

Medical Genetics Fellowship Training Program

Division of Medical Genetics

The Department of Pathology and Laboratory Medicine
University of Alberta, Faculty of Medicine and Dentistry and
Alberta Health Services

Purpose:

To provide a guide for the CCMG Genetics Fellowship Training Program, including the format, evaluation and competencies to be achieved by the trainees. The CCMG credentials individuals to practice in the laboratory areas of molecular genetics, cytogenetics, biochemical genetics. At the completion of the program fellows are expected to utilize their knowledge and skills in human genetics to correctly diagnose genetic disease in the clinical laboratory setting and will be able to apply to be credentialed through the CCMG. At the current time, the University of Alberta site is only accredited to train individuals in molecular genetics.

Policy:

All CCMG fellows will be accepted into a CCMG genetics training program after an evaluation of their credentials, a successful interview process and acquisition of sufficient salary funds for the duration of the two year fellowship. Both MD and PhD candidates with relevant backgrounds would be considered.

All CCMG fellows will be expected to comply with the personnel policies and procedures of the University of Alberta and Alberta Health Services.

The training program will follow CCMG training guidelines at a minimum for content and periodic evaluation (see below). Alterations to the program may be made at the discretion of the CCMG fellowship training committee and will depend on the fellow's previous experience and training.

The CCMG fellow and the fellowship committee are together responsible for ensuring required documentation is submitted to the CCMG Credentials Committee on or before dates required.

Goals:

The goals of the CCMG training will address the seven **CANMEDS** professional roles of medical expert, communicator, collaborator, manager, health advocate, scholar and professional. The objectives for achieving competence in each of these roles and the means of evaluation are provided by the CCMG (<https://www.ccmg-ccgm.org/>).

Learning Activities:

Organized teaching is provided through formal course work, Royal College accredited seminar series and rounds, completion of log books, assigned problem sets, practice examinations and participation in clinical diagnostic laboratory and interdisciplinary meetings.

Formal academic activities that trainees are required to attend include the university courses, seminars and rounds described below.

Courses:

The Department of Medical Genetics currently offers two post graduate level courses to its postgraduate students in basic sciences and attendance may be optional or compulsory depending on the background of the fellow and assessment by the CCMG supervisory committee. Both courses will be strongly encouraged for fellows.

MDGEN 601 Current Topics in Medical Genetics
3 hours per week in the winter session

MDGEN 602 Medical Genetics Journal Course
1 hour per week in fall and winter sessions, x 2 years

Seminars and Rounds:

Wednesday	weekly	noon-1:00 pm	Medical Genetics Seminar Series
Thursday	weekly	noon- 1:00pm	Medical Genetics Journal Club
Tuesday	weekly	12:30-1:30 pm	Medical Genetics Clinic meeting
Friday	monthly	12:30-1:30 pm	Metabolic Rounds

Items in bold are obligatory, the remainder are optional but highly suggested as useful throughout the training period.

A trainee would be expected to be present at the training site daily for a minimum of five regular weekdays per week with the exception of holidays (three weeks/year) and conferences.

The trainee will have multiple opportunities to present in courses, rounds, local meetings and at conferences. On a daily basis trainees will be involved in discussion of cases with clinicians and laboratory personnel.

Annual attendance and presentation at a meeting would be highly recommended (funding contingent).

(Examples: Canadian College of Medical Genetics Annual Scientific Meeting, American Society of Human Genetics, Great Lakes Chromosome Conference, Garrod Symposium).

Learning Activities:

Fellows will be required to participate in all aspects of the running of a diagnostic laboratory. Written communication will be taught through the preparation of patient reports, standard operating procedures (SOP), and other laboratory documents. Verbal communication will be taught through the engagement of laboratory staff and clinical colleagues in meetings, teaching sessions, triaging of cases and communication of test results. It is expected the trainee will demonstrate fluency and literacy in the use of the English language.

The trainee will be involved in weekly discussions including but not limited to: laboratory quality, SOP updates and review, and laboratory accreditation requirements. The trainee is expected to participate in new test development (including validations and verifications) as well as routine laboratory test improvement. These processes will include the development, writing and review of SOPs as well as laboratory testing policies. Familiarity with budget preparations, equipment procurement (if possible), and human resource issues such as employee hiring and performance evaluation will also be required. Management courses, although not mandatory, will be highly encouraged.

During the fellow's research rotation, the fellow is required to pursue a research project directly related to translational medicine or novel test development. Publication of this research is encouraged but not required. The candidate is encouraged to present their research by way of poster or presentation to a scientific conference. Presentation of their research at department rounds is a requirement.

Rotations:

As mandated by the CCMG, fellows will be required to gain the technical and consultative/interpretive skills through an extended period in the laboratory of the chosen specialty. Additionally, rotations are required in other specialty laboratories and clinics, which may require travel depending on accreditation and the breadth of service.

Regardless of laboratory specialty, the fellow is required to complete a 6-month research rotation.

Evaluation & Remediation:

Each fellow will have a dedicated training committee. The training committee is composed of the site medical director (chair), two laboratory geneticists, and one clinician all of whom are good-standing members of the CCMG. The committee and the fellow will meet twice per annum and more frequently as necessary. The committee will provide the fellow with their in-training evaluation reports (ITERS), make recommendations for improvement, and ensure that the fellow is meeting training expectations.

In addition to summative assessments through the ITER and (final in-training evaluation report) process the fellow will be additionally evaluated on a formative basis through example, discussion and mentoring by the teaching faculty.

Trainees will be expected to have regular attendance Monday through Friday (i.e. minimum 8 hour days) and be accountable for absences. They will be expected to attend meetings and clinic sessions on time. Timely completion of tasks (eg. logbooks, assignments, practice examinations) is expected as is the ability to comply with laboratory turn-around times, in particular for urgent cases.

Trainees must maintain accurate clinical, consultative and technical logbooks of their training and rotations (see the CCMG website for the current logbook formats). The purpose of the logbooks is to record the involvement of the trainee in a variety of genetic diagnoses from a technical, clinical and consultative aspect. The logbooks must demonstrate adequate breadth and case complexity in order to be acceptable for CCMG credentialing. The training director will sign off on this logbook at the completion of the fellow's training.

If a fellow's progress is deemed unsatisfactory, the appropriate Co-Chair and fellow supervisor will meet with the fellow to explore the reasons for this and to devise appropriate remedial action. For any fellow, two consecutive unsatisfactory quarterly reports, including remedial work, may result in discontinuation of the fellow's program.

Frequency and methods of evaluating trainees:

The trainee will be evaluated using the CCMG Laboratory ITER forms minimally after each rotation and for long rotations, at least twice per year. Evaluations will be compiled and assessed by the program director. At a minimum the trainee will meet with their committee every 6 months.

Summative assessments such as completion of logbooks, problem sets and practice examinations will be used specifically during each of the genetics

rotations. Formative feedback and mentoring will occur at a minimum weekly, if not daily during discussion and assessment of technical work, case discussions and analysis and reporting of results.

Remediation:

A trainee's performance would be considered unsatisfactory if 2 consecutive in-training evaluations identify significant deficiencies. If remedial action were required the trainee's supervisory committee would determine appropriate measures to address the deficiency; for example, additional course work or problems could be assigned as required. If the training committee decided performance during a rotation was inadequate, a trainee may be asked to repeat that rotation (lengthening the time to completion). If remediation is not successful the trainee may be asked to withdraw from the program.

Reference:**CCMG Training Guidelines**

<http://www.ccmg-ccgm.org/training/training-general.html>