I. Educational Purpose
The Maternal-Fetal Medicine (MFM) rotation serves as the residents exposure to an Ob/Gyn consultative subspecialty. In this rotation the resident develops the educational foundation necessary for management of high-risk antepartum patients in both the inpatient and outpatient setting. Residents acquire the knowledge to properly counsel patients regarding their risk for various medical and obstetrical conditions, as well as make recommendations for their management / treatment and possible future interventions. Residents become competent with performance of antenatal testing modalities, advanced fetal anatomic ultrasonography, transvaginal ultrasonography of the cervix, and amniocentesis. Exposure to antepartum outpatient care is achieved by regular attendance at high-risk prenatal clinics at Park West Ambulatory Center.

II. Goals and Objectives
By completion of the MFM rotation, the resident should demonstrate skillful management of antepartum patients, as described within the context of the six core competencies.

The resident should be able to…

1. Medical Knowledge
   - Describe the basic structure and replication of DNA, and the clinical significance of karyotype abnormalities.
   - Distinguish between various forms of genetic inheritance and describe the clinical significance of heritable diseases.
   - Describe the possible teratogenic effects of various prescription and non-prescription drugs.
   - Describe the indications for, and limitations of, noninvasive diagnostic screening tests for fetal aneuploidy and structural malformations.
   - Describe the risks and benefits of various methods of invasive fetal testing, including: amniocentesis, CVS, PUBS.
   - Detail appropriate medical and surgical management for patients with medical complications of pregnancy.
   - Describe the factors that predispose to multiple gestation, and demonstrate understanding of the different types of twinning.
   - Describe modalities used to determine fetal lung maturity status.
   - Describe the association between genital tract infection and adverse perinatal outcomes.
Demonstrate knowledge of gestational diabetes and pregestational diabetes in pregnancy, interpret screening tests for gestational diabetes, and demonstrate understanding of methods of blood sugar control (diet and medical).

Describe the complication of medical disorder (diabetes and hypertension) and how they impact pregnancy.

2. **Patient Care (Clinical Skills)**
   - Elicit a history for inherited disorders, ethnic- or race-specific risks, and teratogen exposure.
   - Demonstrate the ability to counsel a patient regarding…
     - the impact of pregnancy on maternal medical conditions
     - the impact of maternal medical conditions upon pregnancy outcome
     - future reproduction and the long-term health implications of patients with a chronic medical condition
     - management options for a pregnancy with an abnormal fetus
     - risks for recurrence of adverse fetal outcomes and interventions possible for subsequent pregnancies
     - fetal effects of indicated diagnostic studies utilizing radiation
     - indications for, and limitations of, noninvasive diagnostic screening tests for fetal aneuploidy and structural malformations
     - risks and benefits of various methods of invasive fetal testing
   - Order and interpret appropriate maternal and fetal/neonatal tests to evaluate possible causes of adverse pregnancy outcomes.
   - Demonstrate level-appropriate skills in the performance of ultrasonography fetal anatomic survey and diagnostic amniocentesis.
   - Perform and interpret antepartum diagnostic tests accurately and integrate the interpretation of such tests into clinical management algorithms.

**Patient Care (Management Skills)**
- Assess, diagnose, and manage fetal and/or maternal complications of all antepartum inpatients on the Obstetrics Unit. Continually update patient care team (attending physician, nursing staff, NICU staff, anesthesia, etc) on status of patient(s).
- Monitor and manage the blood sugar of outpatients with diabetes.
- Work collaboratively with nurse practitioners, nutritionist, nurses and clinical diabetes educator to provide multi disciplinary care of the diabetic pregnancy.
- Accurately assess the obstetrical patient with multiple gestation, including fetal growth assessment, fetal position, and delivery plan.
- Improve these skills with more time in perinatal screening.
3. **Practice Based Learning**
   - Formulate and answer important clinical questions that arise from patient care interactions.
   - Use personal experience with challenging patients to optimize future relationships with patients.
   - Incorporate feedback from evaluations to improve skill base.
   - Keep an updated patient log as detailed in the ACGME website.
   - Participate in quality assurance activities of the department.
   - Use of information technology: UpToDate, Internet/Palm Pilot, Medline literature search, Cochrane Database, etc.

4. **Communication/Interpersonal Skills**
   - Present pertinent obstetrical history and physical findings to team members and consultants in a clear, concise fashion.
   - Demonstrate caring and respectful interactions with the obstetrical patient and her family.
   - Counsel patients in language and manner appropriate to their educational and emotional / maturity level.
   - Continually update patient care team (attending physician, nursing staff, NICU staff, anesthesia, etc) on status of patient(s).
   - Interact respectfully and professionally with all members of the patient care team, including: attending physicians, nursing staff, resident staff, medical students, social services, translators, etc.
   - Counsel other health care professionals about fetal effects of indicated diagnostic studies utilizing radiation.

5. **Professionalism**
   - Demonstrate responsibility for the welfare of all patients on the labor and delivery and postpartum units.
   - Demonstrate accountability for one’s actions and clinical decisions
   - Acknowledge errors or omissions in patient care, and work toward timely resolution or alleviation of such.
   - Demonstrate truthful and timely disclosure of adverse outcomes to the patient and designated individuals.
   - Advocate for patients within the healthcare system.
   - Maintain sensitivity to issues of diversity, with patients and with staff.
   - Uphold the ethical principles of our specialty, as detailed by ACOG.
   - Participate actively in the education of fellow residents and medical students when applicable.
6. Systems-Based Practice

- Order diagnostic tests with attention to cost-effectiveness and clinical relevance.
- Effectively use consultants and ancillary services personnel to create an effective patient care team.
- Follow clinical pathways as detailed in triage and L&D protocols.
- Demonstrate judicious and efficient resource utilization.
- Demonstrate an understanding for the roles and responsibilities of healthcare team members.
- Participate in quality improvement activities of the department.

III. Types of Clinical Encounters

Residents on the MFM service interact with and are responsible for the care of both Park West Ambulatory Center and private practice attending physicians’ patients in the inpatient hospital setting. A wide variety of obstetrical pathology is encountered in these antepartum patients.

The MFM resident will be responsible for managing a variety of medical conditions complicating pregnancy, including:

- Diabetes mellitus
- Diseases of the urinary system
- Infectious diseases and HIV
- Hematologic disorders
- Cardiopulmonary disease
- Gastrointestinal disease
- Neurological disease
- Endocrine disorders
- Collagen vascular disorders
- Psychiatric disorders
- Substance abuse
- Critical care / trauma

In addition, the MFM resident will become proficient in the diagnosis and management of various pregnancy related complications, including:

- Fetal anomalies and genetic syndromes
- Cervical incompetence
- Second and third trimester bleeding
- Multi-fetal gestation
- Pre-term labor, PPROM, and infection
- Disorders of amniotic fluid volume
- Isoimmunization
- Hypertensive disorders of pregnancy
- Fetal growth restriction
Procedures to be mastered by the resident on the MFM rotation:

- Performance of antepartum fetal surveillance testing, including: the non-stress test, contraction stress test, amniotic fluid index, and BPP.
- Level II fetal anatomic ultrasonography
- Transvaginal ultrasonography of the cervix
- Amniocentesis in the third trimester
- Cervical cerclage
- Pessary placement and care

IV. Rotation Structure
The resident will review the curriculum prior to the first day of the rotation with the Director of Maternal-Fetal Medicine. Goals and objectives will be reviewed and expectations for performance clarified.

The MFM resident will actively participate in:
- Morning Conference sessions
- OB Quality Assurance case presentations
- Routine prenatal clinic
- High-risk prenatal clinic
- OB Ultrasound
- The resident, with supervision and input from the MFM attending physician, will perform consults requested of the MFM Service.
- There they will be involved with observation of obstetrical ultrasounds performed by the sonographers, and direct patient care encounters along with the MFM attending physician.
- MFM Diabetes Consultant
- Genetic Counseling

V. Resident Supervision
The resident’s daily activities fall under the management of the Director of Maternal-Fetal Medicine; this provides opportunity for immediate feedback and eventual ultrasound certification.

Procedures are performed under the direct supervision of an attending physician at all times, including nights, weekends, and holidays. This is ensured by 24-hour in-house coverage by attending staff.

VI. Reading List and Educational Materials
- Maternal Fetal Medicine, Creasy
- ACOG Compendium
- Up-To-Date Clinical Reference Library
- Drugs in Pregnancy and Lactation
- Sonography in Obstetrics and Gynecology, Fleischer

VII. Method of Evaluation

- Residents will receive on-site timely formative feedback from the Director of Maternal-Fetal Medicine and private attending physician(s) during this rotation.
- Global and 360 degree summative evaluations of residents are performed every three months and reflect input from the attending staff, nurses, medical students, and patients.
- Cognitive assessment of the residents’ obstetrical skills is achieved by the obstetrical score from the CREOG examination.
- Formalized resident evaluation is performed every three months, presented in the form of a written document that will become part of the resident’s permanent file. Either the Program Director and/or the Assistant Program Director formally review the composite evaluation with each resident.
Procedures:

The following Table lists the procedures pertinent to gynecology and summarizes the level of technical proficiency that should be achieved by a graduating resident. The resident should either understand a procedure (including indications, contraindications, and principles) or be able to perform it independently. These distinctions are based on the premise that knowledge of a procedure is implicit in the ability to perform it.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Understand</th>
<th>Understand and Perform</th>
</tr>
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<tbody>
<tr>
<td>Abdominal sacrocolpopexy</td>
<td>X</td>
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<tr>
<td>Ablation and excision of endometriosis implants</td>
<td></td>
<td>X</td>
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<tr>
<td>Ablative procedures (cervix endometrium, vagina, vulva)</td>
<td></td>
<td>X</td>
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<tr>
<td>Anti-incontinence (urinary) procedures</td>
<td></td>
<td>X</td>
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<tr>
<td>Anoscopy</td>
<td>X</td>
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<td>Appendectomy</td>
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<td>X</td>
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<tr>
<td>Biopsy</td>
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<tr>
<td>Cervix</td>
<td>X</td>
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<tr>
<td>Endocervix</td>
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<td>X</td>
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<tr>
<td>Endometrium</td>
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<td>X</td>
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<tr>
<td>Skin</td>
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<td>X</td>
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<tr>
<td>Vagina</td>
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<td>X</td>
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<tr>
<td>Vulva</td>
<td></td>
<td>X</td>
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<tr>
<td>Peritoneum</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Breast, cyst aspiration</td>
<td>X</td>
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<tr>
<td>Cervical Conization</td>
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<td>X</td>
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<tr>
<td>Colonic endoscopy</td>
<td>X</td>
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<tr>
<td>Colpoceleisis</td>
<td>X</td>
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<tr>
<td>Colporrhaphy</td>
<td></td>
<td></td>
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<tr>
<td>Anterior (including urethropexy)</td>
<td>X</td>
<td></td>
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<tr>
<td>Posterior</td>
<td></td>
<td>X</td>
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<tr>
<td>Colposcopy, with directed biopsy of cervix, vagina or vulva</td>
<td>X</td>
<td></td>
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<tr>
<td>Colposuspension</td>
<td>X</td>
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<tr>
<td>Culdoplasty</td>
<td>X</td>
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<tr>
<td>Cystometrography</td>
<td></td>
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<tr>
<td>Simple</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Complex (multichannel)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Cystotomy repair</td>
<td>X</td>
<td></td>
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<tr>
<td>Cystourethroscopy</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Dilation and curettage</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
RESIDENT RESPONSIBILITIES
PGY-III/PGY-IV

OBSTETRICS

Arrive in-house no later than 6:30 a.m.

1. Rounds on personal surgical (i.e. Cesarean section/cerclage) patients, postpartum service patients
2. Review all service postpartum and post-op charts
3. Attend Morning Report, Chairman’s rounds, Grand Rounds, Journal Club
4. Attend all scheduled lectures, Tumor Board
5. Responsible for senior level management on L&D, carry the OB Resident Vocera
6. OB consults when MFM resident unavailable
7. Attend all non-private deliveries
8. Prepare OB lectures as assigned (ACOG guidelines)
9. Attend weekly continuity clinics as scheduled
10. Cesarean section experiences include: emergent sections, preterm deliveries, classical sections, multiple gestations, and any other high risk delivery
11. Experience with operative vaginal deliveries, vaginal breech deliveries, etc.
12. Takes outside non-private patient calls during the day
13. May be required to attend HROB clinic and assist MFM resident
14. Cover the floor during Grand Rounds
15. Sign-out to night float team prior to leaving for the day
16. Assist PGY-I on L&D, triage and all complicated postpartum/post-op patients
17. Prepare Journal Club presentations as assigned

GYNECOLOGY

Arrive in-house no later than 6:30 a.m.

1. Round on personal surgical patients including c/sections
2. Oversee PGY-I management of B6 floor calls on Gyn patients
3. Responsible for in-house floor consults
4. Collect the ER pager from the night float team no later than 6:30 a.m.
5. Assist junior resident in covering the ER, covers the ER when the PGY-II is not available; follows ER consults in the absence (i.e. vacation) of the PGY-II
6. Attend Ambulatory and Main OR cases as assigned
7. Attend weekly continuity clinics as scheduled, including Colposcopy clinic and Adolescent clinic
8. Attend Chairman’s Rounds if not in the OR or ER
9. Attend Grand Rounds, Journal Club
10. Attend all scheduled lectures, Tumor Board
11. Prepare GYN or other lectures as assigned
12. Sign-out to night float team prior to leaving for the day
13. Prepare Journal Club presentations as assigned

**MATERNAL FETAL MEDICINE (MFM)**

Arrive in-house as needed to prepare for morning report

1. Round on all private and non-private antepartum patients
2. Resident level responsibilities with perinatal consults on Labor and Delivery or antepartum unit
3. Carry the MFM resident vocera
4. Attend High Risk OB clinic and weekly continuity clinics as scheduled
5. Preparation of Perinatal cases and other lectures as assigned
6. Supervision by MFM attending
7. Attend Chairman’s Rounds, Grand Rounds, Journal Club
8. Attend all scheduled lectures, Tumor Board
9. Participation in antepartum care in antenatal testing unit as assigned by the MFM attending (i.e. genetic amniocentesis, antepartum testing, ultrasonography)
10. Participation in cerclage placement, external versions
11. Cover OB Chief in his/her absence (i.e. clinic, vacation)
12. Sign-out to night float senior resident prior to leaving for the day
13. Prepare Journal Club presentations as assigned
14. No vacation to be taken

**ONCOLOGY**

Arrive in-house as needed to prepare for attending rounds.

1. Round with Abbas Oncology team
2. Attend Abbas Oncology cases as scheduled; scrubs night and weekend cases as scheduled if free from call responsibilities
3. Attend weekly continuity clinics as scheduled
4. Oversee PGY-I/II management of B6 floor calls, pager calls, office nursing calls, and outpatient infusion center calls, pre-ops
5. Attend Chairman’s Rounds, Grand Rounds, Journal Club
6. Attend all scheduled lectures, Tumor Board
7. Cover Gyn Chief in his/her absence (i.e. vacation)
8. Sign-out to night float team prior to leaving for the day
9. Collect Onc pager from night float team no later than 6:30 a.m.
10. Prepare Journal Club presentations as assigned
**UROGYNECOLOGY**

1. Primary resident for urogyn cases
2. Attend weekly continuity clinics as scheduled
3. Attend all scheduled lectures, Tumor Board
4. Attend Chairman's Rounds if available
5. Attend Grand Rounds, Journal Club
6. Cover Gyn Chief (together with Onc Chief) in his/her absence (ie: vacation)
7. Sign-out to night float team prior to leaving for the day
8. Prepare Journal Club presentations as assigned

**AMBULATORY GYNECOLOGY**

1. As determined by Gynecologists office
2. Attend weekly continuity clinics as scheduled

**CALL/NIGHT FLOAT RESPONSIBILITIES**

Night Float begins at 6:00 p.m. (Mon – Thurs). Sign-out is at 12:30 p.m. (Fri), if no lectures. If there are Friday lectures, then call begins immediately after. On holidays that fall on a weekday, sign-out is at 7:00 a.m.

**Night Float:**

1. Round on personal surgical (c/section) patients
2. Oversee management of L&D by junior residents
3. Supervision of PGY-I in Triage
4. Manage antepartum patients
5. Attend all non-private deliveries
6. Oversee management of B6 floor calls for benign and Oncology patients
7. Cesarean section experience include: service patients with junior residents, additional experience with emergent and high risk Cesarean deliveries
8. Oversee ER consults by junior resident
9. Oversee Oncology admissions by junior resident
10. Dictate all Floor consults
11. Take all non-private outside calls
12. Attend continuity clinics as scheduled
13. Assist PGY-I/II in presenting the board during morning report
14. Duty ends after Morning Report/Lectures/Grand Rounds/Tumor Board/Clinic
15. Attend Chairman’s Rounds, Grand Rounds, Journal Club
16. Attend all scheduled lectures, Tumor Board
17. Prepare Journal Club presentations as assigned
18. Prepare OB lectures as assigned (ACOG guidelines)
19. Vacations may not be taken
20. Attend private deliveries if the private physician is not immediately available
**Weekend Call:**
1. Round as determined by outgoing and incoming call teams
2. Review all service postpartum and post-op charts
3. Oversee management of L&D by junior residents
4. Manage antepartum patients
5. Attend all non-private deliveries
6. Take all non-private outside calls
7. Oversee management of B6 floor calls for benign and Oncology patients
8. Cesarean section experiences are to include: service patients with junior residents, additional experience with emergent and high risk Cesarean deliveries
9. Oversee ER consults by junior resident
10. Oversee Oncology admissions by junior resident
11. Dictate all Floor consults
12. Attend private deliveries if the private physician is not immediately available