IR/DR Certifying Exam – Oral Component

Study Guide

All candidates for interventional radiology/diagnostic radiology (IR/DR) certification, including those who are already certified in diagnostic radiology, will take the oral component of the IR/DR Certifying Exam. The following is a study guide for this component.

1. **Exam content: general description**

Individual cases may emphasize one area of competency more than the others. At all times, competencies in image-guided procedure, periprocedural patient management, and image interpretation will be assessed by the candidate's examiner.

- The exam structure is organized into four categories:
    - Arterial diagnosis and intervention
    - Venous and lymphatic diagnosis and intervention
    - Oncology, biliary, and genitourinary diagnosis and intervention
    - Core interventional radiology
- Each section will incorporate both diagnostic imaging related to IR and IR interventions.
- Imaging diagnosis may include CT, CTA, MR, MRA, ultrasound, vascular ultrasound, nuclear medicine, SPECT/PET, angiography/venography/lymphangiography, and plain films. Images may be pre-procedure diagnostic studies, intraprocedural imaging, or follow-up imaging.
- Interventional cases will emphasize periprocedural management and procedures, as well as procedure-related image interpretation.
- Periprocedural management includes pre-procedure or disease-related work-up, consultation, patient selection, imaging, and medical management; and post-procedure medical management, imaging, follow-up, identification and management of complications or inadequate outcomes, and disease-specific management.
- Discussions will include indications and contraindications for procedures, procedural planning, procedural techniques, device selection and utilization, intra-procedural patient management, procedural endpoints, identification and

management of intra-procedural complications, and knowledge of expected outcomes.

- The exam has been designed to reflect actual clinical practice.
- The exam is assembled by a 10-member committee and constructed to cover a broad spectrum of IR practice. This format allows updating and revision of the exam content over time. Examples of content for each area are as follows **(note that this is not a comprehensive or complete listing)**:
    - Arterial diagnosis and interventions
        - Peripheral vascular disease, aorta/great vessels, nontumor arterial interventions (e.g., gastrointestinal bleeding), pulmonary and bronchial interventions, interpretation of noninvasive vascular studies (CTA, MRA, vascular ultrasound), vascular malformations
    - Venous and lymphatic diagnosis and interventions
        - Venous thrombolysis/thrombectomy/ablation, venous stenting, venous access, pelvic venous disease, portal hypertension, dialysis access interventions, varicose vein treatment, venous sampling
    - Oncology and biliary/GU interventions
        - Arterially directed therapies for malignancy (TAE, TACE, TARE), ablation, and biliary, gallbladder, and genitourinary interventions
    - Core IR
        - Percutaneous biopsy, fluid drainage, percutaneous enteral access, foreign body removal, management of malignant effusions/ascites, pancreas, pain management, intraprocedural crises, radiation safety
- Pediatric and quality of care/patient safety content is incorporated into the exam. For example, abscess drainage, and renal artery angioplasty in children, may be included in the Core and Arterial sections respectively.

2. **Appendix: Topics included in the exam**

This is a general outline and is not all-inclusive.

- CT and CTA
- MRI and MRA
- Noninvasive vascular lab

- Vascular ultrasonography
- Venous color flow imaging
- Arterial color flow imaging
- Doppler
- Ankle: brachial indices
- Segmental limb pressures
- Pulse volume recordings (PVRs)
- Arteriography (all)
- Thoracic aorta and brachiocephalic arteries, including carotids
- Upper extremity arteries
- Lower extremity arteries
- Abdominal and pelvic arteries
- Collateral pathways
- Hemodynamics
- Venography and venous sampling
- Head and neck
- Upper extremity veins
- Lower extremity veins
- Pelvic veins
- Portal and mesenteric veins
- Superior vena cava
- Inferior vena cava
- Collateral pathways
- Hemodynamics
- Pulmonary angiography
- Pulmonary arteries
- Pulmonary veins
- Hemodynamics
- Dialysis access evaluations

- Dialysis access intervention
- Lymphangiography
- Venous access (all: tunneled, nontunneled, ports)
- IVC filter placement and retrieval
- Foreign body retrieval
- Venous ablation (varicose veins)
- TIPS and TIPS evaluation/revision
- Venous Angioplasty/stents/covered stents, venous (all)
- Arterial angioplasty/stents/atherectomy/covered stents
- Thrombolytic therapy, thrombectomy: arterial and venous
- Aortic endografting (thoracic and/or abdominal)
- Embolization, emergency (trauma, GI bleed, bronchial bleed, pseudoaneurysm, other)
- Embolization, including elective, arterial, and venous
- Chemoembolization (TACE/DEB TACE)
- Radioembolization
- Tumor ablation
- Transcatheter infusion therapy (e.g., vasopressin)
- Biopsy
- All organs
- Abscess drainage
- Body cavity
- Organ
- Tube management
- Paracentesis, thoracentesis
- Chest tube placement
- Tunneled catheter drainage of refractory pleural effusion or ascites
- Biliary intervention
- PTC

- Biliary drainage
- Biliary stents
- Biliary biopsy
- Percutaneous management of retained bile duct stones
- Cholecystostomy
- Urinary intervention
- Nephrostomy
- Nephroureterostomy
- Nephrostolithotomy tract establishment and dilatation
- Suprapubic cystostomy
- Percutaneous enteral access
- Gastrostomy/gastrojejunostomy
- Jejunostomy
- Cyst and lymphocele management
- Gastrointestinal stents
- Transplant interventions, miscellaneous
- Pain management
- Vertebroplasty
- Fallopian tube recanalization
- Hospital inpatient care
- Follow-up post intervention
- Quality & safety activities
- Radiation safety
- Life support principles
- Principles of image quality
- Contrast material
- Conscious sedation