**New Application: Neuroradiology**

**Review Committee for Radiology**

**ACGME**

**Oversight**

**Participating Sites**

1. Describe how the fellowship and residency program directors will collaborate to ensure optimal educational experiences for both residents and fellows. [PR I.B.1.a).(1)]

(Limit response to 500 words.)

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**Resources**

1. Is all equipment required for advanced neuroimaging available to the program and state-of-the-art? [PR I.D.1.a)] [ ]  YES [ ]  NO
2. Describe the following:
	1. Space for image display, interpretation of studies, and consultation with clinicians [PR I.D.1.b)]

 (Limit response to 500 words.)

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* 1. Office space for neuroradiology faculty members, program administrators, residents, and fellows[PR I.D.1.c)]

 (Limit response to 500 words.)

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**Other Learners**

1. If there are programs in the primary clinical site in any of the following areas, provide the data indicated: [PR I.E.1.a)]

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|  | **# Medical Personnel** | **# Residents** | **# Fellows** |
| Diagnostic Radiology | # | # | N/A |
| Interventional Radiology - Integrated | # | # | N/A |
| Neurology | # | # | # |
| Neurological Surgery | # | # | # |
| Neuropathology | # | # | # |

1. Describe how the presence of other learners, and health care professionals, including residents from other specialties, subspecialty fellows, PhD students, and nurse practitioners, will not interfere with the appointed fellows’ education. [PR I.E.1.a)]

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**Personnel**

**Program Director**

1. How much time is the program director provided to administer and oversee the program?[PR II.A.2.a)]

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|  | # FTE |

**Faculty**

1. What percentage of time do the neuroradiology faculty members, including the program director, spend in the practice of neuroradiology?[PRs II.A.3.d) and II.B.1.a).(1).(a)]

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| Neuroradiologists | % Time |
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**Other Program Personnel**

1. Are nurses and technologists appropriately trained for invasive procedures and advanced imaging techniques available to the program? [PR II.D.1.] [ ]  YES [ ]  NO

Explain if “NO.” (Limit response to 500 words.)

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**Educational Program**

**Patient Care and Procedural Skills**

1. For the patient care and procedural skills listed in the table below, identify the learning activities and settings in which the fellows will engage. [PR IV.B.1.b)-IV.B.1.b).(2).(c)]

| **Core Curriculum** | **List in Bulleted Format the Learning Activities Used to Address the Core Knowledge Areas** | **List the Corresponding Setting(s) in Which These Learning Activities Take Place** |
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| Patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health[PR IV.B.1.b).(1)] |  |  |
| Provide consultation and interpretation of imaging diseases of the brain, spine, neck, organs of special sense, and vascular supply to these regions utilizing CT, MRI, magnetic resonance (MR) angiography, radiography, ultrasound, and nuclear radiology, including PET[PR IV.B.1.b).(1).(a)] |  |  |
| **Perform all medical, diagnostic, and surgical procedures considered essential for the area of practice****[PR IV.B.1.b).(2)]** |  |  |
| 3000 neuroradiological exams, including CT and MR, of which at least 1500 are neuroradiological MR scans[PR IV.B.1.b).(2).(a).(i)] |  |  |
| 250 vascular examinations, including computed tomography angiogram (CTA), computed tomography venogram (CTV), magnetic resonance angiogram (MRA), magnetic resonance venogram (MRV), Doppler ultrasound, and catheter-based angiography[PR IV.B.1.b).(2).(a).(ii)] |  |  |
| 100 image-guided invasive procedures[PR IV.B.1.b).(2).(a).(iii)] |  |  |
| Performing image-guided access to the spinal subarachnoid space for the purposes of myelography, cerebral spinal fluid (CSF) analysis, and/or instillation of therapeutic agents[PR IV.B.1.b).(2).(b)] |  |  |
| Performing relevant patient evaluation, demonstrating patient management skills, and relevant pharmacology skills, including obtaining informed consent and monitoring for complications[PR IV.B.1.b).(2).(c)] |  |  |

**Medical Knowledge**

1. Describe the activities and settings in which fellows will be given opportunities to develop knowledge in the following topics. [PR IV.B.1.c)-IV.B.1.c).(1).(h)]

| **Core Curriculum** | **List in Bulleted Format the Learning Activities Used to Address the Core Knowledge Area** | **List the Corresponding Setting(s) in Which These Learning Activities Take Place** |
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| Established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care[PR IV.B.1.c)] |  |  |
| Indications and contraindications for, and the role of interventional neuroangiography in patient care management and treatment[PR IV.B.1.c).(1).(a)] |  |  |
| Indications, limitations, risks, alternatives, and appropriate utilization of neuroradiologic imaging and interventional procedures[PR IV.B.1.c).(1).(b)] |  |  |
| Pathophysiology, pathology, anatomy, and genetics of diseases that affect the brain, neck, and spine, including congenital, traumatic, vascular, neoplastic, infectious, inflammatory, metabolic, and neurodegenerative disorders[PR IV.B.1.c).(1).(c)] |  |  |
| Consequences on neuroradiologic imaging of medical and surgical treatments of diseases of the brain, spine, and head and neck[PR IV.B.1.c).(1).(d)] |  |  |
| All aspects of administering and monitoring sedation[PR IV.B.1.c).(1).(f)] |  |  |
| Radiologic sciences with an emphasis on CT and MR physics, radiation biology, and the pharmacology of radiographic contrast materials[PR IV.B.1.c).(1).(g)] |  |  |
| Advanced techniques, such as magnetic resonance spectroscopy (MRS) and functional activation studies (fMRI)[PR IV.B.1.c).(1).(h)] |  |  |

**Curriculum Organization and Fellow Experiences**

1. Does the program provide fellows with an organized, comprehensive, and supervised, full-time educational experience in the selection, interpretation, and performance of neuroradiologic examinations and procedures? [PR IV.C.3.] [ ]  YES [ ]  NO

Explain if “NO.” (Limit response to 500 words.)

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1. Does the curriculum contain the following didactic components: [PR IV.C.4.]
	1. Departmental and/or interdepartmental conferences with allied clinical departments that should be held weekly? [PR IV.C.4.a)] [ ]  YES [ ]  NO
	2. Morbidity and mortality review related to the performance of interventional procedures? [PR IV.C.4.b)] [ ]  YES [ ]  NO
		1. Frequency of morbidity and mortality reviews: [PR IV.C.4.b).(1)] #/year
	3. Journal club that is conducted on a regular basis? [PR IV.C.4.c)] [ ]  YES [ ]  NO
		1. Will fellows present and lead discussions on current peer-reviewed articles pertaining to the specialty of neuroradiology?[PR IV.C.4.c).(1)] [ ]  YES [ ]  NO

Explain any “NO” responses. (Limit response to 500 words.)

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1. Describe the fellow experience and length of education and training in pediatric neuroradiology. [PR IV.C.5.a)]

(Limit response to 500 words.)

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1. Describe fellow experience and length of education and training in head and neck radiology. [PR IV.C.5.b)]

(Limit response to 500 words.)

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1. Describe fellow experience and length of education and training in spine radiology, including non-invasive studies and image-guided procedures [PR IV.C.5.c)]

(Limit response to 500 words.)

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1. Describe fellow experience in vascular neuroradiology. [PR IV.C.5.d)]

(Limit response to 500 words.)

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1. Describe the fellows’ general experience in neuroradiology. [PR IV.C.5.e)]

(Limit response to 500 words.)

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* 1. Will the general experience in neuroradiology include exposure to new and evolving techniques, such as the following? [PR IV.C.5.e).(1)]
	2. Perfusion imaging (CTP and MRP) [ ]  YES [ ]  NO
	3. MR spectroscopy [ ]  YES [ ]  NO
	4. Diffusion Weighed Imaging (DWI) [ ]  YES [ ]  NO
	5. Diffusion Tension Imaging (DTI) [ ]  YES [ ]  NO
	6. fMRI [ ]  YES [ ]  NO
	7. PET [ ]  YES [ ]  NO

Explain any “NO” responses. (Limit response to 500 words.)

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Describe any other new and evolving techniques available in the program not listed above, as applicable. (Limit response to 500 words.)

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1. Will fellows interpret non-invasive and invasive diagnostic catheter-based cervicocerebral angiography? [PR IV.C.6.] [ ]  YES [ ]  NO

If “NO,” please explain. (Limit response to 500 words.)

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1. Will fellows participate in catheter-based angiography and pre- and post-procedural care of patients undergoing angiography? [PR IV.C.7.] [ ]  YES [ ]  NO

If “YES,” describe the fellows’ experience. (Limit response to 500 words.)

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If “NO”, describe how catheter-based angiography education will be provided. (Limit response to 500 words.)

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1. Will fellows maintain advanced cardiac life support certification? [PR IV.C.8.] [ ]  YES [ ]  NO

Explain if “NO.” (Limit response to 500 words.)

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1. Describe how fellows will document their exposure to MRS and fMR. [PR IV.C.9.]

(Limit response to 500 words.)

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1. Describe how fellows will document their performance of invasive cases in a procedure log. [PR IV.C.10.]

(Limit response to 500 words.)

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**Fellow Scholarly Activity**

1. Describe how fellows will be instructed in the fundamentals of experimental design, performance, and interpretation of results, and how this instruction will facilitate fellows’ development of competence in the critical assessment of new imaging modalities and of new procedures in neuroradiology.[PR IV.D.3.a)-IV.D.3.a).(1)]

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1. Will fellows participate in clinical, basic biomedical, or health services research projects?[PR IV.D.3.b)] [ ]  YES [ ]  NO

Explain if “NO.” (Limit response to 500 words.)

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1. Will fellows undertake at least one project as principal investigator?[PR IV.D.3.b).(1)]
 [ ]  YES [ ]  NO

Explain if “NO.” (Limit response to 500 words.)

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1. Will fellows submit at least one scientific paper or exhibit for presentation at a regional or national meeting?[PR IV.D.3.c)]
 [ ]  YES [ ]  NO

Explain if “NO.” (Limit response to 500 words.)

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**Fellow Feedback and Evaluation [PR V.A.1.]**

1. Will fellow assessment include the following?
2. Quarterly meetings with the program director to discuss performance and methods for improvement[PR V.A.1.a).(1)] [ ]  YES [ ]  NO
3. A review of each fellow’s procedure log [PR V.A.1.a).(1).(a)] [ ]  YES [ ]  NO

Explain any “NO” responses. (Limit response to 500 words.)

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1. Will fellows receive feedback concerning their radiological reports, including on content, grammar, and style? [PR V.A.1.a).(2)] [ ]  YES [ ]  NO
2. Will these reports be signed by a neuroradiology faculty member? [PR V.A.1.a).(2).(a)] [ ]  YES [ ]  NO

Explain any “NO” responses. (Limit response to 500 words.)

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