

Respirology Training Program - Research Objectives

General Objective:

The overall research goal for the 2-year Pulmonary Fellow's resident training is for the trainee to experience and understand a successful scientific research process.

This goal aligns with the CANMEDS 'Scholar' role, but includes the following other roles: communicator (reporting/presenting findings, which include protecting patient confidentiality); collaborator (supervising participants and personnel in the research study, to delegating tasks to colleagues); manager (being punctual, responsible, organized and highly skilled in time management); and professional (being reliable in completing tasks without reminding or prodding, and consistently reaching milestones at assigned deadlines).

The expectation is that the fellow works primarily with their research supervisor (to be identified below). Members of the research subcommittee are available for guidance on specific issues.

Specific Objectives:

1. To complete the Tri-Council Policy Statement 2 CORE Tutorial for Ethical Conduct for Research Involving Humans <http://www.ucalgary.ca/research/researchers/ethics-compliance/tcps2-core-tutorial>
*Note: Fellows are advised to review the University of Calgary Conjoint Health Research Ethics Board Website (<http://www.ucalgary.ca/research/researchers/ethics-compliance/chreb>) and in particular the information on obtaining patient data from AHS (<https://ucalgary.ca/research/files/research/160202-final-chreb-memo-short.pdf>)
2. To identify a research area of interest
3. To identify a potential research mentor in that field (assisted by members of the Research Subcommittee).
4. To identify, with your research mentor, a clinically important research question worth asking. This question should be sufficiently well formulated as to be feasible as a 2 year study proposal.
5. Undertake a critical appraisal of the topic under consideration by performing a comprehensive literature review to ensure that your question hasn't already been addressed, and that there is sufficient equipoise as to make the question worthwhile.
6. Attend regular meetings with the Research subcommittee of the Residency Training Committee. This will be an opportunity to discuss progress, challenges and other arising issues related to the project, and for feedback from the subcommittee on feasibility, methods and analysis. See schedule (below) for details.
*Note: the purpose of these meetings is to provide support and guidance to the Fellow. Additionally, it will be an opportunity for longitudinal evaluation of the Fellow's success at meeting these research objectives (with a Research ITER).
7. Make an annual presentation at the Section of Respirology Annual Resident Research Day (which usually occurs in conjunction with the Section Meeting in March every year). The presentations should demonstrate progress through the project over the previous year; for example, a review of the relevance of the research, research objectives and protocol in the first year and presentation of data and analysis in the second year.
*Note: Fellows are encouraged to incorporate research ideas into their Clinical Academic Rounds presentations.
8. Develop a research protocol, with primary assistance from his/her supervisor. The Research Subcommittee could be consulted for additional advice. The protocol should be received by the RTC Research Chair by the

middle of April (exact date to be determined by Chair and provided to the Fellows a priori; this date chosen to allow fellows to incorporate feedback from Research Day). The protocol should follow the guidelines for The Lung Association National Grant Review (<https://www.lung.ca/lung-research/apply-funding#GIA>). Below is a modified excerpt from their application guidelines:

Include the hypothesis to be tested (including a clearly stated research question); knowledge to date, methods to be used (including study design, description of outcomes, data sources and statistical analysis if relevant), anticipated results and conclusions, possible problems (with mitigating steps) and pertinent references. This section must not exceed SIX (6) pages, excluding references, tables, charts, figures and photographs. Additional materials (tables, charts, figures, etc. must not exceed FIVE (5) pages). Pages should be single-spaced using either 12 point Times New Roman or 11 point Arial font. A margin of 2 cm around the page is needed.

In addition, the fellow will draft a work plan for the research project (maximum 1 page), which will include project milestones leading to the completion of these 8 objectives. This work plan will be signed off by the project supervisor and the Research Subcommittee after each has reviewed it with the fellow for feasibility and accuracy. The work plan will used to document progress of the project over the 2 year period for the purposes of evaluation.

9. Collect, analyze and present research data (at a minimum at the Resident Research Day, although presentation at scientific meetings and/or peer-reviewed publication is encouraged)

As the overall goal is the acquisition of critical thinking skills, alternatives to the traditional research project would INCLUDE a Quality Improvement Project. The initial steps of such a project could be followed using the above objectives, with a modification of the final scholarly output

The Research Subcommittee is available to meet with the fellows to discuss alternative objectives (and if agreed, this will be documented in writing). Examples could include the following:

- Due to unforeseen external factors (e.g. delay in obtaining ethics), the project may not progress as expected. The subcommittee might change the objectives such that the fellow will write a scholarly document describing the unanticipated barriers and relevant learnings, or a clinical review of the topic.
- A fellow wishes to take on a supervisor's existing project (e.g. analysis of a dataset). The subcommittee might change the objectives such that the fellow will be expected to see the project through to publication.

Schedule of Meetings

Fellowship Year	When?	Attendees	Topics Discussed
0	6 months prior to start	One-on-one with Subcommittee Chair	<ul style="list-style-type: none"> • Initial ideas re: research, preceptors, etc. • IRISS process (required ethics certificates)
1	Months 4-5	Subcommittee and 1 st year fellows	<ul style="list-style-type: none"> • Specific project discussion • Initial work plan
1	Months 11-12 (after RC exam)	Subcommittee and 1 st year fellows	<ul style="list-style-type: none"> • Review proposal/work plan • 1st interim ITER
2	Months 16-17	Subcommittee and 2 nd year fellows	<ul style="list-style-type: none"> • Review of progress • 2nd interim ITER
2	Month 22	Subcommittee and 2 nd year fellows	<ul style="list-style-type: none"> • Final plans/next steps • Final ITER

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