Maternal-Fetal Medicine Certifying Exam Blueprint and Topics

The content for the Certifying Examination will be based on the blueprint for Maternal-Fetal Medicine. The major categories and their subcategories are shown below, including the percentages of the categories.

Medical Complications of Pregnancy (30%)

- Medical Disorders
    - Evaluate, diagnose, and manage medical disorders
    - Provide preconception, post-delivery counseling (including contraception) for patients with medical disorders
    - Counsel patients about maternal physiology, fetal and neonatal implications of their medical condition(s)
    - Counsel patients on impact of medical disorders on delivery timing
    - Counsel patients with medical disorders regarding drugs and biologics
    - Manage antenatal care for patients with medical disorders
    - Manage intrapartum and postpartum care for patients with medical disorders
- Critical Care
    - Evaluate and diagnose critical care conditions
    - Manage critical care conditions and interpret hemodynamic monitoring
    - Identify critically ill patients and facilitate transfer to higher level of care
    - Manage antenatal care and delivery timing for critically ill patients
    - Manage intrapartum and postpartum care for critically ill patients
    - Counsel critically ill patients regarding drugs and biologics
    - Manage massive obstetric hemorrhage
    - Manage obstetric coagulopathy

Obstetric Complications (30%)

- Preterm Labor and Preterm Premature Rupture of Membranes (PPROM)
    - Identify risk factors for preterm birth
    - Counsel patients on risk-reduction strategies for preterm birth
    - Counsel patients on limits of viability, prognosis, and management
    - Manage PPROM
    - Manage preterm labor and delivery
    - Manage cervical insufficiency
- Hypertensive Disorders
    - Manage hypertensive disease in pregnancy
    - Manage preeclampsia
    - Manage eclampsia
- Multiple Gestation
    - Counsel and manage patients on associated complications and pregnancy outcomes based on chorionicity for twin gestations
    - Counsel and manage high-order multiple gestations

    - Counsel patients on indications and risks associated with fetal reduction
- Fetal Demise
    - Provide preconception counseling for recurrent pregnancy loss
    - Evaluate and manage patients with a fetal demise and/or recurrent pregnancy loss
    - Evaluate and manage patient for bereavement and/or postpartum depression
- Procedures Relating to Obstetrical Complications
    - Amniocentesis and amnioreduction for fetal lung maturation
    - External cephalic version
    - Peripartum hysterectomy
    - Cervical cerclage
    - Chorionic villus sampling
    - Cordocentesis and fetal transfusion
- Obstetric Anesthesia
    - Counsel medically complicated patients regarding the different anesthetic options including benefits, risks, and contraindications (e.g. systematic analgesia and sedation, general anesthesia, regional anesthesia); for example, cardia arrest, respiratory arrest, aspiration pneumonitis, hypotension, high spinal or total spinal, convulsions, neuropathy, headaches, hypothermia
    - Identify, diagnose, and co-manage anesthetic complications (e.g. cardia arrest, respiratory arrest, aspiration pneumonitis, hypotension, high spinal or total spinal, convulsions, neuropathy, headaches, hypothermia)
- Management of Obstetrical Complications
    - Amniotic fluid embolism (AFE)
    - Acute fatty liver of pregnancy (AFLP)
    - Placental abruption
    - Abnormal placentation (e.g. accreta, increta, percreta, vasa previa, and placenta previa)
    - Gestational trophoblastic disease
    - Ruptured uterus
    - Cholestasis of pregnancy
    - Uterine anomalies
    - Ovarian masses
    - Dermatologic conditions (e.g. PUPPS, herpes gestationis)
    - Fetomaternal hemorrhage
    - Trauma
    - Abnormally implanted pregnancies (abdominal, cervical, and c-section scar)

Fetal Complications and Prenatal Diagnosis (20%)

- Ultrasound
    - Perform and interpret 1st trimester ultrasound for singleton and multiple gestations
    - Perform and interpret 2nd and 3rd trimester ultrasound
    - Recognize normal and abnormal maternal, fetal, and placental anatomy
    - Apply knowledge of the limitations of ultrasound to determine need for additional imaging modalities

    - Determine indication for and perform Doppler studies (umbilical artery and MCA, color, m-mode)
    - Determine indication for and perform 3D and 4D ultrasound
    - Perform and interpret cervical length assessment
    - Manage disorders of amniotic fluid volume
    - Perform and interpret fetal echocardiography
    - Perform ultrasound assessment of chorionicity
- Evaluation, Management, and Diagnosis of Fetal Complications
    - Fetal structural abnormalities
    - Fetal growth restriction
    - Genetic disorders (e.g. chromosomal abnormalities, DiGeorge's, skeletal dysplasia, syndromes)
    - Fetal hydrops
    - Isoimmunization
    - Alloimmune thrombocytopenia
    - Fetal infections

Genetics and Genomics (10%)

- Obtain a genetic history and perform a three-generation pedigree, perform preconception genetic counseling, and counsel patients on Mendelian patterns of inheritance (e.g. autosomal dominant, autosomal recessive, co-dominant, X-linked recessive, X-linked dominant) and non-Mendelian patterns of inheritance (e.g. trinucleotide, germline mosaicism, multifactorial and polygenic inheritance)
- Counsel patients on benefits and limitations of PGS/PGD (preimplantation genetic diagnosis)
- Counsel patients on and perform expanded and ethnicity-based carrier screening
- Counsel patients on different methods of aneuploidy screening and interpret results
- Counsel patients on prenatal testing (e.g. fetal karyotype, chromosomal microarray, biochemical and molecular tests, whole exome sequencing)

Core Competencies and Cross Content (10%)

- Ethics and Professionalism
    - Systematically engage in practice review to identify health disparities
    - When engaged in shared clinical decision making, incorporate patient, family, and cultural considerations in making treatment recommendations
    - When providing care for patients, consider psychological, sexual, and social implications of various treatment options
- Patient Safety
    - Systematically analyze the practice for safety improvements (e.g. root cause analysis)
    - Systematically engage in practice reviews for safety improvements (e.g. root cause analysis)
    - Incorporate the standard use of procedural briefings, "time outs", and debriefings in clinical practice
    - Participate in the review of sentinel events, reportable events, and near misses
    - Implement universal protocols (e.g. bundles, checklists) to help ensure patient safety

- Interpersonal and Communication Skills
    - Communicate to patient and family regarding adverse outcomes and medical errors
    - Demonstrate sensitivity and responsiveness when communicating with a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation
    - Provide comprehensive information when referring patients to other professionals
- Systems-Based Practice
    - Incorporate considerations of cost awareness and risk-benefit analysis in patient care
    - Provide care with multidisciplinary teams to promote patient safety and optimize patient outcomes
- Practice-Based Learning and Improvement
    - Design or participate in practice or hospital quality improvement activities
- Evidence-Based Medicine
    - Incorporate evidence-based practices and national guidelines to improve practice patterns and outcomes
    - Implement evidence-based protocols to enhance recovery after surgery (ERAS)

In the Certifying Examination, evaluation of the candidate will include critical review and discussion of the thesis, questions related to principles of biostatistics, clinical trial and/or basic science study design, and hypothetical cases. It will also include review of the submitted case lists, discussion of structured cases, and surgical techniques. It may include interpretation of operative, radiologic and computer-generated images and videos, and simulations (radiologic studies, intraoperative photographs, etc.). The candidate should demonstrate the capability of managing complex problems relating to Maternal-Fetal Medicine. The candidate should have the scientific methodologic training to advance knowledge in this subspecialty and to be able to interpret and evaluate new concepts and their supporting data.