

McGill University Clinician Investigator Program (CIP)

The CIP program:

The McGill Clinical Investigator Program (CIP) is a Royal College of Physicians and Surgeons of Canada (RCPSC) accredited program that provides 2 years of formal research training to residents who want to pursue a career in clinical or basic science research and academia. CIP is a great opportunity for residents to develop their passion for research. Each research project is unique and tailored to the resident's interest and their subspecialty program. Residents must select their research supervisor and project prior to applying to CIP. The research goals for each resident are tailored to their research question and hypothesis, which are different for each project. The roles of the research supervisor, the CIP director and the CIP residency committee are to foster this research interest and to provide mentorship and guidance. Compared to the graduate programs, CIP provides residents with a structured curriculum and close supervision that closely monitors the residents' progress. This is to ensure that the residents complete their objectives during the time they spend in CIP. Residents within CIP also benefit from having protected research time and the necessary resources to acquire all the basic requirements to become a successful clinician scientist.

Three Pathways:

Continuous Pathway: The most conventional approach of completing CIP is to conduct two consecutive years of research during or at the end of the residents' subspecialty program.

Fractionated Training (FT) pathway: This is intended to allow for distribution of 2 years of research during training, in periods of 3 months or longer blocks, with one year of continuous research training. The FT option is for individuals who wish to pursue research that requires more than two years to plan a research project. This pathway is particularly suitable for clinical epidemiology research, where intensive research activities will be separated by long waiting periods, for example between the time of research ethics approval, recruitment of patients into the study and the completion of the study.

Distributive Pathway: Medical students in the MD/PhD program are also trained to become clinician scientists but unlike CIP, their research project and PhD is completed during medical school. These students can decide to pursue research during their residency and enroll in CIP. Given their prior research experience, they can choose to do the distributive curriculum, where their research is distributed throughout their clinical residency program (PGY1 to 5).

Two Streams:

Graduate: Residents who do not hold a graduate degree must be registered as a graduate student in the Faculty of Graduate studies at McGill. Each graduate program (experimental medicine, experimental surgery, biology, genetics, epidemiology, psychology) has its own requirements with respect to course completions, and all require a successful thesis and/or oral defense to acquire MSc or PhD degrees.

Post-Doctoral: The Postdoctoral stream is for candidates who already hold a graduate degree but who wish to pursue post-doctoral research training under the auspices of CIP. The admission requirements for the postgraduate stream are the same as the graduate stream with the exception that the applicant should register as a post-graduate fellow in the Faculty of Graduate Studies at McGill, given that he/she already holds a graduate degree. In order to graduate from CIP in the post-graduate stream, residents are required to have published a manuscript or have a manuscript accepted for publication. Retroactive recognition of research credits obtained prior to acceptance into a CIP is not permitted.

Eligibility for CIP

At the time of application, the candidate must:

- Be enrolled in an RCPSC accredited specialty or subspecialty program
- Be enrolled or in the process of applying to a graduate degree program (graduate stream) (Master's degree or Doctoral degree), or in a postdoctoral fellowship program if the trainee already has a graduate degree (postdoctoral stream).
- The research supervisor must have an appointment in the graduate school where the CIP candidate is enrolled

Application requirements for CIP:

1. Fully completed CIP Application form
2. Letter of intent explaining the candidate's motives for applying to CIP
3. Summary of the research project in CIHR format (one page containing the background, hypothesis, objectives and brief methodology used for the research proposal, and relevant transcripts of medical or graduate programs)
4. Candidate's Canadian Common CV (CCV)
5. Supervisors' Biosketch CV in CIHR format
6. Letter of support from the research supervisor
7. Proof of submitted applications to both the FRQS award (Master's or Doctoral Training for Applicants with a Professional Degree) and the CIHR award (Masters (CGS-M) or Doctoral (CGS-D) Canada Graduate Scholarship) if funding is requested.

NOTE: FRQS deadline is generally October 15th and CIHR deadline is December 1st. These dates should be confirmed by the applicant.

Submit the application as one PDF document, respecting the above order, to cip.med@mcgill.ca. The deadline is January 3rd of each academic year (starting July 1st). The deadline is also January 3rd if funding is not requested.

Eligibility for funding from RAMQ-funded extensions of training (poursuite de formation & formation complémentaire). Positions confirmed by the CVDFM (Conférence des vice-doyens)

- Must be part of the Contingent régulier category of Ministry Funded Residencies. For more information, click on the link below:
<https://www.mcgill.ca/pgme/admissions/prospective-residents/ministry-funded/contingent-regulier>

Each application must be reviewed and approved by the CIP Residency Program Committee before residents are formally registered with the Royal College of Physicians and Surgeons of Canada.

For further information or counseling on a course of research, please contact:

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Clinician Investigator Program

Jewish General Hospital

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CIP educational and research objectives

General Requirement

At the end of the period of research training the individual will be expected to have acquired the knowledge, skills, and attitudes fundamental to embarking on a career in health research. In most cases, further research training specific to the candidates' field of interest will be required, in order to succeed as an independent investigator. The CIP should also provide an opportunity to integrate research and clinical care. During the first two years of the research component, sometime may be spent in clinical activity; the majority of the time (at least 80%), however, will be devoted to research.

Specific Objectives for Individual Research Residents

Demonstrated competence must be achieved in the following areas:

1. Medical Research Expert

Through formal course work, to develop a working knowledge and understanding of research methodology including:

- General principles (basic experimental design, clinical trial design, critical appraisal of the literature, biostatistics, medical and research ethics etc).
- Knowledge relevant to the specific area of research, as well as, general knowledge relating to the clinical and research aspects of the chosen field of study.
- Competence in the techniques specific to the research project; in a laboratory, in clinical health related fields, or in experimental design or data analysis and population studies.
- The ability to design, plan and carry out an experiment, and to analyze and interpret the results.

2. Communicator

- The ability to present information in a formal setting and to defend such a presentation and discussion.
- The ability to write a report suitable for publication in a peer reviewed journal.
- The ability to write a grant proposal for research funding.

3. Collaborator

- An ability to work effectively as part of an interdisciplinary team.

4. Leader

- Displays ability to manage own time effectively
- Provides appropriate and timely follow-up on research-related issues.
- Understands resource allocation issues with respect to own research
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5. Health Advocate

- In-depth knowledge of the ethical issues relevant to the conduct of research in human subjects.
- In-depth knowledge of the ethical issues relevant to the conduct of research in animal models.

6. Scholar

- A commitment to the need to re-examine accepted beliefs through a spirit of inquiry.
- A commitment to the importance of absolute objectivity and honesty in the conduct and reporting of research.
- An understanding of the needs for continuing self-education.

7. Professional

- Demonstrate awareness of major research-governing national bodies
- Understand and demonstrate ethical research practices
- Demonstrates professional behavior toward own team and other researchers

Progress monitoring:

Individual educational and research objectives are developed for each resident in conjunction with their supervisor. All CIP residents will undergo tracking of their research progress by the CIP competency committee. This is to ensure proper research training and supervision are in place early on in CIP and that any problems, that require remediation, are detected in a timely manner. The first two CIP specific progress tracking forms at month 3 (form 1) and month 6 (form 2) are evaluated by the competency committee and discussed at meetings 1 and 2, respectively. Tracking forms specific to the graduate school are completed at months 12 and 24 by their respective graduate programs and submitted to the competency committee. CIP trainees are required to attend lectures within the CIP curriculum, which teach specific objectives that may not be covered in their research project (e.g. grant writing), but are important for residents interested in pursuing careers as clinician scientists. These are continuously updated to ensure they cover the CanMEDS roles required by the Royal College. All CIP trainees must also complete an online ethics course set up by the Quebec government. Finally, residents will need to pay for tuition fees, which are determined based on the pathway of CIP.

Requirements for graduation from CIP:

- Completion of 24 months of research as defined by one of the three different pathways
- Completion of all evaluations by their supervisors
- Completion of all progress tracking forms
- Attendance at CIP curriculum lectures $\geq 80\%$ attendance
- Completion of the on-line MSSS ethics course
- Obtaining of a Master's degree for all Graduate Stream trainees
- For all Post Graduate stream CIP fellows, having at least one manuscript related to the resident's research published or accepted for publication in a peer-reviewed journal.
- Completion of all clinical components and obtaining RCPSC certification in the individual's specialty/subspecialty by examination

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