

Obstetrics and Gynecology: Maternal Fetal Medicine and Obstetric Medicine Rotation Objectives (Core)

CanMEDS Framework: Medical Expert, Communicator, Collaborator, Leader, Health Advocate, Scholar, Professional.

Maternal Fetal Medicine Learning Objectives

On completion of this rotation, the maternal-fetal medicine (MFM) resident must demonstrate an understanding of the basic sciences relevant to MFM. It is expected that the rotations in “Ultrasound” and “Obstetrics” at RAH will contribute to the core knowledge of MFM.

Objectives for “General Obstetrics” will not be covered in this document and will be listed elsewhere.

It is recognized that the resident may not be exposed to all elements of these objectives; however, at the end of this rotation, the residents should demonstrate knowledge or ability in the following:

Medical Expert

The following are general objectives for the rotation:

1. Knowledge of maternal, placental, fetal, and newborn anatomy, embryology, and genetics.
2. Pharmacology, biochemistry, endocrinology, microbiology, physiology, and pathology as it pertains to maternal-fetal medicine.
3. Evaluation and treatment of maternal, fetal, and early newborn disorders.
4. An understanding of genetics, teratologic, metabolic, endocrine, immunologic, and infectious disorders that relate to pregnancy.
5. Diseases of fetal growth and development, abnormal placental, and uterine function.
6. Diseases of maternal systems and behavior disorders occurring in pregnancy.
7. Diseases in neonates. Understand diagnosis and initial management of neonatal morbidities resulting from prematurity, fetal growth restriction, congenital anomalies and/or maternal diseases.
8. Diagnostic and therapeutic skills for effective and ethical patient care.
9. The ability to access and apply relevant information to clinical practice.
10. Effective consultation services for patient care, education, and legal opinions.
11. Recognition of personal limitations of expertise, including the need for appropriate patient referral and continuing medical education

The MFM resident must acquire extensive knowledge for the following clinical conditions or problems encountered commonly in the practice of obstetrics and MFM. This list should be considered a minimum baseline, and not be considered as comprehensive for all disorders in the practice of this specialty. The cognitive skills in MFM are broadly grouped under the following headings:

1. Antenatal care
2. Genetics/Prenatal Screening and Diagnosis
3. The Fetus and Fetal medicine
4. Obstetrics and its complications
5. Pre-existing Maternal Diseases
6. Termination of Pregnancy

To view a detailed subcategory list for each, click [HERE](#)

Rotation Information

Rotation Contact

Dr. Sheryl Choo
Dr. Rshmi Khurana

Reading material: See resident Google drive.

Rotation duration:

2 Blocks on MFM (1 in R3, 1 in R4)
1 Block on OB Medicine (R3)

Vacation and time off:

Refer to PARAGuidelines and the vacation policy.

Review of rotation objectives:

Rotation objectives should be reviewed with the residents soon after their rotation begins.

Assessment: There is a midpoint assessment and final assessment for this rotation. Additionally, there is an Ultrasound exam, written exam, any subspecialty rounds/journal club presentations in which the residents will be assessed on.

EPAs

During this rotation, the following EPAs should be achieved:

Core of Discipline:

C1 Providing preconception and antenatal care to women with high-risk pregnancy

Successes: 10

C6 Performing obstetric and gynecologic ultrasound

Successes: 3

Procedural Skills

The MFM resident must acquire a wide variety of technical skills. The following is a list of required technical skills, including surgical skills. This list should be considered in its totality and not be considered as exhaustive.

Diagnostic Procedures and Techniques:

The MFM resident will demonstrate an understanding of the indications, risks, and benefits, limitations, and role of the following investigative techniques specific to the practice of MFM. The MFM resident will also be competent in their interpretation.

The MFM resident will be able to perform Point of Care Ultrasound (POCUS) imaging including assessment of the following:

1. Umbilical artery Doppler
2. Fetal lie and presentation
3. Amniotic fluid volume assessment
4. M mode of heart rate
5. Placental location
6. Basic fetal biometry (biparietal diameter, head circumference, abdominal circumference, femur length)
7. Biophysical profile score

The MFM resident should have a working level of knowledge of the following:

1. Fetal anatomic assessment.
2. Transvaginal scanning for placental localization and cervical length.
3. The nuchal translucency scan and its implications.
4. Doppler studies including middle cerebral artery (MCA) and ductus venosus Doppler studies
5. Folic acid prophylaxis, and progesterone prophylaxis
6. Fetal blood sampling
7. Intravascular transfusion (cordocentesis) including, the technique, immediate and long term risks of the procedure, and disorders that are amenable to diagnosis and indications.
8. Amniocentesis and chorionic villus sampling

Cytology and Histopathology:

1. Amniocentesis and chorionic villi sampling
2. The MFM resident should have a working level of knowledge of chorionic villus sampling and amniocentesis and have an in-depth understanding of the techniques, the maternal and fetal risks, complications, the limitations of the techniques and alternatives.

The MFM resident should have an extensive level of knowledge regarding the following areas of serology, microbiology, and genetics:

1. Maternal serum screening for aneuploidy and neural tube defects
2. Non-invasive prenatal testing (NIPT)
3. Screening for Group B Streptococcus in pregnancy
4. TORCH screen to identify possible congenital viral infections
5. Molecular Genetic Analysis

The maternal-fetal medicine resident should have a working knowledge and an understanding of:

1. Gene structure
2. Gene probes
3. Linkage and recombination
4. Direct detection of mutations and deletions
5. Principles of relevant laboratory techniques, e.g., polymerase chain reactions

Procedural Skills continued

Other Investigations:

1. The MFM resident should possess the skills to perform fetal assessment independently: non-stress test, biophysical profile score

Surgical Skills:

The categorized list reflects the level of technical skill competency for each surgical procedure expected after completion of a residency training program in obstetrics and gynecology. The resident must be able to discuss with the patient the risks, benefits, and complications of these surgical treatments, as well as any available non-surgical treatment alternatives and the consequences of the absence of surgical treatment.

A fully trained MFM resident will understand and maybe able to perform the following procedures; it is not expected that they can perform these procedures; however, they may have acquired the skills to do so.

Obstetric Procedures

A fully trained MFM resident will be able to understand the following procedures:

1. Chorionic villus sampling
2. Second-trimester amniocentesis
3. Amniocentesis for the assessment of fetal lung maturity
4. Cordocentesis and intrauterine transfusion
5. Decompression amniocentesis/diagnostic amnioinfusion
6. Fetal shunting (i.e., bladder, chest, abdomen)
7. Laser ablation for a twin-to-twin transfusion syndrome
8. Radio frequency ablation (RFA) or bipolar cord ligation for selection reduction/termination in monochorionic twins

Communicator

1. Establish therapeutic relationships with patients and their families, characterized by understanding, trust, empathy, and confidentiality.
2. Obtain and synthesize relevant history from patients, families, and communities.
3. Discuss appropriate information with the patient, her family, and other health care providers that facilitate optimal health care; this also implies the ability to maintain clear, accurate, timely, and appropriate records.
4. The ability to obtain informed consent for medical and surgical therapies, including discussing the risks, benefits, and complications of surgical versus non-surgical treatments as well as the consequences of non-treatment.
5. The ability to record accurately and succinctly data collected from patients, laboratory tests and radiological studies and to communicate (oral or written) conclusions based on these data to patients and their families, referring physicians and other involved health care personnel.
6. Evidence of excellent interpersonal skills when working with patients, families, and other members of the health care team.
7. An awareness of the unique personal, psychosocial, cultural, and ethical issues that surround individual patients with obstetric problems.
8. The ability to prepare and present information to colleagues and other trainees (if applicable) both informally (e.g., ward rounds) and formally (e.g., Grand Rounds, scientific meetings).
9. The ability to provide information to the general public and media about areas of local concern relevant to the practice of maternal-fetal medicine.

The MFM resident will gain communication skills through active participation in:

1. Antenatal and preconception consults for complex obstetrical patients with patients and their family members.
2. Involvement in complex multidisciplinary care through weekly multidisciplinary rounds and multidisciplinary patient care meetings.

Collaborator

The fully-trained obstetrician and gynecologist must be able to:

1. Effectively consult with other physicians and health care providers.
2. Contribute effectively to a multi-disciplinary health care team.
3. Function competently in the initial management of patients with conditions that fall within the realm of other medical or surgical specialties.
4. Demonstrate the ability to function effectively and, where appropriate, provide leadership, in a multi-disciplinary health care team, showing respect, consideration, and acceptance of other team members and their opinions while contributing personal specialty-specific expertise.
5. Identify, understand, and respect the significant roles, expertise, and limitations of other members of a multi-disciplinary team required to optimally achieve a goal related to patient care, medical research, medical education, or administration.

The MFM resident will gain collaborative skills through active participation in:

1. Complex care maternity case conferences, including but not limited to pediatric surgical and cardiac surgical multi-disciplinary meetings.
2. Weekly multi-disciplinary care meetings
3. Inpatient consultations on the antenatal ward and the labour and delivery suite
4. Working closely in a team-based approach with members of the Perinatal Clinic Team, including Nurses, Sonographers, Genetic Counselors, Social Workers, and Unit Clerks.
5. Clinical communication with generalist obstetricians, obstetric residents, and labour and delivery nurses regarding aspects of patient care.
6. Clinical work in the consulting role on the obstetric medicine service, managing medically-complex obstetrical patients in the preconception, antenatal, intrapartum, and post-natal periods.

Leader

1. Able to recognize personal limitations and seek assistance when necessary
2. Manage resources effectively to balance patient care, learning needs, and outside activities.
3. Allocate finite health care resources wisely.
4. Work effectively and efficiently in a health care organization.
5. Utilize information technology to optimize patient care, life-long learning, and practice administration.
6. Ability to effectively manage a clinical practice, including the follow-up of normal and abnormal test results and triage of emergency problems.
7. Demonstrate an understanding of the principles of quality assurance in the practice of obstetrics.
8. Demonstrate an understanding of population-based approaches to the provision of medical care, including the costs and benefits of the various screening tests available for prenatal diagnosis.
9. Demonstrate an understanding of how health care governance influences patient care, research, and educational activities at the local, provincial, and national levels.
10. The ability to function effectively in local, regional, and national specialty associations (professional or scientific) to promote better health care for women.

The MFM resident will gain leadership skills through active participation in:

1. Delivering case presentations at weekly multi-disciplinary meetings for complex patients
2. Managing the inpatient obstetrical medicine service and potentially triaging new consults during a four week period of the rotation.

Health Advocate

1. Identify the critical determinants of health affecting patients.
2. Contribute effectively to improved health of patients and communities.
3. Recognize and respond to those issues where advocacy is appropriate.
4. Identify the essential determinants of health for an individual patient, highlight which determinants are modifiable, and adapt the treatment approach accordingly.
5. Make clinical decisions for an individual patient, when necessary, balancing her needs against the needs of the general population and the available resources.
6. Participation in the transfer of high-risk pregnant women to centres with appropriate levels of care for their particular needs and those of the fetus.
7. Facilitate medical care for patients even when that care is not provided personally or locally or when that care is not readily accessible (e.g., therapeutic abortion).
8. Advise patients about the local and regional resources available for support, education, and rehabilitation.
9. Provide direction to hospital administration regarding compliance with national clinical and surgical practice guidelines.
10. Discuss the important function and role of various professional organizations, including the Society of Obstetricians and Gynecologists of Canada (SOGC), in support of obstetricians and gynecologists in this country and the provision and maintenance of optimal health care for Canadian women.

The MFM resident will gain health advocate skills through the following:

1. Seeing a diverse variety of patients from different backgrounds within the maternal fetal medicine clinic, and systematically addressing social determinants of health in forming a management plan for each patient
2. Addressing the unique needs of patients from rural or geographically remote areas of Alberta and, Northern Canada and facilitating transitions and transfers of their care.
3. Providing impartial and supportive counselling on the options for pregnancy termination in Alberta, and referrals as appropriate.
4. Addressing patients' modifiable risk factors with health promotion and prevention counselling, and referral to appropriate resources to promote lifelong health of the mother and fetus (e.g., smoking cessation, risk of type II diabetes following gestational diabetes)

Scholar

The fully trained obstetrician and gynecologist must:

1. Develop, implement, and monitor a personal, continuing education strategy.
2. Be able to appraise sources of medical information critically.
3. Facilitate patient and peer education.
4. Try to contribute to the development of new knowledge in the field of obstetrics and gynecology.
5. Develop a habit of life-long learning, utilizing information technology for referencing cases, literature review, and participation in basic or applied clinical research.
6. Identify gaps in personal knowledge and skill, and develop strategies to correct them by self-directed reading, discussion with colleagues, and ongoing procedural experience.
7. Understand the principles of basic and applied clinical research, including biostatistics.
8. Ability to appraise and summarize the literature on a given subject critically and judge whether a research project or publication is sound, ethical, unbiased, and clinically valuable.

The MFM resident will enhance their competencies in these areas by:

1. Participate in the obstetrical residency and obstetrical medicine program Journal Club.
2. Present at Subspecialty Rounds
3. Attend weekly Subspecialty and Grand Rounds.
4. Literature reviews for specific patients when required for the clinical circumstance (e.g., reviewing teratogenicity of specific

- medications for a preconception consult).
5. Conducting focused reading around core topics in maternal-fetal medicine as directed by the MFM worksheets to be completed by the resident.

Professional

The fully trained obstetrician and gynecologist resident must:

1. Endeavor to monitor learning by regularly attempting EPAs.
2. Deliver the highest quality of medical care with integrity, honesty, compassion, and respect.
3. Exhibit appropriate personal and interpersonal professional behaviors.
4. Practice medicine in a way that is consistent with the ethical obligations of a physician.
5. Foster a caring, compassionate, and respectful attitude towards patients, families, and other members of the health care team.
6. Provide ethical medical care and seek advice or second opinion appropriately in ethically challenging situations.
7. Monitor patients appropriately and provide appropriate follow up medical care, particularly after starting a new treatment or following a surgical procedure.
8. Maintain patient confidentiality at all times.
9. Complete reports, letters, and summaries in a timely fashion and maintain medical records that are consistently accurate, informative, and legible.
10. Understand medical protective procedures and the role of the Canadian Medical Protective Association in areas of patient-physician dispute.
11. Be able to deal with professional intimidation and harassment
12. Show self-discipline, responsibility, and punctuality in attending to ward duties, in the operating room, and at meetings and other activities, and be a moral and ethical role model for others be able to delegate clinical and administrative responsibilities appropriately

The MFM resident will enhance their competencies in these areas by:

1. Exhibiting professional and ethical behaviour towards patients and other team members at all times during the rotation
2. Promptly and thoroughly documenting preconception consults, point of care ultrasounds, obstetrical medicine consults, ward rounds, and other patient interactions as appropriate.
3. Providing formal teaching to medical students on the obstetrical rotation on the topics of fetal monitoring, perineal repair, and normal and abnormal labour and delivery.

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Revisions	Approved at RPC Meeting
CaMEDS roles updated	December 16, 2019
Non MFM objectives removed rotation coordinator changed. OB medicine 4 weeks	May 17, 2021