

McGill University
Department of medical imaging Division of Pediatric Neuroradiology
COMBINED RESEARCH AND CLINICAL FELLOWSHIP IN PEDIATRIC NEURORADIOLOGY

*****This Fellowship is offered to candidates covered under an approved Exchange Program with their home Government.**

Duration of training: 1 Year Fellowship Program

Name of Fellowship Director: Dr. Christine Saint-Martin, Dr. Caroline Reinhold

Name of Program Director: Dr. Jana Taylor

The Department of Radiology of the MUHC offers a 1-year Clinical & Research fellowship in PEDIATRIC NEURORADIOLOGY.

Applicants must have completed at least one year of clinical fellowship/staff position in either neuroradiology or pediatric radiology.

INTRODUCTION

The Montreal Children's Hospital is a tertiary and quaternary referral center for brain and spinal cord tumors. It comprises approximately 120 beds and performs approximately 120,000 radiologic procedures per year including MRI and CT in the domain of pediatric neuroradiology.

The fellowship program offers dedicated exposure to pediatric neuroradiology with 1.5 T and 3T MR Imaging, Intraoperative MR Imaging, CT and conventional radiography from 0 to 18 years of age, covering all the fields of pediatric neurology (including neonatal, emergency, epilepsy, neuromuscular, metabolic, infectious and inflammatory diseases as well as malformations), pediatric neurosurgery (reference center for pediatric brain and spine tumors, traumatism, dysraphisms, malformations and epilepsy for instance), pediatric spine orthopedic surgery, pediatric craniofacial plastic surgery, pediatric neurooncology and pediatric ENT surgery. The fellowship provides an integrated experience of research, clinical care and teaching.

DESCRIPTION

- 1. CLINICAL FELLOWSHIP

- 1.1 General guidelines

- Clinical duties, oncall, teaching, rounds, expectations

- 1.2 Goals and objectives

- 1.3 Evaluation

- 1.4 Vacations and conferences

- 2. RESEARCH FELLOWSHIP - GUIDELINES

1. CLINICAL FELLOWSHIP

1.1 GENERAL GUIDELINES

The following guidelines are designed to clarify the fellow's job description. The duties described are geared towards enriching the fellow's own experience and achievement as well as optimizing the functioning of the pediatric neuroradiology section.

The pediatric Neuroradiology fellowship does not negatively impact on residents' training; actually it enhances their exposure to neuroradiology with case review and teaching sessions.

The fellowship is dedicated to cross-sectional and non-interventional imaging of pediatric head, neck and spine. The objective is to acquire as much experience in MRI and CT interpretation including intraoperative MRI. At the end of the training the fellow should be able to function autonomously in interpretation of CT and MRI as well as function as a consultant with physicians from head, neck and spine teams

a. Clinical duties

- The approximately working hours are from 8:00 am to 5:00 PM. He or she will cover lunch time and/or 8-9 neuro MRI activity when the staff on duty is not available. One week per month, the fellow will stay until 6PM to supervise but not read MRI evening cases. Clinical activity will cover 3 to 4 days a week the first 6 months of the fellowship, 3 days a week during the second half of the year. The remainder of the week days will be devoted to research activity (refer to research paragraph)
- The fellow will share the Ct and MRI cases with the resident and/or the pediatric radiology fellow rotating in the neuroradiology unit to preserve a good exposure to a variety of cases for all of them. Cases will be reviewed with the staff and both the resident and the fellow(s) to ensure best training.
- The fellow will review cases scheduled for next day, including indications, previous imaging and protocol of the upcoming examination
- Quantitative expectations: 5 to 8MRI per day, 5 CTs per day

b. On call : the fellow will cover home oncall dedicated to pediatric neuroradiology one week per month, depending on the staff oncall schedule

c. Rounds: the fellow will attend the following main3 rounds

-- Neuroradiology Rounds: Every Tuesday from 8:00-9:00 AM is presented by radiologists, takes place in the radiology division, Neurology, neurosurgery, emergency cases are reviewed:

-- Neurotumor board: every first Thursday of the month from 4 to 5:30 PM, the neuro-tumor board is a multidisciplinary clinical round in videoconference with Sherbrooke and Quebec City academic hospitals

-- ENT round every last Monday of the month from 8 to 9AM

The fellow will be encouraged to participate and attend the neuro-endocrine round (Wednesday PM every 6 weeks) and the neuro-ophthalmology round (one Tuesday AM per trimester) if there is no conflict with clinical duties. He or she will present cases on a regular basis.

d. Teaching: the fellow will give teaching sessions (either case show or formal teaching) to residents and students rotating at the MCH medical imaging division on a regular basis, at least twice a month. The fellow will as well give journal club sessions to update on protocols, specific diseases or proposed guidelines and recommendations.

1.2 GOALS and OBJECTIVES

- Know contraindications to MR imaging.
- Know and discuss indications for MR versus CT imaging.
- Know advantages and limitations of 1.5Tesla versus 3Tesla magnets
- Know advantages, indications, basic principles of intraoperative MRI
- Be familiar with basic pulse sequences and their clinical applications.
- Be exposed to specific sequences such as MR spectroscopy, Diffusion Tensor Imaging, Arterial Spin Labeling, as well as functional MRI

- Be familiar with basic imaging artifacts on both of the magnets
- Recognize the normal anatomy, developmental variants and age-related findings in the various imaging planes, and with various pulse sequences.
- Know about radiation exposure and risks as well as about dose modulation techniques
- Know about use of contrast medium (gadolinium and iodine), risks, indications and contra-indications or limitations in pediatric population
- Know about sedation indications, basic principles and alternative techniques
- Recognize pathology and be able to discuss the signal characteristics

The fellow should interact with all staff-members during the course of the fellowship including the ones with less neuroradiology orientation.

Relation with resident staff: As stated above, the fellow functions as a junior attending, and as such is incorporated within the teaching team.

1.3 FELLOW EVALUATION:

The fellow is evaluated on a daily basis by the attending staff and will meet regularly with the fellowship supervisor for face-to-face feedback. A formal written evaluation is completed every six months, using the CanMEDS roles scheme, submitted electronically via One45.

Academic Facilities

- o Internet access from all workstations
- o Access to libraries at MCH and McGill
- o Multimedia learning materials available
- o Free online journal access via McGill portal

1.4 VACATION/CONFERENCES

The fellow is granted 4 weeks of vacation plus an additional week during either the Christmas or New Year's holidays. The fellow is also granted one week to attend a conference if he/she wishes to do so (proof of paid registration required). If he/she presents a paper at a major conference, the time of the conference is not counted against his/her conference or vacation time. In addition, he/she may request funding for expenses incurred to attend the meeting where he/she presents, provided that the research was done in the department of Radiology at McGill University. Advance approval for such funding is required.

RESEARCH

Protected research time (1 to 2 days per week during the first half of the year, 2 days per week during the second half) is provided for the candidate to be involved in research projects.

Projects are carried out under the supervision of dedicated pediatric radiologists. Publication of research projects, presentation of results at national and international meetings and published in leading peer-reviewed journals is mandatory.

Fellows will be expected to prepare 1 to 2 articles for publication. Given the short duration of the fellowship, it will be mandatory that the fellow has at least one research proposal written prior to joining the Department of Radiology at McGill to ensure that the research can begin in a timely fashion. The fellows are also expected to apply for grant funding prior to arriving in the Department. Support will be provided to the fellow for the grant application process.

A *McGill Research Day* takes place once a year, usually during the winter or early spring. The fellow will often be requested to present his/her research as a formal slide presentation at that time.

For more information contact:

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