.	renal	86	58
65.	common iliac	82	58
66.	internal iliac	70	46
	Venous		
67.	inferior vena cava	89	69
68.	hepatic	75	59
69.	portal	78	66
70.	splenic	69	40
71.	superior mesenteric	51	19
72.	renal	78	53
73.	common iliac	76	47
74.	internal iliac	65	38
	Transplant Vasculature		
75.	liver	47	13
76.	kidney	62	15
77.	pancreas	21	7
	Arterial Peripheral Vasculature		
	Upper Extremity		
78	brachiocephalic	72	47
79	subclavian	87	63
80	axillary	85	59
81	brachial	84	59
82	radial	83	57
83	radial artery mapping	43	22
84	ulnar	81	52
85	digital	35	17
86	palmar arch (including Allen test)	29	9
	Lower Extremity		
87	please mark ‘Monthly’	100	1
88	external iliac	76	54

Item	Task	% Performing	% Daily/Weekly
89	common femoral	91	82
90	superficial femoral	91	82
91	deep femoral	89	77
92	popliteal	91	82
93	tibioperoneal trunk	79	67
94	posterior tibial	90	80
95	anterior tibial	87	73
96	peroneal	87	75
97	dorsalis pedis	85	72
	Venous Peripheral Vasculature		
	Upper Extremity		
98	internal jugular	93	75
99	brachiocephalic	79	58
100	subclavian	93	73
101	axillary	93	73
102	brachial	93	73
103	cephalic	93	73
104	basilic	92	73
105	radial	90	66
106	ulnar	90	66
107	vein mapping	58	33
	Lower Extremity		
108	external iliac	83	58
109	common femoral	99	96
110	femoral	99	96
111	deep femoral	94	90
112	popliteal	99	96
113	great saphenous	99	94
114	small saphenous	89	71
115	calf veins	98	90

Item	Task	% Performing	% Daily/Weekly
116	vein mapping	66	40
117	reflux assessment (e.g., venous insufficiency, perforators, varicose veins, valve competency)	68	50
	Extracranial Cerebral Vasculature		
118	carotid artery (CCA, ICA, ECA)	93	86
119	vertebral artery	92	87
120	transcranial Doppler (TCD)	19	10
	Following clinical protocols, position patient and transducer using appropriate technical factors to produce diagnostic images:		
	Stress/Pressure Testing		
121	pulse volume recording (PVR)	42	31
122	segmental pressures – upper extremities	44	21
123	segmental pressures – lower extremities	53	36
124	ankle-brachial index (ABI)	73	58
125	post-exercise testing	34	16
126	photoplethysmography (PPG)	39	29
127	toe-brachial index (TBI)	44	33
	Post Intervention		
128	bypass grafts	68	31
129	endografts	49	19
130	dialysis access grafts/fistulae	63	27
131	stents	80	40
132	post catheterization complications	67	29
133	IVC filters	49	8
134	TIPS	52	9
135	line position	30	11
136	post endarterectomy	70	28
	Assist with the following sonographic interventional procedures:		
	Interventional		
137	vein ablations	38	21
138	pseudoaneurysm treatment - compression or guided thrombin injection	43	4

Item	Task	% Performing	% Daily/Weekly
139	angioplasty	12	7
140	thrombolysis	16	9
141	line placement	19	12

Table 2.

What sources of ergonomic training have you used within the past three years?

Response	Percentage
I have not participated in ergonomic training in the past three years	38%
Sonography training program	12%
Employer-provided	20%
Continuing education	28%
Training program	2%
Other	1%

Table 3.

In the past three years has your department changed to equipment with improved ergonomic design?

Response	Percentage
No	59%
Yes	27%
My department changed to ergonomic equipment more than three years ago	13%

Table 4.

Do you practice preventative measures to avoid ergonomic work-related injuries?

Response	Percentage
No	7%
Yes	93%

Table 5.

Do you regularly experience ergonomic-related pain while working?

Response	Percentage
No	41%
Yes	59%

Table 6.

Have you sought treatment for work-related injury?

Response	Percentage
No	64%
Yes	36%

Table 7.

Have you had work loss due to an ergonomic work-related injury?

Response	Percentage
No	88%
Less than a week	4%
At least a week, but less than a month	2%
At least a month, but less than three months	2%
At least three months, but returned to work	2%
Injury prevented return to sonography	0%

Table 8.

Within the past three years how much impact have ergonomic work-related injuries had on your department?

Response	Percentage
No impact	35%
Slight impact	49%
Moderate impact	16%
Significant impact	2%

Table 9.

Which of the following best describes your job title?

Response	Percentage
Staff sonographer or vascular sonographer	85%
Lead or chief sonographer or vascular sonographer	15%
Administrator or manager	0%
Educator	0%
Other	0%

Table 10.

How many total hours per week are you performing sonography procedures?

Response	Percentage
Less than 16 hours	5%
16-32 hours	23%
33-40 hours	62%
More than 40 hours	10%

Table 11.

What percentage of your sonography hours are specifically in vascular sonography?

Response	Percentage
0-25%	10%
26-50%	31%
51-75%	32%
76-100%	27%

Table 12.

How many years have you been performing vascular sonography?

Response	Percentage
0-1	1%
1-3	14%
4-5	24%
6-10	34%
11-20	17%
More than 20 years	10%

Table 13.

Which of the following best describes your primary place of employment?

Response	Percentage
Academic/university hospital	14%
Community hospital	46%
Government (military/VA) hospital	3%
Outpatient imaging center	14%
Physician’s office or clinic	20%
Free-standing emergency facility or urgent care	1%
Other	1%

Table 14.

If you work in a hospital/medical center providing inpatient care, what is the approximate size (number of beds)?

Response	Percentage
Not applicable	32%
Less than 50	13%
50-100	11%
101-250	11%
251-500	23%
More than 500	11%

Table 15.

In the last year, has the number of approved full-time positions for vascular sonographers at your facility changed?

Response	Percentage
No change	75%
Increased	19%
Decreased	6%

Table 16.

In the last year, has the number of employed full-time vascular sonographers at your facility changed?

Response	Percentage
No change	71%
Increased	19%
Decreased	11%

Table 17.

When comparing to 2019 (prior to the COVID pandemic declaration) to the present, has your sonography department experienced a change in vascular sonography exam volume?

Response	Percentage
Increased volume	41%
Decreased volume	42%
No change in volume	17%

Table 18.

When comparing 2019 (prior to the COVID pandemic declaration) to the present, have the types of exams changed significantly?

Response	Percentage
No significant change	68%
The following procedures have increased or decreased (please specify)*	32%

* In particular, there was a noted increase in deep vein thrombosis studies in the lower extremities.

Table 19.
Which of the following sonography credentials do you hold?

Response	Count
ARRT:	
SON	34
VS	3
BS	8
ARDMS RDMS:	
AB	90
BR	25
FE	0
OB/GYN	69
PS	3
ARDMS RDCS:	
AE	16
FE	0
PE	1
ARDMS RMSK	0
ARDMS RVT	115
CCI:	
ACS	0
RCCS	1
RSC	0
RPhS	4
RVS	6

Changes to Task Inventory

The practice analysis committee met in June 2022 to review the practice analysis survey data and determine whether any tasks should be dropped from or added to the task inventory. The committee also clarified the wording of several tasks.

The following tasks were removed because another task covers that content:

- Conduct physical and mental assessment of patient to enhance the sonographic examination.
- Maintain confidentiality of patient information (e.g., HIPAA) and ensure compliance with American Hospital Association (AHA) Patient Care Partnership (Patients' Bill of Rights).
- Use proper body mechanics and/or mechanical transfer devices when assisting patients.
- Use sterile or aseptic technique on or near wounds, surgical dressings, drains, or hardware.
- Position patient to demonstrate the desired anatomy.

The following tasks were added:

- Schedule patients taking into consideration the length of the procedure, the patient's condition, age, and preparation for the examination. (63%)
- Manage interpersonal interactions in an effective manner. (99%)
- Recognize abnormal or missing lab values relative to the examination ordered. (82%)
- Notify appropriate personnel of adverse events or incidents (e.g., patient fall, wrong patient imaged). (91%)
- Communicate relevant information to appropriate members of the care team. (99%)
- Communicate critical findings to the interpreting physician. (99%)
- Recognize the need for and administer emergency care. (87%)
- Follow environmental protection standards for handling and disposing of hazardous materials (e.g., disinfectants). (96%)
- Provide follow-up instructions to the patient, patient's family, or authorized representative. (83%)
- Handle, label, and submit laboratory specimens (e.g. biopsy tissue). (52%)
- Communicate effectively with patient care team during interventional procedures. (73%)
- Document required information in the patient's medical record (e.g., imaging procedure documentation). (95%)

The Board of Trustees approved the final task inventory in January 2023. The final task inventory may be found on the ARRT website: https://www.arrt.org/pages/arrt-reference-documents/by-document-type/task-inventories

Content Specifications and Clinical Requirements

Changes to Content Specifications

The practice analysis committee updated the content specifications based on changes to the task inventory and the field. The committee considered the knowledge and cognitive skills required to successfully perform the tasks in the final task inventory and verified that those topics were covered in the content specifications, adding additional content as necessary. The committee also removed any topics that could not be linked to the updated task inventory.

The updated content specifications were then made available for public comment in March 2022 and the committee met again in June 2022 to discuss the comments before making any final adjustments.

The most notable changes from the previous version of the content specifications were:

- In the Patient Care area, some of the areas were revised to provide consistency in patient care across other ARRT disciplines.
- In the Patient Care area, the sonographer ergonomics area was updated. A reference to the "Industry Standards for the Prevention of Work-Related Musculoskeletal Disorders in Sonography" was added in a footnote.
- In the Image Production area, treadmill was removed under ABI/Pulse Volume Recording Equipment.
- In the Image Production area, a Real Time Imaging subsection was added.
- In the Image Production area, the imaging informatics section was expanded.
- In the Procedures area, the following procedures were removed: pelvic varices, palmar arch, digital (upper extremity arterial), post-exercise testing, and toe-brachial index (TBI).
- In the Procedures area, radial arterial mapping was added.
- In the Procedures area, under Focus of Questions, incidental abnormal findings was added.
- All areas of the content outline were reorganized and edited for clarity.
- Item weighting for the examination content specifications was slightly adjusted. The total number of examination questions remains the same, but some areas increased or decreased. The number of pilots increased from 40 to 50.

The Board of Trustees approved the final content specifications in January 2023. The final content specifications may be found on the ARRT website: https://www.arrt.org/pages/arrt-reference-documents/by-document-type/examination-content-specifications

Content Weighting

The practice analysis committee determined the number of items that should be assigned to each section of the exam through a process known as content weighting. First, the committee performed a bottom-up exercise where members individually estimated the number of unique items that should be included in each section. Second, the committee performed a top-down exercise where members individually estimated the relative proportion of the exam that should be dedicated to each section. Finally, ARRT staff provided the committee with summary values from the two exercises and the committee held a discussion to finalize their recommendation for the number of items assigned to each section (Table 20).

Table 20.
Number of Items per Section

Content Area	Number of Scored Items
Patient Care	**20**
Patient Interactions and Management (20)	
Image Production	**70**
Basic Principles of Ultrasound (23)	
Image Formation (12)	
Evaluation and Selection of Representative Images (35)	
Procedures	**85**
Abdominal/Pelvic Vasculature (19)	
Arterial Peripheral Vasculature (25)	
Venous Peripheral Vasculature (25)	
Extracranial Cerebral Vasculature and Other Sonographic Procedures (16)	
Grand Total	**175**

Changes to Clinical Experience Requirements

ARRT created clinical experience requirements to verify that candidates have completed a subset of clinical procedures within a modality. Successful performance of these fundamental procedures, in combination with mastery of the cognitive knowledge and skills covered by the certification examination, provides the basis for the acquisition of the full range of clinical skills required in a variety of settings.

The practice analysis committee reviewed and updated the previous clinical experience requirements considering the final task inventory and content specifications. The updated clinical experience requirements were then made available for public comment in March 2022 and the committee met again in June 2022 to discuss the comments before making any final adjustments.

The most notable changes from the previous version of the clinical experience requirements were:

- The following procedures were removed from the procedures list: Toe-brachial index (TBI), post-exercise testing, vein ablations, and post endarterectomy.
- For some of the procedures, the committee decided to combine several procedures into one procedure. These procedures are indicated by an asterisk on a chart. An appendix that lists the required and optional structures required for each of the procedures was added. This resulted in fewer procedures required. However, since one procedure may cover several previously listed procedures, the number of structures a candidate must demonstrate competence on has not changed.
- A maximum of 25% repetitions of each eligible procedures may be simulated. The committee evaluated each procedure for the practicality of simulating a procedure and if the procedure may be difficult to obtain on a patient. For example, a pseudoaneurysm treatment or aorta would not be easily evaluated on a volunteer. The new chart indicates what procedures are eligible for simulation.
- The following procedures were removed from the procedures list: Toe-brachial index (TBI), post-exercise testing, vein ablations, and post endarterectomy.

- For some of the procedures, the committee decided to combine several procedures into one procedure. These procedures are indicated by an asterisk on a chart. An appendix that lists the required and optional structures required for each of the procedures was added. This resulted in fewer number of procedures required. However, since one procedure may cover several previously listed procedures, the number of structures a candidate must perform has not greatly changed.

The Board of Trustees approved the final clinical requirements in January 2023. The final clinical experience requirements may be found on the ARRT website: https://www.arrt.org/pages/arrt-reference-documents/by-document-type/clinical-experience-requirements.

Changes to Clinical Competency Requirements

ARRT created clinical experience requirements to verify that candidates have completed a subset of clinical procedures within a modality. Successful performance of these fundamental procedures, in combination with mastery of the cognitive knowledge and skills covered by the certification examination, provides the basis for the acquisition of the full range of clinical skills required in a variety of settings.

The practice analysis committee reviewed and updated the previous clinical competency requirements considering the final task inventory and content specifications. The updated clinical competency requirements were then made available for public comment in March 2022 and the committee met again in June 2022 to discuss the comments before making any final adjustments.

The most notable changes from the previous version of the clinical competency requirements were:

- Under mandatory scanning techniques, ergonomic evaluation was added. A reference to the "Industry Standards for the Prevention of Work-Related Musculoskeletal Disorders in Sonography" was added in a footnote.
- The following procedures were removed from the procedures list: Toe-brachial index (TBI), post-exercise testing, vein ablations, and post endarterectomy.
- For some of the procedures, the committee decided to combine several procedures into one procedure. These procedures are indicated by an asterisk on a chart. An appendix that lists the required and optional structures required for each of the procedures was added. This resulted in fewer procedures required. However, since one procedure may cover several previously listed procedures, the number of structures a candidate must demonstrate competence on has not changed.
- The committee decided that up to three procedures may be performed on volunteers. They evaluated each procedure for the practicality of simulating a procedure and if the procedure may be difficult to obtain on a patient. For example, a pseudoaneurysm treatment would not be easily evaluated on a volunteer. Also, all candidates should have access to very common procedures such as an aorta. Therefore, the committee decided to make very common procedures not eligible for simulation. The new chart indicates what procedures are eligible for simulation.

The clinical competency requirements were edited for clarity and terminology and updated to reflect current practice.

The Board of Trustees approved the final clinical requirements in January 2023. The final clinical competency requirements may be found on the ARRT website: https://www.arrt.org/pages/arrt-reference-documents/by-document-type/didactic-and-clinical-competency-requirements.

Conclusion

Numerous individuals contributed to this project, as committee members, document reviewers, or as survey respondents. Periodic practice analysis is a necessary step in the life cycle of an exam program to ensure that the content of the exam and the eligibility requirements remain relevant with current practice. This study noted significant changes to the field of Vascular Sonography, and thanks to the efforts of all involved it assures that the ARRT Vascular Sonography exam program will continue to be an excellent assessment of vascular sonographers wishing to demonstrate their qualifications by seeking certification and registration.