**New Application: Interventional Radiology**

**Review Committee for Radiology**

**ACGME**

*Note: Some information requested in this application applies only to independent interventional radiology (independent) programs, and other information applies only to integrated interventional radiology (interventional) programs. If a question is not specifically designated, the requested information applies to both Independent and Integrated formats. Institutions applying for both Independent and Integrated programs must answer all items on the form.*

**Program Format**

1. Indicate the requested program format. [PRs 4.1. and 4.1.c.]

(Check both boxes if you plan to apply for both an independent and integrated program.)

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| --- |
| Independent format (24 months) |[ ]
| Integrated format (60 months) |[ ]
| Integrated format (72 months) |[ ]

1. Indicate the number of existing residents/fellows in the diagnostic radiology and vascular and interventional radiology program(s) as applicable in **Table A** below:

|  | **Existing Training Numbers** |
| --- | --- |
| **Diagnostic Radiology Residents** | **Interventional Radiology Fellows***(if applicable)* |
| **Independent** | **Integrated** |
| PGY-1 | # | # | # |
| PGY-2 | # | # | # |
| PGY-3 | # | # | # |
| PGY-4 | # | # | # |
| PGY-5 | # | # | # |
| PGY-6 |  | # | # |
| **Total Complement** | # | # | # |

1. Indicate the total number of planned resident positions for the diagnostic radiology program, integrated program, and/or independent program(s) as applicable in **Table B** below:

|  | **Planned Resident Positions** |
| --- | --- |
| **Diagnostic Radiology**  | **Independent Interventional Radiology**  | **Integrated Interventional Radiology**  |
| PGY-1 | # |  | # |
| PGY-2 | # |  | # |
| PGY-3 | # |  | # |
| PGY-4 | # |  | # |
| PGY-5 | # |  | # |
| PGY-6 |  | # | # |
| PGY-7 |  | # |  |
| **Total Complement** | # | # | # |

1. Explain how the institution will manage/fill resident positions for its integrated and independent programs, including the planned steady state of total residents and fellows in interventional radiology: [PR 3.4.]

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**Oversight**

**Resources**

1. Briefly describe resident access to personal or shared office space, conference space, and computers. [PR 1.8.a.1.]

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1. Briefly describe the availability of modern imaging equipment and procedure rooms with space to permit the performance of all radiologic and interventional radiologic procedures, including vascular and non-vascular invasive imaging and image-guided interventional radiological procedures broadly distributed over the domain of interventional radiology. [PR 1.8.a.2.

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1. Will imaging modalities include the following? [PR 1.8.a.3.]
2. CT [ ]  YES [ ]  NO
3. Digital subtraction angiography [ ]  YES [ ]  NO
4. Fluoroscopy [ ]  YES [ ]  NO
5. MRI [ ]  YES [ ]  NO
6. Radionuclide scintigraphy [ ]  YES [ ]  NO
7. Ultrasonography [ ]  YES [ ]  NO
8. Will fluoroscopic and digital imaging equipment be high resolution and have digital display with post-procedure image processing capability? [PR 1.8.a.3.a.] [ ]  YES [ ]  NO

If NO, explain.

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1. Will rooms in which interventional procedures are performed be equipped with physiologic monitoring and resuscitative equipment? [PR 1.8.a.4.] [ ]  YES [ ]  NO
2. Will facilities for storing catheters, guide wires, contrast materials, embolic agents, and other supplies be adjacent to or within procedure rooms? [PR 1.8.a.5.] [ ]  YES [ ]  NO

If NO, explain.

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1. Briefly describe the availability of patient recovery and holding areas. [PR 1.8.a.6.]

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1. Briefly describe available space and facilities for image display, image interpretation, and consultation with other clinicians. [PR 1.8.a.7.]

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1. Will an interventional radiology clinic or outpatient office, separate from the procedure rooms, be available for patient consultations and non-procedural follow-up visits? [PR 1.8.a.8.]
 [ ]  YES [ ]  NO
2. Will this space be conducive to patient privacy and conducting physical examinations?
[PR 1.8.a.8.a. [ ]  YES [ ]  NO

If NO, explain.

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1. **Integrated Programs:** Will there be a minimum of 7,000 radiologic examinations per year per resident for all residents in both the diagnostic radiology program and in the PGY-2-4 years of the integrated program? [PR 1.8.c.1.] [ ]  YES [ ]  NO

**Patient Population**

Will residents be exposed to a patient population with a diversity of illnesses, including the following?
[PR 1.8.c.2.a.]

1. Arterial diseases [ ]  YES [ ]  NO
2. Cancer [ ]  YES [ ]  NO
3. Gastrointestinal diseases [ ]  YES [ ]  NO
4. Gynecologic disorders [ ]  YES [ ]  NO
5. Hepatobiliary diseases [ ]  YES [ ]  NO
6. Endocrine diseases [ ]  YES [ ]  NO
7. Musculoskeletal diseases [ ]  YES [ ]  NO
8. Pulmonary disease [ ]  YES [ ]  NO
9. Venous diseases [ ]  YES [ ]  NO
10. Urologic disorders [ ]  YES [ ]  NO

**Support Services**

1. Will pathology and medical laboratory services be regularly and conveniently available to meet the needs of patients? [PR 1.8.b.] [ ]  YES [ ]  NO
2. Will laboratory services be available 24 hours a day? [PR 1.8.b.1.]
 [ ]  YES [ ]  NO
3. Will diagnostic laboratories for the non-invasive assessment of peripheral vascular disease be available? [PR 1.8.b.2.] [ ]  YES [ ]  NO
4. Will the Sponsoring Institution and program provide laboratory and ancillary facilities to support research projects? [PR 1.8.b.3.] [ ]  YES [ ]  NO

If NO, explain.

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**Personnel**

**Program Director**

1. **Independent Programs:** Will the program director be provided the equivalent of at least 20 percent protected time in order to fulfill the responsibilities inherent to meeting the educational goals of the program? [PR 2.4.a.] [ ]  YES [ ]  NO
2. **Integrated Programs:** Will the program director be provided sufficient protected time in order to fulfill the responsibilities inherent to meeting the educational goals of the program? [PR 2.4.b.]

 [ ]  YES [ ]  NO

1. Will the program director review resident procedural experiences? [PR 5.1.f.1.]
 [ ]  YES [ ]  NO
	1. Describe how the program director will ensure complete and accurate tracking of resident procedural experiences in the ACGME Case Log System throughout the duration of resident training. [PR 5.1.f.1.]

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**Faculty**

1. Will at least one interventional radiology faculty member have hospital admitting privileges?
[PR 2.8.f.] [ ]  YES [ ]  NO
2. Will faculty members always be available when residents are on call after hours, on weekends, or on holidays? [PR 2.8.h.] [ ]  YES [ ]  NO
3. Will faculty members review all resident interpreted studies, and sign and verify these reports within 24 hours? [PRs 2.8.i.-2.8.i.1.] [ ]  YES [ ]  NO
4. Will faculty members provide didactic teaching and direct supervision of resident performance in peri-procedural patient management, and of the procedural, interpretative, and consultative aspects of interventional radiology? [PR 2.8.j.] [ ]  YES [ ]  NO
5. Will faculty members supervise all percutaneous image-guided invasive procedures? [PR 2.8.k.]
 [ ]  YES [ ]  NO
6. Briefly describe interventional radiology division participation in dedicated interventional radiology outpatient clinics. [PR 2.8.l.]

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1. **Integrated Programs**

a) Provide the name of the designated core physician faculty member responsible for the educational content of each of the practice domains. Also specify the percent of his/her practice time that will be spent in the practice domain, and how each individual will demonstrate commitment to the practice domain.

| **Practice domain** | **Faculty Member** | **Estimated Percentage Time Dedicated to Practice Domain** | **How Commitment is Demonstrated to Practice Domain\*** |
| --- | --- | --- | --- |
| Abdominal (gastrointestinal and genitourinary) radiology[PR 2.11.b.1.] | Click here to enter text. | # % | Click here to enter text. |
| Breast radiology[PR 2.11.b.2.] | Click here to enter text. | # % | Click here to enter text. |
| Cardiothoracic (cardiac and thoracic) radiology[PR 2.11.b.3.] | Click here to enter text. | # % | Click here to enter text. |
| Interventional radiology [PR 2.11.b.4.] | Click here to enter text. | #% | Click here to enter text. |
| Musculoskeletal radiology[PR 2.11.b.5.] | Click here to enter text. | # % | Click here to enter text. |
| Neuroradiology[PR 2.11.b.6.] | Click here to enter text. | # % | Click here to enter text. |
| Nuclear radiology and molecular imaging[PR 2.11.b.7.] | Click here to enter text. | # % | Click here to enter text. |
| Pediatric radiology[PR 2.11.b.8.] | Click here to enter text. | # % | Click here to enter text. |

\*Indicate by number all that apply:

1. Current specialty/subspecialty certification (CAQ) in the practice domain

2. Fellowship training

3. Three years of practice in the practice domain

4. Active participation in specialty/subspecialty societies, including CME activities in the practice domain

5. Publications or presentations in the specialty/subspecialty practice domain

6. Participation in Maintenance of Certification with emphasis on the specialty/subspecialty practice domain

1. Provide the name of designated physician faculty member with expertise in and responsibility for the didactic content in each of the educational content areas.

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| **Educational Content Area** | **Faculty Member** |
| Computed tomography (CT)[PR 2.7.c.1] | Click here to enter text. |
| Magnetic resonance imaging (MRI)[PR 2.7.c.2] | Click here to enter text. |
| Radiography/fluoroscopy[PR 2.7.c.3] | Click here to enter text. |
| Ultrasonography[PR 2.7.c.4] | Click here to enter text. |

1. Will there be physician faculty members, non-physician faculty members, or other staff members within the institution with expertise in quality, safety, and informatics who will be available to the program? [PR 2.7.d.] [ ]  YES [ ]  NO
	* 1. Will these individuals develop didactic content related to their areas of expertise? [PR 2.7.d.1.] [ ]  YES [ ]  NO
2. Will an assistant or associate program director who is clinically active in diagnostic radiology be appointed? [PR 2.7.f.] [ ]  YES [ ]  NO

If NO, explain.

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**Other Program Personnel**

1. Will the program have a dedicated program coordinator who will have sufficient time and support to fulfill responsibilities essential to meeting the educational goals and administrative duties of the program? [PRs 2.12.a., 2.12.b.1.-2.12.b.2.; 2.12.c.] [ ]  YES [ ]  NO

If NO, explain.

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2. Will at least one qualified interventional radiology technologist be on duty or available at all times? [PR 2.13.a.] [ ]  YES [ ]  NO

3. Will nursing support adequate to prepare, monitor, and recover patients be available? [PR 2.13.b.]
 [ ]  YES [ ]  NO

1. Will nurses competent to administer moderate sedation also be available? [PR 2.13.b.1.]
 [ ]  YES [ ]  NO
2. Will other learners (including, but not limited to advanced practice providers) be involved in interventional radiology clinical care activities or resident education? [PR 1.11.]
 [ ]  YES [ ]  NO

If YES, explain the role of the physician extenders.

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**Educational Program**

**Curriculum Organization and Resident Experiences**

1. Is the core didactic curriculum documented? [PR 4.11.a.] [ ]  YES [ ]  NO
2. Does the core didactic curriculum include the following core content areas of interventional radiology? [PR 4.11.b.]
3. Focused history and physical examination [PR 4.11.b.1.] [ ]  YES [ ]  NO
4. Health care team coordination [PR 4.11.b.2.] [ ]  YES [ ]  NO
5. Informed consent for interventional radiology procedures [PR 4.11.b.3.] [ ]  YES [ ]  NO
6. Inpatient care [PR 4.11.b.4.] [ ]  YES [ ]  NO
7. Interventional radiology clinic [PR 4.11.b.5.] [ ]  YES [ ]  NO
8. Medical conditions relevant to interventional radiology procedures [PR 4.11.b.6.]
 [ ]  YES [ ]  NO
9. Pharmacology relevant to interventional radiology [PR 4.11.b.7.] [ ]  YES [ ]  NO
10. Procedural sedation for interventional radiology procedures [PR 4.11.b.8.] [ ]  YES [ ]  NO
11. Recognition and initial management of intra- and peri-procedural emergencies
[PR 4.11.b.9.] [ ]  YES [ ]  NO
12. Provide a representative schedule of interdepartmental conferences. [PR 4.11.d.]

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1. Briefly describe planned resident and faculty member participation in conferences. [PRs 4.11.d. and 4.11.g.]

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1. Will residents be provided with protected time to attend all lectures and conferences scheduled by the program? [PR 4.11.g.1.] [ ]  YES [ ]  NO
2. Briefly describe what mechanisms the program will provide to allow residents to participate in all scheduled lectures and conferences either in person or by electronic means. [PR 4.11.g.2.]

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1. Will residents be provided with:

**Independent Programs**

Two hours of conferences/lectures per week? [PR 4.11.g.4.] [ ]  YES [ ]  NO

**Integrated Programs**

1. Five hours of conferences/lectures per week during the PGY-2-4? [PR 4.11.g.3.]
 [ ]  YES [ ]  NO
2. Two hours of conferences/lectures per week during the PGY-5-6? [PR 4.11.g.4.]
 [ ]  YES [ ]  NO
3. Briefly describe how the resident teaching experience will include active participation in educating diagnostic radiology residents, and if appropriate, medical students and other professional personnel, in the care and management of patients. [PR 4.11.g.6]

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**Interventional Radiology Didactic Content**

1. Will morbidity and mortality related to the performance of interventional procedures be reviewed at least monthly and be documented? [PR 4.11.h.] [ ]  YES [ ]  NO
2. Will residents actively participate in this review? [PR 4.11.h.1.]
 [ ]  YES [ ]  NO
3. Will residents prepare and present clinically- or pathologically-proven cases at departmental conferences? [PR 4.11.h.3.] [ ]  YES [ ]  NO

If NO, explain.

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**Integrated Program** **Diagnostic Radiology Didactic Content**

1. Will there be a didactic component for each of the following? [PR 4.11.j.1.]
2. Anatomy [ ]  YES [ ]  NO
3. Disease processes [ ]  YES [ ]  NO
4. Imaging [ ]  YES [ ]  NO
5. Physiology [ ]  YES [ ]  NO

Explain any NO responses.

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1. Will the didactic curriculum include specialty/subspecialty and general content? [PR 4.11.j.2.] [ ]  YES [ ]  NO
2. Will the didactic curriculum include topics related to professionalism, physician well-being, diversity, and ethics? [PR 4.11.j.3.] [ ]  YES [ ]  NO
3. Briefly describe how the didactic curriculum will include training in the clinical application of medical physics, distributed through the 60 months of the educational program. Describe how this will include real-time expert discussions and interactive educational experiences. [PRs 4.11.j.4. and 4.11.j.4.b.]

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* 1. Will a medical physicist oversee the development of this curriculum? [PR 4.11.j.4.a.]

 [ ]  YES [ ]  NO

1. Will the didactic curriculum include a minimum of 80 hours of classroom and laboratory training in basic radionuclide techniques applicable to the medical use of unsealed byproduct material for imaging and localization studies and oral administration of sodium iodide I-131 for procedures requiring a written directive? [PR 4.11.j.5.] [ ]  YES [ ]  NO
2. Will the didactic curriculum include the following subjects as they relate to the practice of nuclear radiology? [PR 4.11.j.5.a.]
3. Radiation physics and instrumentation [PR 4.11.j.5.a.1.] [ ]  YES [ ]  NO
4. Radiation protection [PR 4.11.j.5.a.2.] [ ]  YES [ ]  NO
5. Mathematics pertaining to use and measurement of radioactivity [PR 4.11.j.5.a.3.]
 [ ]  YES [ ]  NO
6. Chemistry of byproduct material for medical use [PR 4.11.j.5.a.4.] [ ]  YES [ ]  NO
7. Radiation biology [PR 4.11.j.5.a.5.] [ ]  YES [ ]  NO

**ACGME Competencies**

**Professionalism**

1. Briefly describe the learning activity(ies), other than lecture, by which residents will develop a commitment to carrying out professional responsibilities and an adherence to ethical principles, including: compassion, integrity, and respect for others; responsiveness to patient needs that supersedes self-interest; cultural humility; respect for patient privacy and autonomy; accountability to patients, society, and the profession; respect and responsiveness to diverse patient populations, including but not limited to diversity in gender, age, culture, race, religion, disabilities, national origin, socioeconomic status, and sexual orientation. [PRs 4.3.- 4.3.f.] (Limit response to 400 words)

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**Patient Care and Procedural Skills**

1. Indicate the settings and activities in which residents will competently perform the following under close, graded responsibility and supervision. Also indicate the method(s) that will be used to assess competence. [PR 4.4.]

| **Competency Area** | **Settings/Activities**  | **Assessment Method(s)** |
| --- | --- | --- |
| Provide patient care through safe, efficient, appropriately utilized, quality-controlled diagnostic and/or interventional radiological techniques[PR 4.4.a.1.] | Click here to enter text. | Click here to enter text. |
| Practice using standards of care in a safe environment, attempt to reduce errors, and improve patient outcomes[PR 4.4.a.2.] | Click here to enter text. | Click here to enter text. |
| Take a patient history and perform an appropriate physical exam[PR 4.4.a.3.] | Click here to enter text. | Click here to enter text. |
| Communicate indications for, contraindications for, and risks of radiologic and interventional procedures, and understand the medical and surgical alternatives to those procedures[PR 4.4.a.4.] | Click here to enter text. | Click here to enter text. |
| Provide appropriate pre-procedural and follow-up care related to interventional radiology, including inpatient rounds and post-procedure follow-up management of outpatients via clinic visits[PR 4.4.a.5.] | Click here to enter text. | Click here to enter text. |
| Participate in the multidisciplinary approach to continuity of procedure-related care[PR 4.4.a.6.] | Click here to enter text. | Click here to enter text. |
| Apply radiation safety principles in performing interventional procedures[PR 4.4.a.7.] | Click here to enter text. | Click here to enter text. |
| Administer pharmacologic agents, including sedatives, analgesics, antibiotics, and other drugs commonly employed in conjunction with endovascular, invasive, and non-vascular procedures[PR 4.4.a.8.] | Click here to enter text. | Click here to enter text. |
| Consult with patients and referring physicians regarding the indications for, and risks, expected outcomes, and appropriateness of interventional radiology procedures[PR 4.4.a.9.] | Click here to enter text. | Click here to enter text. |
| Formulate a treatment plan, including appropriate additional work-up, consultations, and procedural recommendations, to include risk assessment, consideration of other treatments, and delivery of care in a collaborative model, when appropriate[PR 4.4.a.10.] | Click here to enter text. | Click here to enter text. |
| Provide follow-up communications with referring physicians[PR 4.4.a.11.] | Click here to enter text. | Click here to enter text. |
| Recognize and treat or refer for treatment of complications of interventional radiology procedures, including contrast reactions[PR 4.4.a.12.] | Click here to enter text. | Click here to enter text. |

1. Indicate the settings and activities in which residents will demonstrate the ability to interpret imaging appropriate for their educational level, including demonstration of competence in the following areas of patient care. Also indicate the method(s) that will be used to assess competence. [PR 4.4.b.1.]

| **Competency Area** | **Settings/Activities**  | **Assessment Method(s)** |
| --- | --- | --- |
| Planning, executing, and assessing the adequacy of interventions based on independent review of plain film, ultrasound, CT, MR, and nuclear medicine studies[PR 4.4.b.1.] | Click here to enter text. | Click here to enter text. |
| Interpreting images obtained during the performance of interventional procedures, and skillfully integrating the imaging findings into the procedure[PR 4.4.b.2.] | Click here to enter text. | Click here to enter text. |
| Modifying and directing the intervention based on these interpretations, and demonstrating their use in aiding the determination of procedural endpoints[PR 4.4.b.3.] | Click here to enter text. | Click here to enter text. |

1. Indicate the settings and activities in which residents will demonstrate the ability to competently perform all medical, diagnostic, and surgical procedures considered essential for the area of practice. Also indicate the method(s) that will be used to assess competence. [PR 4.5.]

| **Competency Area** | **Settings/Activities** | **Assessment Method(s)** |
| --- | --- | --- |
| Interpretation of CT, MRI, radiography, and radionuclide imaging of the cardiovascularsystem (heart and great vessels)[PR 4.5.a.] | **Click here to enter text.** | Click here to enter text. |
| Management of contrast reactions[PR 4.5.b.] | Click here to enter text. | Click here to enter text. |
| Ongoing awareness of radiation exposure, protection, and safety, and the application of these principles in practice[PR 4.5.c.] | Click here to enter text. | Click here to enter text. |
| Application of low-dose radiation techniques for both adults and children[PR 4.5.d.] | Click here to enter text. | Click here to enter text. |
| Use of needles, catheters, guide wires, balloons, stents, stent-grafts, vascular filters, embolic agents, biopsy devices, ablative technologies, and other interventional devices[PR 4.5.e.] | Click here to enter text. | Click here to enter text. |
| Clinical judgment and technical ability to perform complex vascular and non-vascular image-guided interventions on a sufficient variety of patients and pathological conditions to allow for competent post-graduate practice[PR 4.5.f.] | Click here to enter text. | Click here to enter text. |

1. Will each resident participate in a minimum of 1,000 invasive imaging and image-guided vascular and non-vascular interventional procedures? [PR 4.5.f.1.] [ ]  YES [ ]  NO
2. Will this experience include both adult and pediatric interventional procedures?
[PR 4.5.f.1.a.] [ ]  YES [ ]  NO
3. Briefly describe how residents will be trained in pediatric interventions [PR 4.5.f.1.a.].

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1. Provide the data requested below regarding the number of procedures performed institution-wide at each site that will participate in the program from the most recent 12-month period. For additional sites, duplicate the table as necessary. Note that procedures listed below should be initial or de novo procedures, and should not include tube changes, revisions, etc. [PRs 4.5.f.1.b.- 4.5.f.1.d.]

| **Exam \*\*** | **Site #1** | **Site #2** | **Site #3** | **Site #4** |
| --- | --- | --- | --- | --- |
| **Non-invasive Vascular Imaging** |
| CTA/MRA Abdomen/Pelvis | # | # | # | # |
| CTA/MRA Extremities | # | # | # | # |
| CTA/MRA Chest | # | # | # | # |
| Lower Extremity Arterial Segmental Evaluation | # | # | # | # |
| ***Subtotal*** | # | # | # | # |
| **Angiography** |
| Carotid/Cerebral Arteriography | # | # | # | # |
| Extremity Arteriography | # | # | # | # |
| Mesenteric/Renal Arteriography | # | # | # | # |
| Dialysis Graft/Fistula Evaluation | # | # | # | # |
| ***Subtotal*** | # | # | # | # |
| **Arterial Vascular Intervention** |
| Arterial Angioplasty | # | # | # | # |
| Arterial Stent Placement | # | # | # | # |
| Lower Extremity Arterial Revascularization | # | # | # | # |
| Peripheral Thrombolysis/Thrombectomy | # | # | # | # |
| Embolization – TACE  | # | # | # | # |
| Embolization – Radioembolization  | # | # | # | # |
| Embolization – UFE  | # | # | # | # |
| Embolization – Other  | # | # | # | # |
| Aortic Stent Graft | # | # | # | # |
| Carotid Stent Placement | # | # | # | # |
| Stroke Thrombolysis | # | # | # | # |
| ***Subtotal*** | # | # | # | # |
| **Venous Vascular Interventions** |
| TIPS – Initial Placement | # | # | # | # |
| Port Placement | # | # | # | # |
| Tunneled Catheter Placement | # | # | # | # |
| IVC Filter Placement | # | # | # | # |
| Venous Ablation | # | # | # | # |
| Venous Thrombolysis | # | # | # | # |
| Hemodialysis Intervention | # | # | # | # |
| ***Subtotal*** | # | # | # | # |
| **Non-vascular Intervention** |
| Biopsy | # | # | # | # |
| Chest Tube Placement | # | # | # | # |
| Initial Nephrostomy/Nephroureteral Tube Placement | # | # | # | # |
| Initial Biliary Drainage Catheter Placement | # | # | # | # |
| Initial Percutaneous GI Tract Tube Placement | # | # | # | # |
| Abscess Drainage | # | # | # | # |
| Tumor Ablation | # | # | # | # |
| Vertebroplasty/Kyphoplasty | # | # | # | # |
| ***Subtotal*** | # | # | # | # |
| ***Total of all Interventional Radiology procedures listed above*** | # | # | # | # |
| **Clinical Activities** |
| Inpatient Interventional Radiology Admissions by Interventional Radiology Service (to include 23-hour stay) | # | # | # | # |
| New Outpatient Interventional Radiology Clinic Visits | # | # | # | # |

For any areas with low volumes, explain how the program plans to provide residents with experience in those areas:

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1. **Integrated Programs:** Briefly describe how residents will demonstrate competence in the generation of ultrasound images using the transducer and imaging system and interpretation of ultrasonographic examinations of various types. Outline how residents will obtain hands-on scanning experience and what process will be used to document resident proficiency in ultrasonographic skills. [PRs 4.5.h. and 4.5.h.1-4.5.h.2.].

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**Medical Knowledge**

1. Indicate the activities (lectures, conferences, journal clubs, clinical teaching rounds, etc.) in which residents will demonstrate competence in their knowledge of the following areas. Also indicate the method(s) that will be used to assess competence. [PR 4.6.]

| **Competency Area** | **Settings/Activities** | **Assessment Method(s)** |
| --- | --- | --- |
| Interventional radiology clinical and general didactic content[PR 4.6.a.] | Click here to enter text. | Click here to enter text. |
| Clinical and basic sciences related in interventional radiology, including: [PR 4.6.b.] |
| Anatomy[PR 4.6.b.1.] | Click here to enter text. | Click here to enter text. |
| Physiology[PR 4.6.b.2.] | Click here to enter text. | Click here to enter text. |
| Pathophysiology of the hematological, circulatory, respiratory, gastrointestinal, genitourinary, musculoskeletal, and neurologic systems[PR 4.6.b.3.] | Click here to enter text. | Click here to enter text. |
| Relevant pharmacology[PR 4.6.b.4.] | Click here to enter text. | Click here to enter text. |
| Patient evaluation[PR 4.6.b.5.] | Click here to enter text. | Click here to enter text. |
| Management skills[PR 4.6.b.6.] | Click here to enter text. | Click here to enter text. |
| Diagnostic techniques[PR 4.6.b.7.] | Click here to enter text. | Click here to enter text. |
| Non-interpretive skills, including health care economics, coding and billing compliance, and the business of medicine[PR 4.6.c.] | Click here to enter text. | Click here to enter text. |
| Appropriate and patient-centered imaging utilization[PR 4.6.d.] | Click here to enter text. | Click here to enter text. |
| Quality improvement techniques[PR 4.6.e.] | Click here to enter text. | Click here to enter text. |
| Radiologic/pathologic correlation[PR 4.6.f.] | Click here to enter text. | Click here to enter text. |
| Physiology, utilization, and safety of contrast agents and pharmaceuticals[PR 4.6.g.] | Click here to enter text. | Click here to enter text. |
| **Integrated Programs** |
| Principles of medical imaging physics, including CT, dual-energy X-ray absorptiometry, fluoroscopy, gamma camera and hybrid imaging technologies, MRI, radiography, and ultrasonography[PR 4.6.h.] | Click here to enter text. | Click here to enter text. |

**Practice-based Learning and Improvement**

1. Briefly describe one planned learning activity in which residents will engage to identify strengths, deficiencies, and limits in their knowledge and expertise (self-reflection and self-assessment); set learning and improvement goals; and identify and perform appropriate learning activities to achieve self-identified goals (lifelong learning). [PRs 4.7.] (Limit response to 400 words)

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1. Briefly describe one planned quality improvement activity or project that will allow residents to demonstrate the ability to analyze, improve, and change practice or patient care, including activities aimed at reducing health care disparities. Describe planning, implementation, evaluation, and provisions of faculty member support and supervision that will guide this process. [PR 4.7.d.] (Limit response to 400 words)

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1. Briefly describe how residents will receive and incorporate formative evaluation feedback into daily practice. (If a specific tool is used to evaluate these skills, have it available for review by the Accreditation Field Representative, if applicable.) [PR 4.7.e.] (Limit response to 400 words)

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1. Briefly describe one example of a learning activity in which residents will engage to develop the skills needed to use information technology to locate, appraise, and assimilate evidence from scientific studies and apply it to their patients' health problems. [PRs 4.7.f.] (Limit response to 400 words)

The description should include:

* Locating information
* Appraising information
* Assimilating evidence information (from scientific studies)
* Applying information to patient care
* Conducting a comprehensive literature search

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1. Briefly describe how residents will participate in the education of patients, patients’ families, students, residents, and other health professionals. [PR 4.8.d.] (Limit response to 400 words)

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**Interpersonal and Communication Skills**

1. Briefly describe one learning activity in which residents will develop competence in communicating effectively with patients and families across a broad range of socioeconomic circumstances, cultural backgrounds, and language capabilities, and with physicians, other health professionals, and health-related agencies.
[PRs 4.8.a.] (Limit response to 400 words)

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1. Briefly describe one learning activity in which residents will develop competence in obtaining informed consent and effectively describing imaging appropriateness, safety issues, and the results of diagnostic imaging and procedures to patients. [PR 4.8.b.1.] (Limit response to 400 words)

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1. Briefly describe one learning activity in which residents will develop competence in communicating the results of examinations and procedures to the referring provider and/or other appropriate individuals effectively and in a timely manner. [PR 4.8.b.1.] (Limit response to 400 words)

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1. Briefly describe one learning activity in which residents will develop their skills and habits to work effectively as members or leaders of a health care team or other professional group. Identify the members of the team, responsibilities of team members, and how team members communicate to accomplish responsibilities. [PR 4.8.c.] (Limit response to 400 words)

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1. Briefly describe how residents will be provided with opportunities to act in a consultative role to other physicians and health professionals. [PR 4.8.e.] (Limit response to 400 words)

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1. Briefly describe how residents will be provided with opportunities to maintain comprehensive, timely, and legible health care records, if applicable. [PR 4.8.f.] (Limit response to 400 words)

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1. Briefly describe how residents will be provided with opportunities to supervise, provide consultation to, and teach medical students and/or residents. [PR 4.8.h.] (Limit response to 400 words)

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**Systems-based Practice**

1. Describe the learning activity(ies) through which residents will achieve competence in the elements of systems-based practice: working effectively in various health care delivery settings and systems, and coordinating patient care within the health care system; incorporating considerations of value, equity, cost awareness, delivery and payment, and risk-benefit analysis in patient care; advocating for quality patient care and optimal patient care systems; and working in interprofessional teams to enhance patient safety and care quality. [PRs 4.9.] (Limit response to 400 words)

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2. Describe an activity that fulfills the requirement for experiential learning in identifying system errors and implementing potential systems solutions. [PR 4.9.d.] (Limit response to 400 words)

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3. Briefly describe how residents will be provided with opportunities to demonstrate compliance with institutional and departmental policies, including HIPAA, the Joint Commission, patient safety, and infection control. [PR 4.9.i.] (Limit response to 400 words)

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**Curriculum Organization and Resident Experiences**

1. Will residents participate in patient care and radiology-related activities at all levels of education, including the final year of the program? [PR 4.11.k.] [ ]  YES [ ]  NO
2. **Integrated Programs:** Will resident participation in on-call activities, including being on duty after-hours and on weekends or holidays, occur throughout the PGY-3-6?
[PR 4.11.k.1.] [ ]  YES [ ]  NO
3. **Independent Programs:** Will resident participation in on-call activities, including being on duty after-hours and on weekends or holidays, occur throughout both years of the program?
[PR 4.11.k.1.] [ ]  YES [ ]  NO
4. Will resident competence be assessed and documented prior to assuming independent responsibilities? [PR 4.11.k.2.] [ ]  YES [ ]  NO
5. Will resident supervision during on-call activities be provided by a senior resident, fellow, or radiology faculty member, with a radiology faculty member available for direct or indirect supervision? [PRs 4.11.k.3. and 4.11.k.3.a.] [ ]  YES [ ]  NO
6. Will resident on-call experiences include interpretation, reporting, and management of active cases, and exclude administrative roles or duties consisting primarily of re-review of previously reported cases? [PR 4.11.k.4.] [ ]  YES [ ]  NO
7. **Integrated Programs:** At the program director’s discretion, will relief from after-hours duty granted to residents exceed 12 weeks preceding the American Board of Radiology (ABR) Core Examination? [PR 4.11.k.5.]
 [ ]  YES [ ]  NO
8. Briefly describe how residents will be provided with education and specific clinical time dedicated to the performance and interpretation of non-invasive vascular testing, including vascular ultrasound studies, physiologic vascular tests, MR angiograms, and CT angiograms. [PR 4.11.k.6.]

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1. Will these studies be documented in the residents’ Case Logs? [PR 4.11.k.6.a.] [ ]  YES [ ]  NO
2. Briefly describe how residents will be instructed in proper use and interpretation of laboratory tests and methods that are adjunctive to vascular and interventional procedures, including the use of physiologic monitoring devices, non-invasive vascular testing, and non-invasive vascular imaging. [PR 4.11.k.7]

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1. Briefly describe how residents will have supervised progressive responsibility in a dedicated interventional radiology clinic, including the admission and routine procedure-related inpatient care of interventional radiology patients, discharge planning, and procedure-related follow-up.
[PR 4.11.k.8.]

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1. Will residents maintain current certification in advanced cardiac life support? [PR 4.11.k.10.]
 [ ]  YES [ ]  NO
2. Will residents have experience in sedation analgesia? [PR 4.11.k.11.] [ ]  YES [ ]  NO
3. Will residents maintain a Resident Learning Portfolio? [PR 4.11.k.13.] [ ]  YES [ ]  NO
4. Will the Resident Learning Portfolio include, at a minimum, documentation of the following?

1. Patient Care – Integrated Programs
2. Participation in therapies involving oral administration of sodium iodide I-131, to include the date, diagnosis, and dosage [PR 4.11.k.13.a.] [ ]  YES [ ]  NO
3. Interpretation/multi-reading of mammograms [PR 4.11.k.13.b.] [ ]  YES [ ]  NO
4. Performance of 75 hands-on ultrasonographic examinations of various types
[PR 4.11.k.13.c.] [ ]  YES [ ]  NO
5. Case/Procedure Logs – All Programs

Resident experience in the performance, interpretation, and complications of vascular, interventional, and invasive procedures, including image-guided biopsies, drainage procedures, angioplasty, embolization and infusion procedures, and other percutaneous interventional procedures [PR 4.11.k.13.d.] [ ]  YES [ ]  NO

1. Medical Knowledge – All Programs
2. Conferences, courses/meetings attended, and self-assessment modules completed
[PR 4.11.k.13.e.] [ ]  YES [ ]  NO
3. Performance on rotation-specific and/or annual objective examinations
[PR 4.11.k.13.f.] [ ]  YES [ ]  NO
4. Practice-based Learning and Improvement – All Programs
5. Evidence of a reflective process that must result in the annual documentation of an individual learning plan and self-assessment [PR 4.11.k.13.g.] [ ]  YES [ ]  NO
6. Scholarly activity, such as publications or presentations [PR 4.11.k.13.h.] [ ]  YES [ ]  NO
7. Interpersonal and Communication Skills

Formal documented assessment of oral and written communication
[PR 4.11.k.13.i.] [ ]  YES [ ]  NO

1. Professionalism – All Programs
2. Compliance with institutional and departmental policies including, but not limited to HIPAA, Joint Commission, patient safety, infection control, and dress code
[PR 4.11.k.13.j.] [ ]  YES [ ]  NO
3. Status of medical license, if applicable [PR 4.11.k.13.k.] [ ]  YES [ ]  NO
4. Systems-based Practice – All Programs

A learning activity that involves deriving a solution to a system problem at the departmental, institutional, local, regional, national, or international level [PR 4.11.k.13.l.] [ ]  YES [ ]  NO

**Independent Programs**

Will the independent program curriculum consist of 24 months of interventional radiology education under the direction of the program director? [PR 4.11.n.] [ ]  YES [ ]  NO

1. Will residents complete at least 23 interventional radiology or interventional radiology-related rotations, excluding critical care by the completion of the program? [PR 4.11.l.] [ ]  YES [ ]  NO
	1. Will at least 18 of these rotations be core interventional radiology rotations in the interventional radiology division under the supervision of an interventional radiologist? [PR 4.11.l.1.]
	 [ ]  YES [ ]  NO
2. Briefly list what interventional radiology-related rotations (outside of the interventional radiology section proper) will be a standard part of the interventional radiology curriculum rotations. Specify rotations within the Radiology Department, and those outside of the Radiology Department, and identify during which PGY these rotations will occur. [PR 4.11.l.]

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**Integrated Programs**

1. Will residents have a minimum of 700 hours of training and work experience under the supervisor of an Authorized User in in basic radionuclide handling techniques and radiation safety applicable to the medical use of unsealed byproduct material for imaging and localization studies and oral administration of sodium iodide I-131 for procedures requiring a written directive? [PR 4.11.y.] [ ]  YES [ ]  NO

**Scholarship**

1. Briefly describe how the program will provide training in critical thinking skills and research design. [PR 4.15.a.]

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**Evaluation**

**Resident Evaluation**

1. How will the program ensure that assessment for progressive resident responsibility or independence is based on knowledge, skills, and experience? [PR 5.1.b.3.]

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1. Will the program ensure that written end-of-rotation evaluations by faculty members are provided to the residents within one month of completion of each rotation? [PR 5.1.a.3.]
 [ ]  YES [ ]  NO
2. Will the program ensure that resident assessment includes a review of the following?
[PR 5.1.b.4.]
3. Global faculty evaluations (all Competencies) [PR 5.1.b.4.a.] [ ]  YES [ ]  NO
4. Multi-source evaluations (for Interpersonal and Communication Skills and Professionalism)
[PR 5.1.b.4.b.] [ ]  YES [ ]  NO
5. Resident’s ability to take independent call [PR 5.1.b.4.c.] [ ]  YES [ ]  NO
6. Resident Learning Portfolio [PR 5.1.b.4.d.] [ ]  YES [ ]  NO

**Specialty-Specific Instructions**

Interventional Radiology-Related Rotation Goals and Objectives [PR 4.2.b.]

An interventional radiology-related rotation is an experience that does not take place within the Interventional Radiology Division and is not supervised by qualified interventional radiologists. Interventional radiology-related rotations are intended to provide residents with experience and training in core interventional radiology procedures that are performed outside of the interventional radiology section-proper or to provide additional clinical or procedural experience relevant to interventional radiology.

Submit goals and objectives for **each** interventional radiology-related rotation. Append these goals and objectives to the “Attachment: Competency Goals and Objectives” file upload requested in the Common Application in the Accreditation Data System.