



Vascular -Interventional Radiography

Candidates for certification and registration are required to meet the Professional Requirements specified in the *ARRT Rules and Regulations*. ARRT's *Vascular -Interventional Radiography Clinical Experience Requirements* describe the specific eligibility requirements that must be documented as part of the application for certification and registration process.

The purpose of the clinical experience requirements is to **document** ~~verify~~ that candidates have **performed** ~~completed~~ a subset of the clinical procedures within a **modality** ~~discipline~~. Successful performance of these fundamental procedures, in combination with mastery of the cognitive knowledge and skills **as documented** ~~covered~~ by the examination **requirements**, provides the basis for the acquisition of the full range of clinical skills required in a variety of settings.

The **requirements are periodically updated based upon a practice analysis which is a systematic process to delineate the** job responsibilities typically required of staff vascular -interventional radiographers. ~~are delineated through a periodic practice analysis. This results in a "task inventory."~~ An advisory committee then determines the number of clinical procedures required to demonstrate adequate candidate experience in performing the tasks on the inventory.

Candidates for **v**ascular ~~i~~nterventional **r**adiography certification and registration must document performance of a minimum of 200¹ repetitions of vascular -interventional radiography procedures according to the criteria noted below. Procedures are documented, verified, and submitted when complete via an online tool accessible through My ARRT Info account on arrt.org. ARRT encourages individuals to obtain education and experience beyond these minimum requirements.

~~In addition, to ensure the highest level of patient care, candidates must document current basic life support (BLS) certification.~~

To qualify as a complete imaging procedure, the candidate must demonstrate active participation in a primary role throughout the entire procedure. Examples of primary roles include scrubbing and circulating.

Completion of each procedure must be verified by a certified and registered technologist (post-primary certification not required), supervisor or licensed physician. The verification process is described within the online tool.

~~In addition, to ensure the highest level of patient care, candidates must document current basic life support (BLS) certification.~~

Specific Procedural Requirements

The clinical experience requirements for Vascular -Interventional Radiography consist of **72** ~~61~~ procedures in **seven** ~~different~~ **three** main categories. The **seven** categories include:

- ~~A. Neurologic~~
- ~~B. Thoracic~~
- ~~C. Abdominal and Pelvic~~
- ~~D. Genitourinary and Gastrointestinal Nonvascular~~
- ~~E. Peripheral~~
- ~~F. Venous Access~~
- ~~G. Miscellaneous~~
- A. Vascular Diagnostic
- B. Vascular Interventional
- C. Non-Vascular



Candidates must document the performance of these procedures according to the following rules:

- Each candidate must complete a total of 200 repetitions from the list of procedures provided.
- ~~The candidate does not need to select procedures from all seven categories.~~
- Each selected procedure must be performed a minimum of five times (repetitions) in order for the candidate to receive credit for that procedure.
- Each procedure may be counted a maximum of ~~1020~~ times.
- **At least 50 exams must be in Vascular Diagnostic, at least 50 exams must be in Vascular Interventional, at least 50 exams must be in non-Vascular, and the remaining exams can be from any of the categories.**
- For any given patient ~~per day~~, you may count only one diagnostic procedure **and one** ~~but may count multiple~~ interventional procedures **per day**.

General Guidelines

To qualify as a complete imaging procedure, the candidate must demonstrate active participation in a primary role with appropriate:

- preparation of supplies and maintenance of equipment
- evaluation of order and patient identification, patient preparation, and administration of medications as required
- patient monitoring during procedure
- post-procedure patient care
- image processing, including evaluation of images to ensure they demonstrate correct anatomy, radiographic techniques, and identification/labeling

Examples:

The following hypothetical candidates illustrate three ways of satisfying the clinical experience requirements. Numerous other combinations are possible.

Candidate A: This person identified ~~40~~ **five Diagnostic, five Interventional, five non-Vascular, and five other-different** procedures from the list and performed each of those procedures ~~1020~~ times (~~4020~~ x ~~1020~~ = 200).

Candidate B: This person identified **10 Diagnostic, 10 Interventional, 10 non-Vascular, and 10 other 25-different** procedures from the list. This applicant performed **each 15** of those procedures ~~540~~ times (~~4045~~ x ~~540~~ = ~~200450~~), ~~and the other 10 procedures five times (10 x 5 = 50).~~

Candidate C: This person identified **six Diagnostic, seven Interventional, and seven non-Vascular 40-different** procedures from the list and performed each of those procedures ~~10~~ **five** times (~~4020~~ x ~~105~~ = 200).



Procedures

Procedures area revised to better align with the Content Specifications. See details on the following two pages.

A. Neurological

- ~~1. neurologic angiography*~~
- ~~2. spinal arteriography~~
- ~~3. embolization~~
- ~~4. thrombolysis/thrombectomy~~
- ~~5. angioplasty~~
- ~~6. stent placement~~
- ~~7. vertebroplasty and/or kyphoplasty~~
- ~~8. discography~~

B. Thoracic

- ~~1. aortography~~
- ~~2. pulmonary arteriography~~
- ~~3. superior vena cavagram~~
- ~~4. embolization~~
- ~~5. endograft placement~~
- ~~6. chest tube/drain placement~~
- ~~7. thoracentesis~~
- ~~8. thrombolysis/thrombectomy~~
- ~~9. angioplasty~~
- ~~10. stent placement~~

C. Abdominal and Pelvic

- ~~1. aortography~~
- ~~2. selective visceral angiography~~
- ~~3. renal angiography~~
- ~~4. adrenal angiography~~
- ~~5. pelvic angiography~~
- ~~6. inferior vena cavagram~~
- ~~7. paracentesis~~
- ~~8. angioplasty~~
- ~~9. stent placement~~
- ~~10. endograft placement~~
- ~~11. caval filter placement~~
- ~~12. caval filter removal~~
- ~~13. venous sampling~~
- ~~14. TIPS~~
- ~~15. chemoembolization~~
- ~~16. radioembolization~~
- ~~17. embolization~~

D. Genitourinary and Gastrointestinal Nonvascular

- ~~1. nephrostomy~~
- ~~2. ureteral dilatation and/or stents~~
- ~~3. percutaneous stone extraction~~
- ~~4. percutaneous transhepatic cholangiogram~~
- ~~5. internal/external biliary drainage~~
- ~~6. cholecystostomy~~
- ~~7. gastrostomy or gastrojejunostomy~~
- ~~8. catheter/drain exchange~~

E. Peripheral

- ~~1. upper extremity arteriography~~
- ~~2. lower extremity arteriography~~
- ~~3. extremity venography~~
- ~~4. hemodialysis graft/fistula study~~
- ~~5. embolization~~
- ~~6. thrombolysis/thrombectomy~~
- ~~7. angioplasty~~
- ~~8. stent placement~~
- ~~9. atherectomy~~

F. Venous Access

- ~~1. central venous access (non-tunneled/PICC line)~~
- ~~2. central venous access (tunneled/port)~~

G. Miscellaneous

- ~~1. biopsy~~
- ~~2. percutaneous drainage~~
- ~~3. tunneled drainage (thoracic and abdominal)~~
- ~~4. foreign body retrieval~~
- ~~5. percutaneous radiofrequency ablation (RFA)~~

* In this document, angiography includes arteriography and/or venography



Procedures

1. Vascular Diagnostic Procedures

- A. Neurologic Angiography
 - 1. intracranial arteriography
 - 2. ~~extracranial~~-carotid/vertebral arteriography
 - 3. spinal arteriography
- B. Thoracic Angiography
 - 1. thoracic aortography
 - 2. pulmonary arteriography
 - 3. bronchial arteriography
- C. Abdominal Angiography
 - 1. abdominal aortography
 - 2. pelvic arteriography
 - 3. renal arteriography
 - 4. adrenal arteriography
 - 5. celiac arteriography
 - 6. superior mesenteric artery (SMA) arteriography
 - 7. inferior mesenteric artery (IMA) arteriography
- D. Peripheral Angiography
 - 1. upper extremity arteriography
 - 2. lower extremity arteriography
- E. Venography
 - 1. pelvic venography
 - 2. superior vena cavagram
 - 3. inferior vena cavagram
 - 4. renal venography
 - 5. adrenal venography
 - 6. gonadal venography
 - 7. hepatic venography
 - 8. portal venography
 - 9. upper extremity venography
 - 10. lower extremity venography
 - 11. venous sampling
- F. Miscellaneous Studies
 - 1. hemodialysis graft/fistula study
 - 2. physiologic pressure measurements
 - 3. central venous device check (e.g., port, PICC, hemodialysis catheter)
 - 4. lymphangiography (general mapping)*

2. Vascular Interventional Procedures

- A. Angioplasty
 - 1. neurologic
 - 2. body
- B. Stent Placement
 - 1. neurologic
 - 2. body
- C. Embolization
 - 1. neurologic
 - 2. body
- D. Thrombolysis/~~Thrombectomy~~
 - 1. neurologic
 - 2. body
- E. Thrombectomy
 - 1. neurologic
 - 2. body
- F. Atherectomy
- G. Percutaneous thrombin injection*
- H. Distal Protection Device Placement
- I. Foreign Body Retrieval
- J. Endograft Placement
- K. Caval Filter Placement/Removal
- L. Transjugular Intrahepatic Portosystemic Shunt (TIPS) Placement or Revision
- M. Transvenous Biopsy
- N. Chemoembolization
- O. Radioembolization
- P. Venous Access (e.g., tunneled catheter, non-tunneled catheter, port [placement], port [removal], PICC line placement, peripheral IV)

*Indicates procedures/content that is new.



3. Nonvascular Procedures

- A. Nephrostomy
- B. Ureteral Dilation/Stents
- C. Antegrade urography through an existing catheter*
- D. Suprapubic catheter placement*
- E. Percutaneous Ablation (e.g., radiofrequency [RFA], microwave, cryo)
- F. Percutaneous Transhepatic Cholangiogram
- G. Biliary Internal/External Drainage
- H. Cholecystostomy
- I. Gastrostomy/Gastrojejunostomy
- J. Percutaneous enteric tube evaluation (verification with contrast) *
- K. Vertebroplasty/Kyphoplasty
- L. Epidural steroid injection/Lumbar puncture/Myelogram*
- M. Chest Tube/Drain Placement
- N. Thoracentesis
- O. Percutaneous Biopsy
- P. Paracentesis
- Q. Abscess, fistula, or sinus tract study*
- R. Percutaneous drainage with or without placement of catheter (excluding thoracentesis or paracentesis) *
- S. Removal of percutaneous drainage catheter (e.g., tunneled, non-tunneled) *
- T. Change of percutaneous tube or drainage catheter*
- U. Tunneled Drainage Catheter Placement (e.g., thoracic, abdominal)
- ~~Discography~~
- ~~—Percutaneous Stone Extraction (e.g., renal, biliary)~~
- ~~—Drainage procedures~~ (Drainage procedures was revised into four new procedural areas R-U)