

## **CONTENT**

### **Prerequisites**

Completion in ACGME-accredited residency programs, or in Royal College of Physicians and Surgeons of Canada (RCPSC)-accredited or College of Family Physicians of Canada (CFPC)-accredited residency programs located in Canada.

Verification of each applicant's level of competency in the required clinical field using ACGME or CanMEDS

Milestones assessments from the prior training program.

American Board of OBGYN eligible status

Valid state medical license

### **Content:**

The aim of the Beaumont Royal Oak MFM program is to train a maternal-fetal medicine subspecialist who:

- cares for and/or provides consultation for women with complications of pregnancy
- has advanced knowledge of obstetrical, medical, and surgical complications of pregnancy and their effects on the mother and fetus
- is skilled in the areas of prenatal ultrasound and prenatal diagnosis
- has clinical competence in maternal-fetal medicine
- is able to function as a consultant to obstetricians/gynecologists and other physicians for women with complicated pregnancies;
- has advanced knowledge of newborn adaptation
- has advanced knowledge in the arena of basic, translational, and clinical research in maternal-fetal medicine in order to advance the discipline and remain current in a rapidly changing field

## **Beaumont Health System**

Beaumont Health is a not-for-profit organization comprised of the Beaumont Health System, Botsford Health Care and Oakwood Healthcare providing high quality, efficient, accessible services in a caring environment for southeastern Michigan residents and beyond. It consists of eight hospitals across Oakland, Macomb, and Wayne counties with 3,337 beds, 153 outpatient sites, 5,000 physicians, more than 33,000 employees and about 3,500 volunteers. In 2013, the combined organizations had 168,047 inpatient admissions, 15,997 births and 492,677 emergency visits. Additional facilities include nursing homes, a home health care agency, a research institute, and primary and specialty care clinics, as well as rehabilitation, cardiology, and cancer centers. The system draws on a rich history of pioneering medical research to serve the health needs of southeastern Michigan and advance healing techniques nationwide.

## **Beaumont Hospital Royal Oak**

Beaumont Hospital, Royal Oak is a 1,070-bed major academic and referral center. It is the only Level I Adult Trauma Center in Oakland and Macomb counties and among the largest Medicare hospitals in the United States. It is also certified as a Level II pediatric trauma center.

For the past 20 years, Beaumont has been recognized by U.S. News and World Report as one of the "Best Hospitals." In 2014, Beaumont Hospital in Royal Oak was ranked in 10 different categories. It is

again ranked as the top orthopedic hospital in the state and is recognized as the top heart/heart surgery center in Michigan. The categories and National rankings for Beaumont, Royal Oak in 2014 were (1) Cardiology and Heart Surgery, #25 (#1 in Michigan); (2) Diabetes and Endocrinology, #16 (#1 in Michigan); (3) Gastroenterology and GI Surgery, #20 (#1 in Michigan); (4) Geriatrics, #24 (#1 in Michigan); (5) Gynecology, #44; (6) Nephrology (Kidney), #37; (7) Neurology and Neurosurgery, #35; (8) Orthopedics #9 (#1 in Michigan); (9) Pulmonology, #22, and (10) Urology, #42.

Beaumont Royal Oak was recognized with the UHC Quality Leadership Award, ranked No. 4 nationally in 2014 for mortality, effectiveness, safety, quality, equity, patient centeredness and efficiency (4th consecutive year in top ten); and recognized by UHC among the top six organizations for overall performance and supply chain efficiency (2014).

A major teaching facility, Beaumont has 40 accredited residency and fellowship programs with more than 400 residents and fellows.

Beaumont is also the exclusive clinical partner for the Oakland University William Beaumont School of Medicine (Rochester, MI) with more than 1,400 Beaumont doctors on faculty.

### **BEAUMONT ROYAL OAK OBSTETRICS**

The Beaumont obstetric service is composed of a large, highly diverse patient population with prenatal care originating from a number of sources including a comprehensive staff (resident) service, private faculty practice, and private obstetricians. The obstetrics service is staffed by 5 full-time generalist obstetricians, a laborist program, 8 MFM faculty and over 70 private practice obstetricians and 24 residents.

The ambulatory care is provided at the Medical Out-Patient Building (MOB), a facility directly adjacent to Beaumont RO, where staff clinics run Monday through Friday. Patients are seen by residents and staffed by five generalist obstetricians. There are also nurse midwives rendering prenatal care. Services include nutritional, diabetic teaching and social services. The full-term faculty members manage and see private patients at the Faculty practice site in Warren, Oakland county. As these facilities are part of Beaumont RO, there is hardwire access to the Citrix computer network and the EMR, for transmittal of clinical data between the ambulatory and inpatient care sites.

The Beaumont obstetric service is comprised of The Family Birth Center which includes 20 Labor/Delivery/Recovery rooms, 4 operating rooms, 3 bays in the Fetal testing room, 9 beds in the triage unit and 18 beds in the antepartum unit. The Karmanos Natural Birth Center has 4 Labor/Delivery/Recovery/Postpartum for low-risk obstetrics with a focus on natural birth techniques. All patient care rooms are wired for FHR and contraction telemetry to multiple stations which enables direct electronic physician and nurse chart documentation and monitoring. Scheduled and indicated antenatal testing (NST, BPP, limited ultrasound studies) are carried out in the Fetal testing room and triage by resident, and mid-level providers under the supervision of the faculty. L&D is staffed 24/7 by a physician team lead; a laborist program is in evolution and Monday-Friday daytime coverage by MFM faculty with off-hours MFM back up consultation. The unit does nearly 6000 deliveries annually. The Mother Baby postpartum unit has 50 private-rooms.

### **Maternal Fetal Medicine Services**

The Fetal Imaging Center is located on the 2nd floor of the hospital and is staffed by MFM specialist, pediatric radiologist, ultrasound technologists and genetic counselors. The center provides obstetrical ultrasound, reproductive genetics, fetal therapy. The genetic counselors help to arrange multi-disciplinary assessments for complex antepartum patients, generally those with fetal anomalies, which includes counseling, care planning and disposition for subsequent care in the obstetrics and neonatology units of the hospital. The Center performs more than 21,100 ultrasound procedures yearly.

MFM ambulatory service is provided at 3 different centers; the Women's Subspecialty Clinic is located in Beverly Hills about 1 mile from the hospital, Maternal Fetal Medicine & Fetal Imaging is located about 6 miles away in the Troy Regional Hospital and there is a Fetal Imaging Unit in Grosse Pointe. Ultrasound technologists perform fetal imaging at all centers under supervision of MFM specialist. MFM provide full obstetrical care for high risk patients at Women's Subspecialty Clinic. MFM consultations for referrals from obstetricians are offered at Beverly Hills and Troy.

### **MFM Fellowship at Beaumont**

The Maternal -Fetal Medicine Fellowship at Beaumont Hospital, Royal Oak offers a three-year fellowship-training program, which is accredited by the American Board of Obstetrics and Gynecology and accepts one fellow each academic year.

### **MFM fellowship curriculum**

Curriculum is based on the Guide to Learning in Maternal Fetal Medicine and ABOG program requirements for fellowship graduate medical education, general requirements for Gynecology Oncology, Maternal Fetal Medicine, and Reproductive Endocrinology and Infertility and special requirement for Maternal Fetal Medicine.

### **MFM Fellow's Annual Rotation Schedule**

Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May*	Jun
1	C	C	C	E	C	C	R	R	R	C	C	C
2	E	E	OP	C	CC	L&D	C	R	R	R	R	US
3	R	R	R	OP	US	E	L&D	C	C	E	R	R

KEY  
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R =  
Res

earch C = Clinical MFM E = Elective CC = Critical Care  
LD = Labor & Delivery Supervisor OP = Outpatient US = Ultrasound

### **Blocks of MFM fellowship**

12 months of clinical maternal-fetal medicine

- 12 months of protected research
- 2 months in a supervisory position of a Labor & Delivery unit
- 1 month in an ICU
- 9 months elective:
  - 1 Cyto-genetics + Pathology
  - 1 OB anesthesia
  - 1 Neonatology & Infectious disease
  - 1 Internal Medicine (Cardiology, pulmonology)
  - 2 Outpatient MFM practice & prenatal diagnosis
  - 3 Ultrasound

### **Rotations**

The Clinical MFM Rotation are supervised by the MFM and Fetal Imaging Faculty. On this rotation, the fellow will rotate on the antepartum and intrapartum inpatient MFM service in weekly rotations with Fetal Imaging and be available for MFM consults and family planning procedures.

The Research rotations are supervised by the research faculty and the MFM fellowship director. The fellows will spend the bulk of the time on basic research especially metabolomics, epigenomics and other translational research.

The outpatient MFM practice rotation will be spent in Troy, and FlagStar outpatient MFM offices supervised by the MFM faculty at those sites

The fellows are assigned to 2 months of L&D in which they will be in a supervisor role. MFM faculty supervision will provide direct supervision which is immediately available.

The Ultrasound rotation takes place in both Fetal Imaging and the ambulatory offices. Fellows will focus on honing their ultrasound skills. The fellow will also be on call for family planning procedures. A major strength of our program is the large volume of cases and the expertise on fetal echocardiography, and fetal MRI.

During the cytogenetics/pathology rotations, fellows learn the techniques of karyotyping, FISH and microarray. In the clinical rotations, fellows will counsel genetics patients, work with certified genetic counselors and learn genetic procedures. They will work with the perinatal pathologist performing perinatal autopsies and placental pathology dissection and reviews.

The fellow rotates for one month on the surgical critical care rotation under the supervision of the surgery intensivist team.

There is a one month elective rotation in Obstetric Anesthesia in which the fellow gains exposure to epidural analgesia, cesarean section anesthesia and postpartum anesthetic concerns. The fellow will also be on call for Infectious Disease consults.

The neonatology rotation focuses on NICU care with exposure to neonatal cranial ultrasound and pediatric surgery. The fellow is also be on call for Infectious Disease consults.

There are internal medicine rotations that focus on general internal medicine, endocrinology and cardiology.

## **Didactics Conferences**

Once weekly; MFM Fellowship faculty give a lecture at the fellows' level derived from the MFM ABOG curriculum. Fellows will have at least once monthly journal club reviews on recent publications on MFM topics of interests from the top peer review journals.

Other educational modules include Fetal Imaging Review; Clinical Case Reviews, Reproductive Genetics meeting and the neonatal conferences

## **BEAUMONT RESEARCH INSTITUTE**

Beaumont has a dedicated Research Institute with 501 active principal investigators and 195 research staff, including 63 research nurses. Beaumont Research Institute includes a 10,934 square feet accredited Vivarium with 9 large animal rooms, three 5-rack small animal rooms, three 3-rack small animal rooms and 3 fully-equipped operating suites (one with a surgical microscope operating system). The Research Institute strengthens Beaumont's ability to conduct translational and clinical research. The Research Institute manages a robust program of applied and clinical research, funded extramurally from the National Institutes of Health, the Department of Defense, American College of Surgeons Oncology Group, American College of Radiology Imaging Network, pharmaceutical companies, and private foundations. In 2014, there were 310 full board clinical studies active across the health system with 7,808 registered research participants, with 64% focused on clinical research and 36% on translational research programs. Of the clinical trials, 3% are Phase I, 28 % are Phase II, 69 % are Phase III.

The BioBank occupies 4 laboratories and two office spaces and has an area of 3924 sq. ft. storing over 80,000 individual samples with facilities for proteomics, genomic and metabolomics analyses. The Beaumont BioBank works primarily in operating rooms for tissue collection and utilizes a generic consent process to facilitate rapid and accurate collection of biospecimens. The model combines both a biorepository that collects specimens based on clinical questions and also a translational molecular research facility that undertakes biomarker-based research on those specimens in a seamless and efficient process.

The biostatistics department in the Research Center will assign biostatisticians to research projects initiated by faculty, staff, fellows and residents. Assigned biostatisticians will guide and support the investigator in the steps of specific research projects such as protocol development, study design, sample size determination, database management, and analysis including response to statistical comments by reviewers for submitted manuscripts.

What we are looking for a fellow who is:

Clinically capable and competent

Empathy, can provide patient centered care

Effective and sensitive counselor

Academically curious

Research competency & potential

Hard working & productive

Independent & proactive

Aware of own limitations

Team player, respectful & supportive  
Teacher  
Life & Work balance





