

## **FELLOWSHIP IN ADVANCED CRITICAL CARE ECHOCARDIOGRAPHY**

### **MUHC Department of Critical Care Medicine**

#### **Fellowship director:**

Dr. Roupen Hatzakorzian MD, MSc, FRCPC

#### Teaching Faculty:

Dr. Gordan Samoukovic BSc MSc MD FRCSC FASE Med(c)

#### **Fellowship Information:**

*Number of positions available per year: 1-2*

*Training site(s): McGill University Health Center (Glen site)*

*Duration: 1 year*

#### **Admission requirements:**

Completion of residency and/or fellowship in one of the following specialties: Critical Care, Internal medicine, anaesthesia, cardiology, cardiac surgery

#### **General information and Summary of Clinical Practice**

The goal of this fellowship will be to train fellows in critical care echocardiography by exposing them to basic and advanced echocardiography, transthoracic echocardiography (TTE), transesophageal echocardiography (TEE) and lung/abdomen ultrasound exams. The fellow's clinical time will be spent mostly in the intensive care unit (ICU) performing echocardiography with the high-quality machines. The fellow will be part of the echocardiography critical care service. The service provides point of care ultrasound to variety of critical care patients such as post cardiac surgery, transplant, complex medical patients, organ transplantation, ECMO and variety of heart assist devices. The fellow will be expected to familiarize with the echocardiography equipment, perform exams and write reports all supervised by trained staff. The fellow will keep a logbook of all exams performed.

The Glen site of the McGill University Health Center (MUHC) is a tertiary care center that specializes in cardiac, vascular, hepatobiliary, gynecologic, general surgeries, complex medical diseases, ECMO and heart assist devices. It is a mixed ICU composed of 35 beds. Fellows will also, depending on their career goals, be exposed to trauma ultrasound at the MGH site of the MUHC. A fellow room is available in the ICU at the Glen with an advanced computer to process and analyze ultrasound images.

Academic duties will be based on clinical research with options in epidemiology, bedside hemodynamics/echocardiography or literature-related qualitative/quantitative research and quality improvement research. The fellow is expected with faculty help, develop a research question and engage in active research to answer this question. Faculty supervisor will be assigned after consultation with the fellow and the fellowship director. At least one abstract

and/or publication in a peer reviewed journal is expected during the fellowship. The fellow will also take part in the ongoing quality improvement framework of the program. The fellowship director will act as the supervisor for the QI component.

To meet these objectives, the fellow will be provided with one non-clinical day per week, which will be scheduled around the clinical opportunities available.

The fellow will be given opportunities to teach residents rotating through ICU as well as others at request of program directors. They will complete EPAs for residents that they teach and supervise as appropriate for the residents' program.

**Time distribution:**

70% clinical rotations related to patient management.

20% clinical research and abstract and/or manuscript generation

10% teaching

**Training objectives**

To create experts in critical care ultrasonography, performing advanced echocardiography (TTE and TEE) and lung/abdomen exams. Graduating fellows would be employable at tertiary / quaternary centres exceling in the fields of the fellowship.

The core competencies the fellow will be expected to acquire by the end of the fellowship will be:

1. Acquire facility in performing a complete echocardiographic exam
2. Develop ability to perform diagnostic echocardiography in critical care patients
3. Understand the different cardiac support device and its echocardiographic findings
4. Develop the ability to report echocardiographic findings
5. Develop quality improvement and research skills appropriate for cardiac/lung/abdominal ultrasound

**Funding source:**

The Fellowship program can only accept candidates who obtain funding for a "formation complémentaire" from the RAMQ, or those who obtain funding from their home institution. The bursary from the sponsoring institution must cover salary and tuition fees.

**Faculty:**

The training will employ a multidisciplinary approach from faculty carefully selected from divisions of critical care medicine, cardiac surgery, cardiac anaesthesia and cardiology. The fellow will interact with faculty assigned during each 4-week rotation.

**Information and material:**

Web-based echocardiography modules as well as up-to date reports of clinical and basic scientific research. The fellow will be required to attend and submit work at the Canadian Critical Care annual meeting or any other recognised Critical Care conference.

**Academic responsibilities**

In addition to the clinical duties, the fellow is required to maintain an active academic domain by generating scientific hypotheses, conducting research resulting in publications. At least one abstract/publication in a peer-reviewed journal is expected over the year.

To meet these objectives, the fellow will be provided with one non-clinical day per week, which will be scheduled around the clinical opportunities available.

The fellow will present at Critical Care Grand rounds once during the year and at the annual research rounds. In addition, the fellow will be expected to present at an international critical care conference.

**Call responsibilities**

The fellow will take "home call" while on clinical services. Additionally, the fellow will be on call for echocardiography critical care service at the Glen during the year.

**Curriculum:**

13 blocks of 4 weeks partitioned as follows:

Block 1-4: Critical Care/echocardiography

Block 5: Elective (ie Emergency room/trauma ultrasound or radiology/IR...)

Block 6-7: Research months

Block 8-9: Elective-Critical care RVH-ECMO, VADS, percutaneous devices

Blocks 10-13: Critical Care/echocardiography

Longitudinal training: echocardiography, research, teaching

**Evaluation process:**

Trainee evaluation: Informal feedback will be provided by the intensivist/echocardiographer who is responsible for supervising the fellow on any given day. Every three months the fellow will receive formal feedback from the site supervisor. This feedback will be in person, and will also be documented using McGill's one45 system.