Royal College Emergency Medicine Residency Program

Postgraduate clinical fellowship in Point of Care Ultrasound (POCUS)

Update August 2024

Program Information

Number of Positions: 1 per year Fellowship
Duration: 12 months
Academic Affiliation: McGill University
Fellowship Director: Dr. Shuo Peng
Hospital Involved: Jewish General Hospital

Candidates must secure funding in order to apply for this Fellowship

Eligibility.

A fellowship is an opportunity to obtain advanced training and/or to acquire more specialized expertise not normally acquired during residency training, and it does not lead to certification by the RCPSC or the CFPC, and cannot be credited toward national certification requirements. **Applicants must have satisfactorily completed residency training as well as or Board Certification.**

Below are the applicant profiles who may apply

- **International Medical graduates (not sponsored by contracts with McGill University)**: Canadian Citizens, Permanent Residents of Canada, U.S Citizens, and Foreign Citizens can apply for a maximum of three years of training in Quebec.
- **Graduates from U.S Medical Schools:** U.S Citizens can apply for a maximum of three years of training in Québec
- **Graduates of Canadian Medical Schools** (Non-Québec)

Further details regarding eligibility and the application process can be found at https://www.mcgill.ca/pgme/fellowships

Specific Goals and Objectives:

Medical Expert (the integrating role)

By the end of the year of the fellowship, the trainee will have expected to have attained competency in the following POCUS applications:

- Core POCUS indications (cardiac activity, abdominal free fluid, AAA, pregnancy),

- Basic and advanced physics and knobology,

- Core and advanced cardiac POCUS (gross LV function, pericardial effusion, tamponade, diastology, valvulopathy, Wall motion abnormality, Right Ventricle, TEE)

- Lung (Pneumothorax, Pleural effusion, Interstitial Syndrome, pneumonia, Blue Protocol)

- Assessment of shock

- Biliary POCUS

- Renal and Bladder,

- Vascular POCUS (DVT)

- Musculoskeletal POCUS (joint effusions, fractures, shoulder pathology)

- Regional nerve blocks,

- Airway,

- GI (SBO, diverticulitis, appendicitis),

- Testicular,

- Soft tissue (cellulitis, abscess)

- Ocular POCUS (retinal detachment, Posterior vitreous detachment, vitreous hemorrhage)

- Ultrasound-guided procedures: Central and peripheral IV's, thoracentesis, paracentesis, lumbar punctures, Joint aspirations

Communicator

To be able to effectively and sympathetically elicit relevant information from their patients and their families. To recognize the critical nature of the doctor-patient relationship with respect to confidentiality. And to accurately convey truthful and relevant information (diagnoses, test results, disposition, management plans, etc..) to the patient.

To document all relevant communications between the doctor and the patient/family/health care team on the medical chart in an accurate and complete manner.

To be able to explain in a coherent and clear manner the indications, limitations, and results of the POCUS exam to the patient and answer all questions posed by the patient with respect to the significance of the POCUS findings.

Collaborator

To recognize and respect the diverse roles and responsibilities of all members of the health-care team, including, housestaff, off-service residents, nurses, unit agents, consultants, housekeeping, orderlies, etc…

To work respectively in collaboration with all the above mentioned members to ensure the best quality of emergency medicine practice and patient care

To understand the importance of collaboration with the departments of radiology, surgery, medicine, cardiology, etc… regarding the POCUS findings and to recognize the role that POCUS has in expediting appropriate patient care

Leader

To demonstrate leadership presence within the emergency department with respect to their POCUS abilities and to be recognized by their peers as an expert in POCUS and to assist when asked in the assessment of patients using their POCUS skills.

Health Advocate

To act as the representative for the patient’s medical wellbeing at all times during their hospital stay and to provide optimal care based on best medical practices

To identify vulnerable and marginalized patients and advocate for their wellbeing.

To ensure that appropriate care is followed based in part on the findings of the POCUS and to ensure expedited care is maintained.

Scholar

Integrate best evidence and best practices to enhance the quality of care for their patients in the emergency department.

Establish lifelong learning and teaching skills to implement and enhance educational opportunities

Attain CPoCUS core IP certification status

Regular quality assurance review of their own cases, reviewed during weekly POCUS rounds.

Help coordinate and teach resident POCUS courses as well as help with certification training for the Royal College and Family Medicine emergency residents.

The fellow will be expected to keep up with the latest EM and POCUS literature in peer review journals (eg: AEM, Annals of EM, CJEM, J of USm, online blogs, and educational/cutting edge teaching videos.

Review local M+M cases dealing with POCUS use

With a dedicated and active research department in the ED, there is a strong emphasis

on performing, presenting, and publishing EM and/or POCUS-based research. This academic project is expected to begin during the first year of the fellowship, with an expected completion prior to graduation

Coordinate/present POCUS presentation(s) during the EM academic half day. This may include simulation sessions, grand rounds presentations, literature review

Professional

Display professional behaviours in practice, including honesty, integrity, commitment, compassion, respect, and altruism

Recognize and appropriately respond to ethical issues encountered in practice. Demonstrate insight into their own limits of expertise and POCUS ability. And to remain open to positive feedback and guidance

Goals and Objectives - Program Highlights

The McGill emergency ultrasound fellowship is an intensive 1-year program, dedicated to teaching core and advanced point of care ultrasound applications. The goal is to develop future national and international leaders in both clinical and academic point of care ultrasound. Using POCUS findings in clinical decision making, recognizing critical findings that affect management as well as the limitations of POCUS is a paramount objective in the education of every fellow.

Based at the Jewish General hospital, the busiest adult ED in the province of Quebec, the fellow will have access to his/her own ultrasound unit (Philips Sparq) for both clinical as well as teaching responsibilities. in 2022, over 19,000 POCUS exams were performed in the ED. Along with a very high acuity and varied pathology, the fellow is guaranteed to have a significant exposure to POCUS.

The fellow will be responsible for one-on-one teaching of both basic and advanced ultrasound techniques to residents and students rotating at the JGH ED. They will act as instructor for POCUS courses given to EM, Family Medicine, and Intensive Care residents and faculty. The fellow will also be responsible for presenting cutting edge material both during academic half day as well as journal club.

Finally, it is expected that the fellow will supervise residents undertaking POCUS electives and research at the JGH.

With a dedicated and active research department in the ED, there is a strong emphasis on performing, presenting and publishing POCUS-based research by the end of the year.

POCUS Teaching Faculty:

Dr. Shuo Peng. CCFP-EM. Attending physician at the JGH. Completed POCUS fellowship in Ottawa, On. Master CPoCUS instructor.

Dr. Alexander Hart. FRCP. Attending Physician at the JGH. Completed POCUS Fellowship in Toronto, On.

Dr. Paul Brisebois, CCFP-em. Attending Physician at the JGH ED since 2016, CPoCUS Master Instructor.

Dr. Dan Mankarios. ACEP. Attending Physician at the JGH. Completed Fellowship training in POCUS in Redcliffe Hospital, Brisbane, Australia

Dr. Jerrald Dankoff, CSPQ, specialist in Emergency Medicine. Attending Physician at the JGH ED since 1981. CPoCUS Master Instructor. Special focus on thoracic and cardiac POCUS.

Dr. Jerome Stasiak, CSPQ, specialist in Emergency Medicine. Attending Physician at the JGH ED since 1983, CPoCUS Master Instructor. Special Focus on Musculoskeletal ultrasound.

Dr. Greg Marton. FRCP, Attending Physician at the JGH and Valleyfield Hospitals. Completed POCUS fellowship at McGill, Qc. Master CPoCUS instructor.

Dr. Laurie Robichaud, FRCP, CSPQ, specialist in Emergency Medicine. Attending Physician at the JGH ED since 2016. CPoCUS Master Instructor. Graduate of Ultrasound Leadership Academy. Special focus on cardiac POCUS, ED TEE

Dr. Joel Turner. FRCP, specialist in Emergency Medicine. Attending physician at the JGH ED. CPoCUS Master Instructor. EDE-2, co-founding instructor and author. EDE-3 lecturer. Director of ePOCUS Essentials course. Graduate of Ultrasound Leadership Academy

100% of emergency Department staff at the Jewish General Hospital are CPoCUS certified in the core applications of POCUS.

Academic and Clinical Facilities:

- Emergency department, Jewish General Hospital (JGH)
- Dedicated Emergency Medicine ultrasound simulation/training room equipped with ultrasound phantoms, Butterfly ultrasound devices, and CAE Vimedix simulator including cardiac, abdominal, and TEE probes and pathology.
- Research Department, JGH, ED
- Emergency Department, Lakeshore General Hospital
- Emergency Department, Montreal Children's Hospital
- Emergency Departments, McGill University Health Centre

Fellow Duties, Responsibilities, and Curriculum

The curriculum is based on 13 four-week rotations:

12 rotations in the JGH ED:

1. Clinical Shifts: 2/week (7-8 total). The Fellow be scheduled to work alongside teaching faculty who are CPoCUS Independent Practitioners. Fellows will be required to log all scans and will be expected to have performed at least 800 scans
2. Scanning shifts: 1 morning per week with advanced instructor, based on the MyCourses curriculum. Both residents scheduled together
3. Self-scanning: 2 mornings/week. accumulate scans, based initially on topic(s) of the month, as well as assisting as POCUS technician for staff.
4. Wednesday: Review fellows scans from the previous week as well as scans from staff. Review of article from the topic(s) of the month
5. Teaching:
    1. ½ day per week: IP certification shifts of the junior residents (scanning +/- CPoCUS exams)
    2. Bootcamp(s)
6. Academic project

There will be additional academic/scholarly responsibilities.

- Attend and participate in the weekly academic Rounds hosted by the McGill Department of Emergency Medicine
- Review of POCUS-related M+M cases in coordination with the department's CAMA committee
- Academic project: Develop and conduct at least one research project suitable for publication.
- Coordinate 1 morning of Academic half-day in the residency program. This may include Simulation sessions, Grand Rounds presentations, Literature Review.
- Regular reading materials. The fellow will be expected to keep up with the latest literature in peer review journals (eg: AEM, Annals of EM, CJEM), all of which are accessible online.

Finally, there are numerous very high-quality online blogs providing cutting edge video and literature reviews that the fellow will be expected to keep up with.

Evaluations

- As with all trainees at McGill, the Fellow will be provided with feedback following their clinical shifts using the McGill one45 system. Rotation evaluations will be completed monthly (using the One45 system) with regular in-person (at a minimum q3 periods) meetings with the Fellowship Director.

Example Curriculum

Period 1: Core POCUS, basic physics and knobology, Quality assurance
Period 2: Cardiac-1 (Gross LV function), lung-1 (Pneumothorax, Pleural effusion, Interstitial Syndrome), ePOCUS course
Period 3: Biliary, Renal, Cardiac-2 (pericardial effusion, tamponade)
Period 4: Advanced knobology, Procedures (central, peripheral lines), DVT, Lung-2 (pneumonia, Blue Protocol)
Period 5: Cardiac-3 (Diastology), Procedures-2 (Thoracentesis, Paracentesis, LP), MSK-I (Joints)
Period 6: Cardiac-4 (Right Ventricle), MSK-2 (Fractures, tears), Abdomen-1 (SBO)
Period 7: Cardiac-5 (Valvulopathy), Soft Tissue, RUSH
Period 8: Cardiac-6 (Wall Motion), Nerve Blocks-1 (Basics), Airway
Period 9: Regional Nerve Block-2, Ocular, MSK-3 (Shoulder)
Period 10: Abdomen-2 (Appendicitis, Diverticulitis), Fluid responsiveness, Testicular
Period 11: Elective (Pediatrics, TEE)
Period 12: Cardiac-7 (Review), Quality Assurance review, Research completion
Period 13: Admin, Wrap-up, Evaluation