Queen's University

RESIDENT RESEARCH GUIDE

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A collaboration by Queen's Core Internal Medicine Residency Training Program
& Queen's Department Of Medicine

RESIDENT RESEARCH GUIDE

This purpose of this research guide is to provide you with guidance and tips to successfully start your research journey as a resident. It was compiled with information we wish we knew when we started. Your mentors, preceptors and senior residents are excellent resources who will help you along the way.

- Research Leadership Team

WHERE TO START?

One of the most important steps in your residency research "career" will be choosing a faculty preceptor. Your project will largely be determined by your preceptor's area of expertise and interests. Your research, the amount of assistance you get and success will depend on how well you have made this choice. Several resources are available to help choose your preceptor:

1. The Department of Medicine website includes a list of faculty along with their research interests, publications and areas of expertise. Reach out to them! Ask if they have any current research project opportunities available for residents. http://deptmed.queensu.ca/researchers
2. Senior residents are an excellent resource. Connect with them – they have been through the process and can offer ideas and advice.
3. Our basic scientists have many opportunities available if you are interested in that type of research. http://dbms.queensu.ca/research_groups
4. The Clinician Investigator Program. http://meds.queensu.ca/education/cip

SAMPLE TIMELINE

PGY-1 (months 0-6)	Start early! Think about your interests – what areas of clinical medicine interest you? What areas of research interest you? The two may not necessarily overlap. There are also many great projects in Quality Improvement and Medical Education. *Pro Tip 1:* Mention these interests to your PD or Associated PD at your 6-month meeting (or earlier!) so they can guide you to the right people.
PGY-1 (months 6-8)	Start meeting with potential research mentors. You do not have to commit to the first preceptor or project you hear about; be realistic and up front about your plans and goals during the initial meetings. Think thoroughly about how much time you are willing/able to commit to a project and about what you want to get out of your research experience before making a decision. *Pro Tip 2*: Pick a feasible project that will be completed during residency. Be honest with your preceptor, even if that means telling them your goal is to get a publication before CaRMS.
PGY-1 (months 8-12)	Finalize which mentor(s) you will work with and which project(s) you will work on. Think of a timeline for the tasks in each project. Submit requests for research rotations/electives if necessary. *Pro Tip 3*: Look at the list of grants for residents to see if you can apply to any for your project. http://deptmed.queensu.ca/research/for_residents/funding_oppportunities *Pro Tip 4*: Keep the CaRMS fellowship applications in mind when creating your timeline.
PGY-2	You would have likely started working on your project(s) at the end of PGY-1. However, this is the year to really commit some time and energy to the project to take it to completion. Keep in mind the deadlines for conference abstract submission that you may be able to make so you can plan for data collection and analysis appropriately. *Pro Tip 5:* You will likely pick up smaller projects or case reports along the way. These opportunities will add to your research portfolio, but prioritize to stay on track with your big project.
PGY-3	Look ahead to finishing projects started in PGY-2. Start planning how the remaining tasks can be completed so you can have your manuscript ideally done before graduation. *Pro Tip 6:* Consider involving 1-2 clerks or juniors with shared research interest to carry on the required project if needed.

ETHICS APPROVAL

All projects must go through the institutional review board. Most of your projects will require the Health Sciences and Affiliated Teaching Hospitals Research Ethics Board (HSREB) "short form" approval. They are relatively quick to complete, but it may take a while to get approval (including edits you have to submit).

Do this early!! Complete the ethics 2-3 months prior to the research block you will be committing to your project. Information on relevant application forms and deadlines can be found below. Speak to your preceptor for more details.

1. HSREB webpage to learn more about the ethics approval process (start here): http://www.queensu.ca/urs/ethics/health-sciences-and-affiliated-teaching-hospitals-research-ethics-board-hsreb
2. You will need to create an account on the TRAQ Researcher Portal to submit online ethics applications/renewals: http://www.queensu.ca/traq/signon.html
3. All residents submitted ethics applications will have to complete a Course On Research Ethics (CORE - TCPS2). Keep the certificate as it applies across various institutions: http://www.queensu.ca/urs/ethics/health-sciences-and-affiliated-teaching-hospitals-research-ethics-board-hsreb/core

LIST OF GRANTS FOR RESIDENTS

Research grants are not only for faculty. As residents doing research, you can apply to certain grants and awards to help supplement your project, hire research assistants, and provide funding to attend conferences. The grant application process is a valuable skill to learn early, especially for those considering an academic career. A list of grants relevant for residents included at end of the guide and at http://deptmed.queensu.ca/research/for_residents/funding_oppportunities.

TIPS FROM SENIOR RESIDENTS

1. **Find a preceptor!**
    a. Talk to fellows, senior residents and staff on rotations.
    b. Find people who publish frequently.
    c. Contact potential preceptors and/or their administrative assistants directly and ask to set up a face-to-face appointment.
2. **Think about the type of career you want and what skills will be helpful in the future.**
    a. ***Minimal interest in research in the future?*** Meta-reviews, review papers, book chapters, case reports, and e-books do not require ethics approval or new data from patients.
    b. ***Interest in research?*** Learning specific research skills can be valuable and broadly applicable later on (i.e. big data analysis, clinical trial planning, animal models of disease). Quality improvement and patient safety are also viable options besides clinical research.
    c. ***Interest in teaching?*** Start putting together a teaching dossier now. This can be as simple as short teaching sessions for clerks and juniors. It is good to have tangible things to talk about in interviews that demonstrate your skills and passion in teaching (i.e. lecture at journal clubs, e-books, review chapters, educational resources like medref.ca or ECG website, teaching programs like R1 bootcamp or stroke school).
    d. ***Talk to people who are hiring or who have recently been hired as staff.*** Learn about the process and what is valued.
3. **Get organized.**
    a. ***Make a schedule of milestones and supporting activities*** – and stick to it! Have your work done before meeting with your preceptor the next time.
    b. ***Plan to be interrupted with busy blocks.*** Use a platform to track progress and tasks that can be shared with your preceptor (i.e. Dropbox, Evernote, Asana).
    c. ***Start organizing references for your manuscript into a reference manager early*** (i.e. Mendeley, EndNote, etc).

USEFUL LINKS

- CIHR Guidebook for New Investigators: http://www.cihr-irsc.gc.ca/e/27491.html#4.5
- Queen's Research Services Resources: http://www.queensu.ca/urs/resources-3
- Queen's Environmental Health and Safety Courses: http://www.safety.queensu.ca/courses/
- Royal College Residents Research Guide ($65 – free sample available at website): http://www.royalcollege.ca/rcsite/canmeds/resources/canmeds-publications-e#the-research-guide

A FINAL WORD

Achieving success as a resident researcher is very different than being successful in clinical medicine. There is no defined curriculum, no set path, and outcomes are quite variable. Residents who have been successful doing research work very hard, stick to their timeline, are diligent and have great mentors. There is a component of luck involved too – if your first project does not work out, don't be discouraged! Many residents have faced similar hurdles and a majority have had to endure multiple failures before achieving successful projects. Doing research during residency can be very rewarding, and you may even surprise yourself with the results!

RESEARCH GRANTS AND AWARDS FOR TRAINEES

This list includes research grants and awards primarily for resident research projects, travel grants, or other projects residents may be co-investigators on. There are also a few awards for residents that have shown interest in the field. *Disclaimer: This is not an exhaustive list. If there isn't something here that works for you and your project, other more relevant opportunities might be available – do some digging and ask around!*

MEDICAL EDUCATION/MISCELLANEOUS

1. ***Physicians Services Incorporated (PSI) Resident Research Grant (Highly recommended) - S***hort-term, concise health research projects, largely developed by the Resident. http://www.psifoundation.org/ForApplicants/ResidentResearchGrants.php
2. CMPA Grant Program - QI and patient safety projects
3. Royal College/AMS CanMEDS Research Development Grant
4. Royal College Medical Education Research Grant

ALLERGY AND IMMUNOLOGY:

1. CAAIF Research Grant Competition (Canadian Allergy, Asthma and Immunology Foundation)
2. Pryde Family Travel Grant (Anaphylaxis Canada)
3. AllerGen Canada (multiple travel and research awards for residents)

CARDIOLOGY:

1. CCS Trainee Research Award
2. Richard Rowe Research Prize (Canadian Cardiovascular Society)
3. AF Research Award (CCS)
4. Have a Heart Bursary (CCS)
5. Heart and Stroke Foundation Grants-In-Aid program (PI has to be attending physician)
6. Arrhythmia Update Residents Case Challenge (Arrhythmia Update)
7. HSFC and FOS research fellowships/scholarships

ENDOCRINOLOGY

1. CDA Targeted Research Grant on Stigma and Diabetes
2. Obesity Society Early-Career Research Grants
3. Endocrine Society Student and Early Career Awards
    a. FLARE Program/Award (Endocrine Society)

GASTROENTEROLOGY

1. CAG Resident Research Award
2. CAG Education Research Grant
3. American Liver Foundation Research Awards Program
4. Gastroenterology Scholars' Program (CAG)

GENERAL INTERNAL MEDICINE

1. The Hui Lee Health Promotion Scholarship (CSIM)
2. Ted Giles Clinical Vignette Awards (CSIM)
3. CSIM Education and Research Fund
4. Government of Ontario Early Researchers Awards

GERIATRICS

1. CIHR IA Réjean Hébert Prize in Geriatric Research
2. CIHR Prizes of Excellence in Research on Aging
3. Canadian Geriatrics Society Conference Travel Awards
4. CGS Scientific Awards

HEMATOLOGY

1. Leukemia & Lymphoma Society Career Development Program
2. Bayer Hemophilia Awards Program: Bayer Hemophilia Early Career Investigator Award
3. RK Smiley Research Grant Program (CHS)
4. American Society of Hematology Trainee Research Award Program (ASH)
5. ASH HONORS Awards (Hematology Opportunities for the Next Generation of Research Scientists)

INFECTIOUS DISEASES

1. Canadian Foundation for Infectious Diseases (CFID) - Juan A. Embil Award
2. Novel Alternatives to Antibiotics through Fellowship Awards
3. CFID Pilot Grant

NEPHROLOGY

1. The Kidney Foundation of Canada Biomedical Research Grants
2. KFOC CANN-NET Meeting and Planning Grant (Co-applicant can be trainee)

ONCOLOGY

1. CIHR Institute of Cancer Research Publication Prizes (Institute community support)
2. Canadian Cancer Society Research Grants (PI has to be attending physician)
3. GOC/OCC Bruce Galloway Trainee Grants (Ovarian Cancer Canada)
4. Beatrice Hunter Cancer Research Institute Awards (Multiple awards)
5. CIHR Institute of Cancer Research Travel Awards
6. Canadian Cancer Society Research Institute Travel Awards
7. Ovarian Cancer Canada Research Travel Grants

RESPIROLOGY

1. The Paroian Family Pulmonary Hypertension Association of Canada Research Award for Trainees
2. Ontario Thoracic Society Grant-in-Aid Program (PI has to be attending staff)
3. AllerGen Research Awards for Trainees

RHEUMATOLOGY

1. CRA Abstract Awards for Trainees
2. The Arthritis Society Research Grants
3. Networking/KT Grants (Arthritis Society)
4. CRA (CIORA)TAS New Clinical Investigator Grants
5. CRA Practice Reflection Award

OCCUPATIONAL HEALTH

1. OMA Section on Occupational and Environmental Medicine Scholarships

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