



**UNIVERSITY OF
CALGARY**

Maternal-Fetal Medicine
Residency Information

Section of Maternal-Fetal Medicine
Department of Obstetrics & Gynecology

April 2020

Welcome and Introduction

Welcome to the postgraduate residency program in Maternal-Fetal Medicine (MFM) at the University of Calgary!

The MFM residency is a dynamic two-year program (PGY-6 and -7) with a goal of developing specialists equipped with skills to become future leaders in Maternal-Fetal Medicine. The program is supported by a diverse range of highly qualified faculty and provides excellent training in clinical and academic Maternal-Fetal Medicine in one of the busiest obstetrical centers in Canada. During this two-year program, the resident will:

- Develop proficiency in tertiary maternal and fetal medicine, including maternal medicine, fetal medicine, fetal imaging and procedures, and in high-risk obstetrics.
- Learn to function as an independent MFM consultant (under both direct and indirect supervision of MFM faculty). The resident will manage complex pregnancies, from pre-conception to the postpartum period, as part of a multidisciplinary team, with defined graduated responsibility.
- Undertake clinical experiences to gain exposure and appreciation of the principles of obstetric internal medicine, reproductive genetics, pathology, neonatology, obstetric anaesthesia, and paediatric and imaging subspecialties relevant to MFM.
- Lead a scholarly project in (or related to) Maternal-Fetal Medicine, which could be basic/clinical research, educational, or QA/QI/Patient Safety in nature.
- Undertake elective options to further explore areas of interest in Maternal-Fetal Medicine, either locally or at an approved site, in either Canada or abroad.

The MFM residency is fully accredited by the Royal College of Physicians and Surgeons of Canada and uses the CanMEDS competency framework for teaching and assessment. While MFM belongs to a late cohort for transition to Competence By Design (CBD), this program has integrated elements of CBD and intends to be an early adopter of CBD principles. We have already established our Competence Committee and have adapted our assessment strategy to include frequent low-stakes direct assessments.

We believe that the MFM residency program in Calgary offers several advantages in MFM Training:

1) Individualized program. Presently, there are only 1-2 funded residents per year, which offers the advantages of individual attention, close working relationships with faculty, and responsiveness to concerns, both individual and program-related. This flexibility, combined with well-defined goals and objectives with graduated responsibility, enables the resident to take an active role in their training, explore areas of interest in depth, and easily identify and address deficiencies. We also place emphasis on resident education and well-being over clinical service, and thus are able to support our residents to meet their individual goals and objectives. Pending individual residency and career goals, we offer flexibility as to required protected time for scholarly activity of between 3 to 6 blocks, in keeping with updated RCPSC Specialty Training Requirements.

2) Experienced faculty. The MFM Residency Program is supported by an experienced and growing MFM Section consisting of highly qualified faculty with a wide range of expertise. Six of the MFM Section members have more than 20 years of experience, and thus a comprehensive understanding of the specialty, practical experience in meeting the needs of trainees, and extensive contacts in the field, across Canada and internationally.

3) Large referral center. There were 56,329 births in Alberta in 2017/2018 (<https://www.alberta.ca/population-statistics.aspx>), ranking third-highest volume in Canada (after Ontario and Quebec), with over half of these occurring in our MFM referral catchment area (Southern Alberta). The birth rate in Calgary area alone is 18,984 births per year (2015-2016 data), and Calgary has the youngest population of major cities in Canada, with 70% of the population between the ages of 15-64. Our region has significantly more complicated pregnancies than national and provincial averages, with higher rates of late maternal age, multiple births, low birth weight, and prematurity. As a result, there is a large volume of referrals to the Calgary MFM Centre, as well as a high concentration of patients with complex maternal and fetal problems. The new and state-of-the-art outpatient Calgary Maternal Fetal Medicine Centre has one of the highest volumes of MFM ultrasound and consultation in Canada.

4) Obstetric Internal Medicine. The Calgary Obstetric Internal Medicine program has expanded considerably to include 7 internists with specialty training in Obstetric Internal Medicine. Obstetric Internal Medicine offers a daily inpatient consulting service and has expanded outpatient clinics throughout Calgary, including a pre-conceptional counselling clinic directly collaborating with MFM. The MFM group works very closely with the OB-IM physicians and provides collaborative care for complex patients. The OB-IM group considers the training of the MFM residents a priority and has undoubtedly strengthened our residency program.

5) Academic excellence. The program strives to meet the goals, objectives and specialty-training requirements as outlined by the Royal College of Physicians and Surgeons of Canada. The depth of faculty both within MFM and the affiliated disciplines provides excellent training in both clinical and academic MFM. As of 2012, a clinical ARP has facilitated development of a more academic and patient-focused model of care that is of significant benefit to the education of residents. All members of the Section of MFM make significant contributions to clinical care, as well as to education and/or research.

6) Scholarly opportunities. The division of MFM is committed to supporting research and scholarly activities. When the MFM outpatient clinic was established in 2002, a priority was to install a state of the art MFM clinical management/research database to enable clinical audit and research within the division (Astraia). This database is linked to the Alberta Perinatal Outcome program, allowing for linkage of antenatal and postnatal data, which provides extensive opportunities for clinical research. The First Trimester Screening program, established in 2006, has national and international collaborators and budget for epidemiologic and bio statistical support to facilitate research. The section also is supported by the Director of Research for the department (Dr. Amy Metcalfe) who provides guidance for residents undertaking research projects. In addition to clinical research, there is the opportunity for professional development and scholarly projects in medical education, quality assurance and patient safety, and leadership / administration.

Our program encourages innovation and development of novel educational strategies and welcomes the suggestions and input of any trainees or faculty.

Dr. Anne Roggensack
Maternal-Fetal Medicine Residency Program Director

Websites / Electronic Resources:

University of Calgary Postgraduate Medical Education: <http://cumming.ucalgary.ca/pgme/>
Department of Obstetrics & Gynaecology: <http://www.albertahealthservices.ca/info/Page14364.aspx>
Royal College of Physicians and Surgeons of Canada: www.royalcollege.ca
Provincial Association of Residents of Alberta (PARA): <http://www.para-ab.ca>

Applications

Interested residents are encouraged to consider an elective with us. However, an elective in Calgary is not mandatory to be matched to our program. The program is funded through the Province of Alberta Health and Wellness (Alberta Health Services), and thus only Canadian / Permanent Resident graduates are eligible to receive funding. All applicants require Canadian RCPSC or equivalent board certification in Obstetrics and Gynecology.

Applications are accepted annually by May 15, and must include:

- Letter of Intent
- Curriculum Vitae
- Copy of university transcripts
- IELTS (International English Language Testing System) academic version completed within 24 months (if required by the CPSA <http://www.cpsa.ca/language-proficiency/>)
- Three letters of reference (sent directly to the program)

Successful candidates will be invited for a site visit and interview (usually in June). The site visit includes tours of the Calgary MFM Centre and Foothills Medical Centre, individual faculty / research meetings as requested by the applicant, lunch with the program director, a private meeting with current residents, and an interview. All candidates are requested to prepare and present a short presentation (PPT or other) about themselves (maximum 10 min) at the beginning of the interview. This is meant to allow candidates to demonstrate their communication / presentation skills, and to introduce themselves, their interests, and career goals to the committee. We would like candidates to answer the following questions in their presentations:

- Why do you want to pursue MFM residency and career?
- Why do you want to complete your residency in Calgary (program / city)?
- What are your clinical and academic interests within MFM?
- What are your scholarly interests (and if you have any ideas what scholarly activities you want to pursue during residency)? Scholarly activities may include basic / clinical research, medical education, quality assurance / quality improvement / patient safety, and administration / leadership.
- What is your vision for your career in MFM? Where do you see yourself in 5 years? 10 years?

Our program participates in the national “MFM Match,” administered through the RCPSC MFM Committee Chair and based on similar principles to CaRMS. Candidates and programs submit their rank lists in early September, and match results are made available shortly thereafter. We offer 1-2 positions per year. If 1 position is offered, a start date of July 1 is usually preferred. If 2 positions are offered in one cycle, start dates will be staggered (usually July 1 and Sept / Oct or later). We have the flexibility in our program to accept off-cycle candidates (who require start dates other than July 1), so these applicants should not be deterred! Please feel free to directly contact us with any questions or concerns. We look forward to your application!

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Program Administrator, MFM Residency Program
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Goals and Objectives

On completion of the 2-year Maternal-Fetal Medicine (MFM) residency program, the resident is expected to:

- Become a competent MFM specialist capable of assuming a consultant's role in the subspecialty.
- Have acquired a working knowledge of the theoretical basis of MFM, including its foundations in the basic medical sciences and research.
- Demonstrate a strong commitment to practicing patient-centered care in MFM to the highest standards academically, ethically, and morally.
- Demonstrate evidence-based practices for screening, diagnosis, management, and prevention in MFM.
- Function effectively as a subspecialist in academic, tertiary, and / or community settings.
- Demonstrate a commitment to life-long learning in the pursuit of delivering the highest standard of care throughout one's career.
- Have participated in teaching, scholarly activity, and knowledge dissemination.
- Demonstrate competency in each of the CanMEDS domains, as outlined in the Objectives of Training in Maternal Fetal Medicine of the Royal College of Physicians and Surgeons of Canada (RCPSC). The roles of Medical Expert, Communicator, Collaborator, Leader, Health Advocate, Scholar, and Professional will be integrated with the objectives of the residency program and assessed throughout residency.
- Be eligible for and successful at the RCPSC certification by examination in Maternal-Fetal Medicine.

University of Calgary Section of Maternal-Fetal Medicine

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Section of MFM Member	MFM Clinical Practice	Contact Information
Dr. Greg Connors	Outpatient consults and imaging, fetal procedures	greg.connors@efwrad.com
Dr. Stephanie Cooper	FMC / SHC / PLC consults and imaging, MFM prenatal clinic, fetal procedures, FMC L&D	stephanie.cooper3@ahs.ca
Dr. Rati Chadha	FMC consults and imaging, outpatient MFM consults and imaging, MFM antenatal clinic, antenatal community care program	rati.chadha@ahs.ca
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Dr. Jo-Ann Johnson	FMC / SHC / PLC consults and imaging, outpatient MFM consults and imaging, early risk assessment program	joann.johnson@ahs.ca
Dr. Verena 'Vreni' Kuret, AHS MFM Section Head	FMC / SHC / PLC consults and imaging, outpatient MFM consults and imaging, MFM antenatal clinic, fetal procedures	verena.kuret@ahs.ca
Dr. Ian Lange	SHC consults and imaging	ian.lange@ahs.ca
Dr. Titilayo Oluyomi-Obi	FMC / SHC / PLC consults and imaging	tilayo.oluyomi@ahs.ca
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Dr. Anne Roggensack	FMC / SHC / PLC consults and imaging, Ob-IM PCC, inpatient MFM services lead	anne.roggensack@ahs.ca
Dr. Jaime Schachar	FMC / SHC / PLC consults and imaging, outpatient MFM consults and imaging, NE MFM antenatal clinic, PLC L&D	jaime.schachar@ahs.ca
Dr. Nancy Soliman	FMC / SHC / PLC consults and imaging, outpatient MFM consults and imaging, MFM antenatal clinic, FMC L&D	nancy.soliman@ahs.ca
Dr. David Somerset, EFW MFM Section Head	Outpatient consults and imaging, fetal procedures, fetal therapy lead	david.somerset@efwrad.com
Dr. Jennifer Walsh	FMC / SHC consults and imaging, outpatient MFM consults and imaging	jennifer.d.walsh@ahs.ca
Dr. R. Douglas Wilson	Research	doug.wilson@ahs.ca

The Section of Maternal-Fetal Medicine works closely with members of the Department of Obstetrics and Gynecology at the University of Calgary. In addition, we support strong clinical, education and research links with colleagues in other Departments, including Diagnostic Imaging, Obstetric Internal Medicine, other medical sub-specialties, Neonatology, Paediatric Surgery, Paediatric Cardiology, Prenatal Genetics, and Perinatal Pathology.

Structure & Curriculum of MFM Residency Program

The MFM Residency is a 2-year program, including the following clinical experiences. While MFM is late in the Royal College transition to Competence By Design (CBD), our program is already adopting the principles of CBD, and is structured to encourage stage-appropriate focussed acquisitions of knowledge and skills, as well as incorporating graduated responsibility.

BLOCK	YEAR 1	YEAR 2
1	MFM: Introduction to Ultrasound	MFM: Core Outpatients 2
2	MFM: Introduction to Ultrasound / Inpatients	MFM: Core Outpatients 2
3	MFM: Introduction to Inpatients	MFM: Core Outpatients 2
4	MFM: Introduction to Outpatients	MFM: Core Fetal Cardiology and Advanced Fetal Imaging
5	Research (course optional)	MFM: Core Fetal Cardiology and Advanced Fetal Imaging
6	MFM: Core Outpatients 1	Elective
7	MFM: Core Outpatients 1	Elective
8	MFM: Core Outpatients 1	Research
9	Prenatal Genetics (with Perinatal Pathology)	MFM: Transition to Practice Inpatients
10	Obstetric Internal Medicine	MFM: Transition to Practice Outpatients
11	Neonatal Antenatal Consults (with Perinatal Follow-up Clinic and Pediatric Sub-Specialty Consults)	MFM: Transition to Practice Outpatients
12	MFM: Core Inpatients (with Ob Anesthesia consults, and Pediatric Sub-Specialty Consults)	MFM: Transition to Practice Outpatients
13	Research	MFM: Transition to Practice Outpatients

KEY:

Transition to Discipline / Foundations of Discipline (pink)

Core of Discipline (blue)

Transition to Practice (purple)

Transition to Discipline / Foundations of Discipline

MFM: Introduction to Ultrasound (6 weeks).

- Residents work with MFM sonographer educators to develop their hands-on ultrasound skills, focusing on fetal anatomical survey, fetal assessment, and first trimester ultrasound.

MFM: Introduction to Inpatients (6 weeks).

- Residents orient to our FMC inpatient MFM service, including hands-on ultrasound skills (focusing on fetal assessment, Dopplers, EV cervix, and placenta), MFM consultation and reporting, antepartum patient care, and L&D.

MFM: Introduction to Outpatients (4 weeks).

- Residents orient to the outpatient MFM facility (Calgary MFM Centre), focusing on counselling and reporting of common MFM presentations (including first trimester screen, anatomical survey, soft markers, fetal assessment, hypertension, preterm labour, and disorders of amniotic fluid and fetal growth).

Research / Scholarly Activity (4 weeks).

- During this block, residents may opt to attend the Research Course offered for residents through the University of Calgary (opt-in). This protected block permits residents to begin work on their planned scholarly activity. By the end of the block, residents are to have prepared their proposal, timeline of activity / research time, planned dissemination strategy, ethics application, and (if needed) grant application.

Core of Discipline

MFM: Core Outpatients 1 & 2 (24 weeks).

- Residents are based in the outpatient MFM clinic and focus on diagnosis and management of fetal anomalies and other complex maternal and obstetric complications. Residents participate in MFM antenatal clinic 1-1.5 days per week, as well as in preconception counselling, and begin having leadership of "Fetal Diagnosis and Therapy Rounds."

Prenatal Genetics and Perinatal Pathology (4 weeks).

- This is an off-service rotation working directly with the Prenatal Genetics service and includes some Perinatal Pathology experience (fetal autopsy).

Obstetric Internal Medicine (4 weeks).

- This is an off-service rotation working with the Obstetric Internal Medicine service including inpatient and outpatient consultations, continuing care, and pre-conceptional counselling.

Neonatal Antenatal Consults, Perinatal Follow-up Clinic, and Pediatric Sub-Specialty Consults (4 weeks).

- This is an off-service rotation including inpatient and outpatient antenatal Neonatology consultations, some observational experience in the Perinatal Follow-up Clinic, as well as observational experience with Pediatric Sub-Specialty consultations (antenatal and neonatal).

MFM: Core Inpatients (includes Obstetric Anesthesia and Pediatric Sub-Specialty Consults) (4 weeks).

- This clinical experience is based at FMC inpatient MFM consults, imaging, and complex antepartum patient care. Residents participate in Obstetric Anesthesia consultations (2 half-days) and would usually continue to have observational experience with Pediatric Sub-Specialty consultations (antenatal and neonatal) and other in-hospital imaging (including fetal and placental MRI and neonatal head ultrasound).

MFM: Core Fetal Echo and Advanced Fetal Imaging (8 weeks).

- Residents work directly with Diagnostic Imaging and Pediatric Cardiology consultants caring for fetuses with cardiac abnormalities (including antenatal consult and pediatric clinical follow-up). Residents also work with sonographer educators learning hands-on fetal echocardiography skills. Residents will also gain hands-on and reporting experience with 3D ultrasound (fetal anatomy and placenta) and hands-

on ultrasound experience with pregnancy <11 weeks and reproductive-age uterine and adnexal pathology.

Research / Scholarly Activity (4 weeks).

- Residents continue their scholarly activity project with protected time.

Electives (8 weeks).

- Residents may pursue areas of their interest with electives in MFM or related fields. Electives may be local, in Canada, or international. Electives may be within MFM, dedicated off-service, or be individualized for a customized experience. Options for electives include (list not exhaustive):

Description of Elective	Duration	Sites in which the elective may be taken
University of Calgary Level II Maternal Fetal Medicine All other mandatory rotations Other local clinical experiences	4 weeks 4-8 weeks 4-8 weeks	SHC, PLC FMC, Calgary MFM Centre, ACH ICU, medical sub-specialties, D&E
University of Alberta Fetal Cardiology	4 weeks	Royal Alexandra Hospital
University of Toronto Maternal Medicine Fetal Medicine	4 weeks 4 weeks	Mount Sinai Hospital, Sunnybrook HSC Mount Sinai Hospital, Sunnybrook HSC
University of British Columbia Maternal Fetal Medicine Fetal Neuroimaging Prenatal Genetics Level II/III MFM	4 weeks 4 weeks 4 weeks 4 weeks	BC Women’s Hospital BC Women’s Hospital BC Women’s Hospital Surrey Memorial Hospital

Transition to Practice

MFM: Transition to Practice Inpatients (4 weeks).

- Residents are based at FMC MFM for consultations and imaging, as well as complex antepartum patient care management. Residents lead their longitudinal “Fellow Clinic” of MFM antenatal patients. Residents have increased independence, functioning under indirect supervision as junior staff.

MFM: Transition to Practice Outpatients (16 weeks).

- Residents are based in the outpatient MFM clinic and focus on diagnosis and management of fetal anomalies and other complex maternal and obstetric complications. Residents also gain experience at our higher volume peripheral outpatient clinics. Residents lead their longitudinal “Fellow Clinic” of MFM antenatal patients. Residents have increased independence, functioning under indirect supervision as junior staff.

Research / Scholarly Activity (4 weeks).

- Residents complete their scholarly activity project with protected time.

Research (Scholarly Activity)

Scholarly activity is a priority in our program, and our residents have a history of success in research. From the RCPSC MFM Specialty Training Requirements, our usual goal is for residents to have “completion of a scholarly research, quality assurance, or educational project relevant to Maternal-Fetal Medicine.”

As part of any visiting elective or site visit / interview, we would be pleased to offer meetings with any faculty requested by applicants. Given the short duration of the residency, residents are encouraged to consider scholarly projects and be in contact with prospective supervisors if not prior to commencement of the

program, then shortly after starting the program. We encourage residents to focus on an area of interest, usually in basic / clinical research, medical education, quality assurance and patient safety, or leadership / administration. In Calgary, there are opportunities for further education in each of these fields, which would complement resident development and projects.

Protected time for scholarly activity is offered both by block and longitudinally, with opportunity for personalization to individual needs and project timeline. This approach allows for research time to be available when needed for the individual project and allows the resident and their supervisor to direct the planning of their research time. Residents have the option to participate in the Research Course (4 weeks) and could utilize this course to develop their project. Regardless of Research Course participation, all residents will have a protected block of research as part of the “Introduction” phase, and by the end of this block it is expected that residents can (with mentoring from their supervisor) present a proposal for their scholarly activity during residency, including plans for learning, funding, planned dissemination, timeline (for protected time and expected progress), and definition of project completion. We strongly recommend that residents plan to submit a paper for publication by the end of residency but can support other definitions of completion as proposed by the resident and their supervisor (and as approved by the RPC).

In addition to protected block early in residency, protected research blocks are usually planned as part of “Core” and “Transition to Practice.” Additionally, up to 12 longitudinal research weeks may be taken from selected MFM-based rotations during residency. Thus over 2 years, there could be up to 24 fully protected weeks for research. Depending on individual research plans and career goals, we offer personalization for duration of protected time for scholarly activity (up to 3 additional blocks). The need for protected blocks vs. weeks vs. days, and well as timing / duration of blocks, can and should be individualized with the research supervisor and program director.

To support our residents in scholarly success, we offer:

- An expectation of research mentorship and presentation of their proposal by end of Block 5.
- Optional participation in the University of Calgary “Research Course” (PGY-6 year).
- Academic half-day sessions, both PGME-lead and MFM-specific.
- 3 to 6 blocks (12 to 24 weeks) of protected time for scholarly activity during residency (protected blocks and / or weeks in MFM rotations).
- Specialized streaming for developing a focus and experience in basic / clinical research, medical education, QA/QI/ patient safety, or leadership and administration.

Focus:	BASIC TRAINING (all residents)	SPECIALIZED TRAINING (options for streaming)	DISSEMINATION
Basic or Clinical Research (lead: Dr. Metcalfe)	<ul style="list-style-type: none"> • Research Course (optional) • PGME Seminars • MFM AHD sessions 	<ul style="list-style-type: none"> • CIP Seminars • Graduate Courses • M.Sc. (through CIP) 	<ul style="list-style-type: none"> • O&G Research Day • Manuscript Submission (1st author) • Optional / encouraged: <ul style="list-style-type: none"> ○ National / international meetings (i.e. SOGC, SMFM, ISUOG, ISPD, other) • Other individualized goal accepted by RPC
Medical Education (lead: Dr. Roggensack)	<ul style="list-style-type: none"> • PGME Residents as Teachers • MFM AHD • Instructional Skills Workshop (Taylor) 	<ul style="list-style-type: none"> • CSM Teaching Excellence in Medical Education Program (TEMEP) • Taylor Centre Courses • Graduate Courses • M.Sc. (CIP) • WISE • OHMES 	<ul style="list-style-type: none"> • O&G Research Day x 2 • Manuscript Submission (1st author) • Optional / encouraged: <ul style="list-style-type: none"> ○ National / international meetings (i.e. SOGC, APOG, ICRE, CCME) OHMES Health and Medical Education Symposium • Other individualized goal accepted by RPC

QA / QI / Patient Safety (leads: Dr. Cooper and Dr. O'Quinn)	<ul style="list-style-type: none"> PGME QA Seminar Neonatal Perinatal Medicine QA/QI AHD MFM AHD Calgary Perinatal Mortality Committee Attend one AHS PPQA Committee meeting 	<ul style="list-style-type: none"> AHS Courses U of C Courses QUEST Committee membership AHS PPQA Committee membership 	<ul style="list-style-type: none"> O&G Research Day Manuscript Submission (1st author) Required QA/QI certificate Other individualized goal accepted by RPC Optional / encouraged: <ul style="list-style-type: none"> Communication to department (action from results) National / international meetings (i.e. SOGC, SMFM, ISUOG, ISPD, other local or provincial meeting(s)) W21C Research Day
Leadership and Administration (lead: Dr. Wilson)	<ul style="list-style-type: none"> PGME Seminars MFM AHD sessions CMA / Joule PLC Introduction Courses 	<ul style="list-style-type: none"> Joule PLI (or other) Courses PGME Leadership Grant 	<ul style="list-style-type: none"> O&G Research Day Manuscript Submission (1st author) Completion of PLI (or other) course(s) Optional / encouraged: <ul style="list-style-type: none"> National / international meetings (i.e. SOGC, SMFM, ISUOG, other) Other individualized goal accepted by RPC

Basic / Clinical "Stream" Resources:

Graduate courses are available through Open Studies / Community Health Sciences

http://wcm.ucalgary.ca/gse/programs/community-health-sciences#quickset-field_collection_quicktabs_0

- Biostatistics
- Epidemiology
- Health Economics
- Health Services Research
- Population / Public Health

Education "Stream" Resources:

- University of Calgary CSM Teaching Excellence Program <https://www.ucalgary.ca/ofd/temep>
- University of Calgary CSM Office of Health & Medical Education Scholarship <https://cumming.ucalgary.ca/office/ohmes>
- Medical Education graduate courses are available through Open Studies / Community Health Sciences. http://wcm.ucalgary.ca/gse/programs/community-health-sciences#quickset-field_collection_quicktabs%20_0
- University of Calgary Taylor Institute for Teaching and Learning <http://www.ucalgary.ca/taylorinstitute/>

QA / QI / Patient Safety "Stream" Resources:

Course	Description	Operated by
Introductory Investigating and Managing Patient Safety Events (I)	https://www.hqca.ca https://www.w21c.org/education/ <ul style="list-style-type: none"> • Obtain the investigative skills required to complete patient safety reviews • Focus on the practical application of the SSA:PSR methodology 	<ul style="list-style-type: none"> • U of C Medicine • W21C • Health Quality Council Alberta

Advanced Investigating and Managing Patient Safety Events (II)	https://www.hqca.ca https://www.w21c.org/education/ <ul style="list-style-type: none"> Gain further exposure on the use of SSA:PSR methodology Learn about the other aspects of managing a patient safety event 	<ul style="list-style-type: none"> U of C Medicine W21C Health Quality Council Alberta
Certificate Course in Patient Safety & Quality Management	www.patientsafetycourse.ca <ul style="list-style-type: none"> Distinguish and describe the components of a healthcare safety & quality model Describe core principles of patient safety & quality Identify key strategies for designing and delivering safer / higher quality healthcare \$500 for residents (faculty \$2750) 	<ul style="list-style-type: none"> U of C Medicine W21C Health Quality Council Alberta
AHS QHI Quality & Patient Safety Integrated Curriculum	http://www.albertahealthservices.ca/assets/info/hp/edu/if-hp-edu-qps-integrated-curriculum.pdf <ul style="list-style-type: none"> Quality is everyone's business certificate (12 hrs) Patient safety certificate (20 hrs) AIQ Yellow belt certificate (10 hrs) Partnering with patient's certificate (3 hrs) Targeting teams certificate (4 hrs) 	<ul style="list-style-type: none"> AHS

Leadership and Administration "Stream" Resources:

- CMA / Joule Physician Leadership Institute <https://joulecma.ca/learn>
- Momentum Leadership Retreat for Medical Women www.peakmd.ca/momentum_index.html

Funding Opportunities for Trainees

- All trainees funded by MFM Program Educational Enhancement Fund (up to \$2000 CDN) to attend a MFM conference in 1st year (prefer SMFM, ISUOG) without a requirement for presenting their research.
- All trainees funded by MFM Program Educational Enhancement Fund (up to \$500) to attend the Canadian National Perinatal Research Meeting at least once during training (Quebec or Banff), without a requirement for presenting.
- Additional funding for attending local / away meetings, online courses, online references, UpToDate etc may be available (pending annual budget). Residents are provided with core MFM texts for personal use.
- All trainees will be funded (up to \$2000 CDN) to present their research when an abstract has been accepted for research undertaken during residency. Residents will first apply to PGME Research Grant, but otherwise will be supported by either the Dept O&G DEAR Fund and/or the MFM Program Educational Enhancement Fund.
- Trainees may apply for research grants through the DEAR Fund competitions (2-3 times per year).
- Funding for a 3rd year could be available through the Clinician Investigator Program (CIP) (<http://cumming.ucalgary.ca/cip/>), and could include M.Sc, M.CHS (including Medical Education), MBA, or other programs available at the University of Calgary. This requires application to the CIP program **prior** to starting the MFM Residency Program.

MFM Residency Academic Curriculum

The MFM Residency offers a 2-year curriculum to residents addressing knowledge / medical expert role, as well as all other CanMEDS roles. This curriculum assigns a subject area to residents for every block (26 total) and includes both preceptor-led teaching and self-study.

BLOCK	CYCLE 1	CYCLE 2
1	Fetal and maternal physiology	Amniotic fluid physiology and disorders
2	Placental physiology and placenta-related complications	Hydrops fetalis
3	Prenatal screening and diagnosis	Diabetes in pregnancy
4	Aneuploidy	Isoimmunization and NAIT
5	Fetal anomalies of the abdominal wall, GI, and GU systems	Maternal thyroid, adrenal, and hematologic disease
6	Fetal anomalies of the skeleton	Fetal cardiac abnormalities
7	Maternal hypertension	Fetal anomalies of the thorax
8	Maternal cardiac disease	Maternal pituitary and neurologic disease
9	Multiple gestation	Fetal anomalies of the CNS
10	Maternal and fetal infections	Fetal anomalies of the face and neck, and fetal exposure to drugs
11	Maternal renal disease, autoimmune disease, and venous thromboembolism	Severe obstetric complications
12	Neonatology for MFM Residents	Preterm birth
13	Key concepts in epidemiology, biostatistics, and critical appraisal	Surgery and trauma in pregnancy, and obstetric anesthesia

The MFM Residency collaborates with Diagnostic Imaging Residency on Obstetrical Ultrasound teaching monthly (2-year cycle of topics), as well as the Neonatal-Perinatal Medicine Residency academic half-day (2-year cycle) for sessions appropriate for MFM. Additionally, the MFM Residency accesses other learning opportunities at the University of Calgary, including PGME workshops, NRP, and the University of Calgary Taylor Institute for Teaching and Learning, as well as various excellent online learning resources (CMPA, MD Management, Joule PLI, Fetal Medicine Foundation, ISUOG, CLEAR).

Residents have a protected academic half-day weekly (Mondays 1PM-4PM), and incorporates both direct teaching, resident-lead sessions, and independent study. The academic half-days are protected, and residents are not expected on any clinical service (regardless of if on MFM Core or off-service rotations). Should a resident be away from Calgary on elective, we will offer webconferencing. Medical Expert topics are taught, as well as sessions dedicated to the other CanMEDS roles relevant to MFM PGY-6/7 learners.

An excellent curriculum is offered through PGME for all residents and is especially beneficial for small programs like ours. As part of our curriculum, some of the PGME workshops are designated as mandatory and some as optional for our residents.

Residents are made aware of the mandatory and optional certifications for our program, including those financially supported by PARA (NRP, ACLS, BCLS). Residents are required to provide evidence of the NRP Certificate / Recertification by the end of the residency. Certification from the Fetal Medicine Foundation in Nuchal Translucency and Nasal bone are also expected.

Residents participate in a variety of other sectional and departmental learning activities, as described below:

Event Title	When	Frequency	Description
Department of O&G Grand Rounds	Fridays 7:30-8:30 AM	Weekly, Sept to June (40/yr)	Weekly presentations by local and visiting faculty (from O&G and from other specialties), as well as senior residents on topics from general as well as sub-specialty O&G. Additional topics include current research, QA/QI reviews, medical education, and morbidity and mortality reviews. Accredited by RCPSC.
Department of O&G Tuesday EBM Rounds	Tuesdays 7:30-8:30 AM	Weekly, Sept to June (40/yr)	Weekly presentations generally by O&G residents on clinical questions and the EBM reviews in general and sub-specialty O&G. Accredited by RCPSC.
Department of O&G Journal Club	Evenings	4x/year	Recent journal articles of significance are critically appraised as to their methodology and applicability of results, in a social setting. Accredited by RCPSC.
Fetal Diagnosis and Therapy Rounds (MFM)	Thursdays 7:30-9 AM	Weekly, year-round (50/yr)	Multidisciplinary rounds presented by MFM staff and senior MFM residents. New fetal anomaly cases are presented (and complicated cases updated) with respect to patient history, ultrasound findings, consultations, and plans of care (including plans for interruption of pregnancy). Rounds are routinely attended by MFM, Diagnostic Imaging, Genetics, Neonatology, Pediatric Cardiology, Pediatric Surgery, and other pediatric specialties (as dictated by cases). Updates are also provided by neonatology on recently delivered neonates. Accredited by RCPSC.
Fetal Pathology Rounds (MFM)	Thursdays 8-9 AM	Every 3 rd Thursday, year-round (12/yr)	Once per month, the FD&T rounds are modified to focus on fetal and placental pathology cases. Complex cases are presented with history, ultrasound findings, and the fetal and/or placental pathology results. Rounds are routinely attended by Perinatal Pathology, MFM, Diagnostic Imaging, Genetics, Neonatology, Pediatric Cardiology, Pediatric Surgery, and other pediatric specialties (as dictated by cases). Accredited by RCPSC.
Section of MFM Journal Club	Select Mondays,	5x/year	The Section of MFM gathers in a private dining room for dinner in a social setting and review 1-2 significant journal articles. Articles are presented by the MFM residents, as to critical appraisal of the study

	7:30-9:30 PM		methodology and applicability of the results to our patient population. Additionally, local clinical care guidelines are frequently discussed. Accredited by RCPSC.
Department of Obstetrics and Gynecology Research Day	2 nd Friday in May	Annually	The Department of Obstetrics and Gynecology hosts an annual research day, where both faculty and trainees at all levels present their research. There are poster and oral presentations of completed research, as well as poster presentations of works in progress. Presentations are assessed, and awards given for best oral / poster for faculty and trainees. Usually a visiting professor also presents at Clara Christie Day. Following the research day, residents are hosted by faculty at an annual social event / dinner.

Resident Assessment and Promotion

Assessment of resident performance is transitioning to a competency-based model. We are transitioning away from traditional ITERs, and towards a system of multiple feedbacks / assessments from clinical supervisors (“coaches”) with assessment of progress / competence determined by our Competence Committee. At present, we are supported by One45, an AHS survey platform, and paper-based tools (while awaiting the Royal College E-portfolio). Assessment methods vary by clinical experience / rotation.

Current assessment methods include:

- Rotation-specific Block Assessment
- Longitudinal Global Assessments of fetal procedures and obstetrics
- Direct observation of counselling (modified mini-CEX)
- Narrative Observation from faculty (CBD template)
- Multi-source feedback (from MFM nurses, ultrasound technicians, learners, and referring physicians)
- Feedback from MFM Journal Club presentations
- Feedback from FD&T Rounds presentations
- Feedback from Grand Rounds presentation (1x / residency)
- Ultrasound checklist (Introduction blocks)
- Ultrasound checklist (Fetal Cardiology blocks)
- Fetal Procedures Assessment (modified OSATS)
- Obstetrical Procedures Assessment (modified O-SCORE)
- Feedback / Reflection tool (for use with pediatric clinics, anesthesia consults, other short experiences)
- Short-answer question examinations (2-3 per year)
- Quarterly meeting with Program Director
- Completion of a scholarly project

The Competency Committee meets 4 times per year, to review the resident assessments and to determine progress and promotion within the program. Following these meetings, at present the findings will be provided to the residents by the Program Director. While residents do have mentors in our program, we will be transitioning this role into Academic Advisors.

Calgary and Surrounding Areas:

Calgary is a fantastic city for a 2-year residency (also a great place to stay and build your life and career!). Calgary is a vibrant and growing urban centre (population of > 1 200 000), recently ranked as the “World’s 5th Most Liveable City” by Forbes. Whatever you like, Calgary’s got it – fantastic restaurants to impress the toughest foodie (from fine dining to local farmers markets), a busy arts scene (including Calgary Philharmonic Orchestra, Calgary Opera, Theatre Calgary as well as many other professional and amateur theatre companies, and a thriving folk / blues scene), and of course sports (Calgary Flames, Calgary Stampeders, Calgary Hitmen, Winsport, Olympic Oval, fly-fishing, rafting the Bow River). You could be part of the “sea of red!” Festivals abound in Calgary ... you might have heard of the Calgary Stampede – the greatest outdoor show on Earth! And of course, the Rocky Mountains are just 1 hour’s drive from Calgary, for all the hiking, skiing, and adventure you could want. If you can’t see the mountains from your house, you definitely see them on your way into work every day. We have lots of sunshine here ... and don’t be too afraid of the winters (It’s a dry cold, not a wet cold! No ice storms! Frequent chinooks - when everything melts! The mountains!). Calgary is also fantastic city for young families, with great options for public and private schools, and lots of family-friendly activities (Calgary Zoo, Telus Spark, Calaway Park, Canadian Music Centre, Glenbow Museum, Heritage Park, Calgary Parks, Bow River ...) Join us in Calgary and “Be a part of the energy!”

The City of Calgary

<http://www.calgary.ca/SitePages/cocis/Scripts/DefaultNav.aspx>

Visit Calgary

<http://www.visitcalgary.com>

Life in Calgary

<http://www.lifeincalgary.ca/moving>

20 things you should know before moving to Calgary

<https://notablelife.com/20-things-you-should-know-before-moving-to-calgary/>

Be a part of the energy

<http://www.bepartoftheenergy.ca>

Banff National Park

<http://www.pc.gc.ca/en/pn-np/ab/banff>

Banff Lake Louise Tourism

<https://www.banfflakelouise.com>

Tourism Canmore

<http://www.tourismcanmore.com>

Travel Alberta

<https://www.travelalberta.com/ca/>

50 things to do with kids in Calgary

<https://where.ca/alberta/calgary/50-things-to-do-with-kids-in-calgary/>

115 things to do with kids in and around Calgary

<https://www.calgaryschild.com/family-fun/activities/1581-115-things-to-do-with-kids-in-and-around-calgary>