

Johns Hopkins Hospital Fellowship Program: Interventional Neuroradiology

Program Director: Monica Pearl, M.D., DABR

Contact: Sonia Garcia

Address: Department of Radiology, Division of Interventional Neuroradiology

1800 Orleans St, Bloomberg Bldg., Rm 7218

Baltimore, Maryland 21287

Telephone: (410) 955-8525

E-Mail: sgarcia9@jhmi.edu

Teaching Faculty

Monica Pearl, M.D., DABR

Philippe Gailloud M.D.

Ferdinand Hui, M.D.

Program Overview

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GOALS:

- a) The primary goal of the Interventional Neuroradiology (INR) fellowship program is to produce successful trainees who have demonstrated sufficient competence in Interventional Neuroradiology techniques to enter practice in the field without direct supervision.
- b) The INR fellowship program will provide fellows with an organized, comprehensive, supervised, full-time educational experience in Interventional Neuroradiology.
- c) The INR program will ensure fellows are fully trained in the care and management of patients with neurovascular disorders, such as cerebral aneurysms, vascular malformations, and stroke.
- d) Fellows in the INR program will be given the opportunity to perform Interventional Neuroradiology procedures under close guidance, with active participation carefully tailored to their learning curve and growing technical ability.
- e) The INR fellowship program focuses on the integrating Interventional Neuroradiology techniques into the comprehensive clinical management of patients.
- f) The INR program emphasizes the need for a tight collaboration between various subspecialties, including neurological surgery, neurology, and ophthalmology, in order to offer optimal management options in an environment that relies heavily on multimodality and collegiality.

OBJECTIVES:

The INR program will train fellows in the following objectives; by the end of the fellowship program fellows will be competent in the following objectives:

Patient Care:

- a) INR fellows will be instructed in the respective risks and benefits of the procedures they perform, and will initially observe consent processes led by attending physicians.
- a) The fellow will serve as consultant under the supervision of INR practitioners to ensure that appropriate standards of care and concern for patient welfare are strictly maintained.
- b) The diversity of illnesses within the patient population allows fellows to participate in, and personally perform and analyze, a broad spectrum of endovascular procedures, from which broad experience in Interventional Neuroradiology therapy can be obtained.
- c) Fellows will make daily rounds with the Interventional Neuroradiology faculty members during which patient management decisions are discussed and made.
- d) As the INR fellow's ability to lead a consent process and family conferences independently is adequate, they will perform these duties autonomously. The presence of an attending physician during at least part of the consent process remains, however, mandatory.

Medical Knowledge:

- a) INR fellows will be trained to:
 - adequately interpret relevant imaging studies
 - evaluate indications for neuroendovascular therapy
 - establish a treatment plan for neurovascular conditions commonly encountered in clinical practice.
- b) INR fellows will be trained to perform the following procedures independently:
 - diagnostic cerebral and spinal angiography
 - superselective intracranial microcatheterization
 - intra-arterial drug administration (such as tPA)
 - embolization of head and neck lesions (such as vascular malformations or tumors, hemorrhages)
 - embolization of spine tumors prior to surgery
 - percutaneous vertebroplasty

d) INR fellows will be expected to attend:

- INR posted journal club meetings
- the Interventional Neuroradiology hosted weekly Neurovascular conference
- Neuroradiology hosted CORE curriculum conference
- morning work rounds
- attending rounds
- Grand Rounds
- their choice of national conventions/conferences, such as SIR

Communication:

a) INR fellows will be encouraged to actively interact with patients and relatives in the presence of an attending physician.

b) INR fellows will be able to provide patients and their relatives with clear and honest information about diseases and treatments, and obtain informed consent in an informative, ethical, and respectful way.

c) INR fellows should be able to discuss treatment indications and plans with referring physicians. This requirement implies a basic understanding of common therapeutic alternatives that will be gained through daily interactions with physicians from other subspecialties, as well as from weekly multidisciplinary neurovascular case conferences.

d) Close guidance of INR fellows at every stage of patient management will be provided. The fellow's degree of autonomy will be progressively increased as they build their ability to run the service independently, based on individual skills and progress.

e) The INR learning process and skill building will be discussed informally on a daily basis after completion of the clinical duties, and reviewed every 3 months during formal evaluation.

f) Throughout the INR program, a table of the catalog of objectives is reviewed during every fellow evaluation, to help document the rate and areas of progress, and identify specific needs of every fellow.

Professionalism:

a) The INR fellow is expected to communicate to patients with compassion, integrity and respect, regardless of race, or social or economic background.

b) The INR fellow is expected to respect the contributions of other members of the program, teaching staff and other health care team members the fellow may come into contact with.

c) The INR fellow will be expected to perform any leadership roles, or actively participate in challenging circumstances with an open and positive attitude.

Practice-based Learning and Improvement:

a) INR fellows will be trained to:

- understand the basic layout and functioning of an angiography suite
- be familiar with standard radiographic projections
- understand and apply basic principles of radioprotection techniques.

The INR program will ensure that these goals are met during the daily clinical practice.

b) Fellows are encouraged to investigate and evaluate their own patient care, clinical performance, and faculty appraisals to maintain personal and program goals and standards. Self-evaluations are submitted every quarter and reviewed with teaching faculty.

c) INR fellows are required to attend and participate in the weekly Neurovascular conference, the division's weekly journal clubs monthly M&M meetings.

Systems Based Practice:

a) INR fellows will undergo training at both Johns Hopkins Hospital & Johns Hopkins Bayview Medical Campus to encourage team work and interaction across patient care systems.

b) INR fellows will be trained to use and understand health care based information technology systems, at both training institutions, to optimize learning and patient care.

c) Fellows will be encouraged to participate in the weekly, multi-disciplinary Neurovascular conference in order to work within an inter-professional team to enhance patient safety and patient care quality.

d) An important component of Systems Based Practice for INR fellows is to optimize coordination and collaboration within inter-departmental and trans-departmental entities. For example, coordinating patient care with nursing staff and social services.

e) INR fellows are encouraged to be involved with their patients from the registration process through to discharge, including improving interactions with administrative nursing staff.

f) INR fellows have the opportunity to work in collaboration with city, state, and even at times, international centers for patient care to coordinate optimal care and transfer of patients when necessary.