

Resident Research Course and Expectations

Why have a research course for post-graduate medical trainees?

Research is the cornerstone of modern medicine. Our aim is to instill a fundamental understanding of the many roles research plays in making you the best possible doctor you can be. This will mean different things for different people. Understanding how evidence is generated, the skillset to interpret it and the ability to translate it into clinical practice is essential for all physicians. From this, some will initiate or grow an interest in conducting research of their own, creating new and exciting elements of their future career and advancing the field of medicine. Others will implement best practices using quality improvement methods. Regardless of your past experiences, relative interest in research, specialty, or future aspirations, this course will optimize your ability to integrate the power of research into your practice. We strongly encourage all residents to choose their project carefully as this is meant to be part of your residency training. The research requirement may be met by a wide variety of project types, including quantitative and qualitative research as well as quality improvement projects. Changing the focus of your project may be possible after the research course but is not encouraged.

What is the Resident Research Course?

This is a 4-week course that is designed to teach you the fundamentals of developing and conducting a research study. The course consists of a combination of didactic lectures and small group workshops. Topics covered will include:

- Defining your research question or project aim
- Choosing the appropriate study design
- Searching the medical literature
- Defining your hypotheses, objectives and outcome measures
- Refining your methods
- Analyzing your data – an introduction to biostatistics
- Research Ethics
- Overview of the application process for scientific and ethical review
- Quality improvement project design and analysis

Throughout the 4-week course, you will take an idea for a research project and develop a proposal. There will be ample time set aside for independent work to ensure that you make progress on your project!

When is the course?

October 25 to November 21, 2021

We would advise against taking vacation time during this block, as you will find it difficult to complete the required course work. If you absolutely require time off, please seek approval



through your program director and then let the Research Coordinator know. All assignments are still due on time even if you are absent.

What do I need to do to prepare for the course?

Prior to the start of the course, it is essential that you identify a supervisor and develop a rough idea for a project. **It is crucial that you have defined a preliminary question by the beginning of the course.** We have prepared a list of faculty members and their research interests to assist you in finding a supervisor. These individuals have been confirmed and are willing to support a resident throughout the duration of a research project. During the initial weeks of your residency, we advise you to book appointments with a couple of potential supervisors to discuss possible research ideas. **You will be required to notify the course coordinator (jolene.haddad@ahs.ca) of the name of your supervisor, area of investigation, and question by **October 1, 2021.****

COVID-19 Changes (subject to change for 2021)

Normally all lectures are presented in person at the Alberta Children's Hospital in the conference centre. However, due to COVID-19 and current restrictions and physical distancing requirements, we have made the decision to move all lectures and small group sessions to virtual using Zoom. What this means for you is that you need to ensure that you have access to a computer or device with a camera and microphone for the duration of the course. **We will require all residents to have camera's on during all lectures and small groups.** All Zoom meeting information will be sent by the Course coordinator in October via meeting invites. If you need an orientation to Zoom, please contact Jolene.

What expectations does the Research Course have of residents?

All pediatric residents beginning their training on or after July 1, 2021, are expected to complete a research project during their training. Scholarly projects in other academic areas such as quality improvement may also meet this requirement. The expectations relating to research are as follows:

- **R1 year:** Each resident will participate in the resident research course and will complete all of the course assignments. The assignments will consist of weekly reading, small group presentations, and an end-of-course poster presentation of your proposed research protocol. **General Pediatric Residents** are also required to submit a completed research proposal (including the application for scientific and ethical review) by March of their R2 year.
- **R2 year:** Residents will be encouraged to conduct their research throughout this year. All R2s will be required to present their research progress at the annual Pediatrics Research Day at ACH. At the R2 level, a poster presentation will be required for this research day (completed work may be presented in oral format*).
- **R3 year:** Residents will be encouraged to complete their research projects by the end of their third year. All R3s will be required to present their research progress at the annual Pediatrics Research Day (either a poster presentation or oral format*). Residents who have completed a quality improvement project will also be given an opportunity to present their work (either poster or oral format*) at the annual ACH Quality Forum.



- Subspecialty Pediatric and Adult residents have requirements specific to their individual training programs. These requirements should be discussed with your program director in advance of you formulating your research question/project as the specifications and timelines may vary with each program. Sub-specialty residents who have completed the Research Course in their first year of training are welcome to present at the annual Research day (either a poster presentation or oral format*) but are not required to. Residents who have completed a quality improvement project related to child health will also be given an opportunity to present their work (either poster or oral format*) at the annual ACH Quality Forum.

*- Oral presentations will be determined through an abstract competition

Course Requirements

Each week during the course, a portion of the research proposal will be due in order to track each resident's progress as well to allow for Small Group Leaders and Supervisors to give feedback. This will culminate in the submission of a full research proposal at the end of the course after the poster presentation on Research Day. Please see the table below for timelines and assignments:

DUE DATE	TASK	DETAILS
September 1, 2021	Registration opens for EPIQ Workshop	Registration required to access workshop materials
October 1, 2021	<ul style="list-style-type: none"> • Research question/Project aim • Area of Investigation • Name & Email of Supervisor 	Email to Course Coordinator: Jolene.haddad@ahs.ca
November 1, 2021	TCPS2 Ethics Certificate <ul style="list-style-type: none"> • Online ethics tutorial that takes approximately 3 hours to complete 	<ul style="list-style-type: none"> • Submit completion certificate prior to Ethical Issues lecture on Oct 26th to Course Coordinator
November 1, 2021 by 17:00	Assignment 1 <ul style="list-style-type: none"> • Email to Small Group Preceptors, Supervisor and Course Coordinator 	<ul style="list-style-type: none"> • Research Question/Project Aim (revised if needed) • Hypothesis • Objectives
November 8, 2021 by 17:00	Assignment 2 <ul style="list-style-type: none"> • Email to Small Group Preceptors, Supervisor and Course Coordinator 	<ul style="list-style-type: none"> • Background • Methods • Outcome Measures
November 10, 2021 by 08:30	Poster title due from all residents presenting on Research Day	Email to Course Coordinator: Jolene.haddad@ahs.ca
November 15, 2021 by 17:00	Assignment 3 <ul style="list-style-type: none"> • Email to Small Group Preceptors, Supervisor and Course Coordinator 	<ul style="list-style-type: none"> • Sample Size considerations • Statistical Analysis
November 17, 2021 by 08:30	Digital Poster (Course Participants and Senior Residents) <ul style="list-style-type: none"> • Email to Course Coordinator 	<ul style="list-style-type: none"> • Details regarding dimensions etc. will be distributed during the course
November 19, 2021 by 17:00	Completed Research Proposal <ul style="list-style-type: none"> • Email to Small Group Preceptors, Supervisor and Course Coordinator 	<ul style="list-style-type: none"> • Research Proposal ready for submission to ethics board/scientific review (or

		ARECCI review/REB exemption for QI)
March 1, 2023 (as per the SOC document)	Ethics submission deadline for General Pediatric R1 Residents	<ul style="list-style-type: none"> Submit ethics application through IRISS /ARECCI for QI

Resources:

Libraries

- AHS library: <https://krs.libguides.com/home>
- UofC Library: <https://library.ucalgary.ca/>

Textbooks

- [The Research Guide](#) – Available in hard copy via Jolene – please email if you would like to borrow one (13 copies).

Reference Survey Methodology

- [Don Dillman’s Guiding Principles for Mail and Internet Surveys](#)
- [Administering, analyzing, and reporting your questionnaire](#)
- [Reaching beyond the white middle classes](#)
- [Hands-on guide to questionnaire research selecting, designing, and developing your questionnaire](#)

Other Research Methodology Links

- [Research Design: Qualitative, Quantitative and Mixed Methods Approaches](#)

Quality Improvement References

- [Institute for Healthcare Improvement: QI Essentials Toolkit](#)
- [Institute for Healthcare Improvement: How to Improve](#)

Examples of Successful Grants

- CHEO RI Grant
- Group RCT Grant
- ETCo2- Dehydration



Confused? Concerned? Questions?

Please feel free to contact:

Course Coordinator	Jolene Haddad	Jolene.haddad@ahs.ca Or 403-955-7780
Course Committee	Steven Greenway	Steven.greenway@ahs.ca
	Jennifer Thull-Freedman	Jennifer.thull-freedman@ahs.ca

There will be information sessions for residents in August and September. Dates and links will be sent out once confirmed.