Obstetrical Curriculum for the PGY-1 Resident

Sinai Hospital of Baltimore Maryland
Department of Obstetrics and Gynecology

I. Educational Purpose
The PGY-1 obstetrical experience is a cornerstone for inpatient obstetrical care within the residency program. In this rotation the resident acquires the basic skills necessary for management of routine and high-risk obstetrical patients during the intrapartum and postpartum periods. Residents develop competence with performance of spontaneous vaginal delivery and cesarean delivery, and are introduced to methods of operative vaginal delivery. Exposure to antepartum care is achieved by regular attendance at both routine and high-risk prenatal clinics at Park West Ambulatory Center.

II. Goals and Objectives
By completion of the PGY-1 year, the resident should demonstrate skillful management of antepartum, intrapartum, and postpartum patients, as described within the context of the seven core competencies.

The resident should be able to...

1. Medical Knowledge
   • Describe the major physiologic changes in each organ system during pregnancy
   • Describe the impact of pregnancy on maternal medical conditions, and conversely, the impact of various maternal medical conditions upon pregnancy outcome
   • Describe the anatomic layers of the pelvis and changes that occur during pregnancy, parturition, vaginal and cesarean delivery, and the puerperium
   • Order and interpret common diagnostic tests in the context of the normal physiologic changes of pregnancy
   • Counsel patients regarding appropriate preconception and prenatal health habits
   • Comprehensively assess the new obstetrical patient with careful evaluation of risk factors for the current and future pregnancies
   • Identify warning signs of and anticipate adverse pregnancy outcomes
   • Demonstrate accurate and timely interpretation of intrapartum fetal heart rate patterns and implement appropriate interventions for such
   • Describe the clinical significance of heritable diseases and karyotype abnormalities
   • Describe the normal process of gametogenesis, fertilization, and embryonic development
2. Patient Care (Clinical Skills)

- Conduct focused patient histories and physical examinations, including:
  - Comprehensive primary care examination
  - Focused examination of the obstetrical patient
  - Serial cervical examination of parturients
  - Clinical pelvimetry
  - Leopold’s Maneuvers / estimated fetal weight
  - Accurate assessment of presenting fetal part and position
  - Ultrasonographic examination of the fetus

  - Evaluate symptoms and physical findings in pregnant patients to distinguish physiologic from pathologic findings
  - Perform uncomplicated spontaneous vaginal deliveries independently
• Demonstrate level-appropriate skills in operative vaginal delivery and cesarean delivery
• Accurately assess the new obstetrical patient with careful evaluation of patient risk factors
• Deliver routine prenatal care to uncomplicated obstetrical patients
• Perform and interpret assessments of fetal well-being, including: non-stress testing, contraction stress testing, biophysical profile.
• Describe the normal course of labor; identify abnormalities of labor and describe methods of labor augmentation as well as intervention for abnormal labor
• Describe the indications for and interpret results of common diagnostic tests for medical conditions in pregnancy
• Assess, recognize, manage, and treat fetal and maternal complications as it pertains to medical conditions

3. **Patient Care (Management Skills)**
   • Multi-task and triage the care of all antepartum and intrapartum patients in the labor and delivery area
   • Optimize the use of obstetrical anesthesia per patient preference and clinical situation
   • Anticipate adverse pregnancy outcomes and prepare strategies to effectively manage them in a timely fashion
   • Respond to acute intrapartum emergencies with appropriate interventions and recommendations for staff
   • Continually update patient care team (attending physician, nursing staff, NICU staff, anesthesia, etc) on status of patient(s)
   • Supervise and lend guidance to medical student education.
   • Order and interpret common diagnostic tests in the context of the normal physiologic changes of pregnancy

4. **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.
• Develop in consultation with other specialist plans for perinatal management for patients with varying medical conditions. Describe appropriate criteria for and contraindications to VBAC

5. 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 patient regarding impact and risks of pregnancy on maternal medical conditions
• Counsel patient about lifestyle modifications to improve pregnancy
• Counsel patients about recurrent risks of antepartum complications such as: preterm labor, placenta previa, placental abruption, gestational hypertension, IUGR, and fetal death.

6. 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

7. 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
• Order and interpret common diagnostic tests in the context of the normal physiologic changes of pregnancy
• Effectively provide appropriate pre-conceptional counseling
• Interpret screening and diagnostic tests for various medical conditions seen in pregnancy
• 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
PGY-1 residents 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 normal and abnormal obstetrical pathology is encountered in these antepartum, intrapartum, and postpartum patients.

The PGY-1 resident will assist in the management of a variety of medical conditions complicating pregnancy, including:

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

In addition, the resident will be introduced to various pregnancy related complications (to be enhanced in the PGY-2 year), including:

- Chronic pregnancy loss
- Cervical incompetence
- Second and third trimester bleeding
- Multi-fetal gestation
- Fetal malpresentation
- Pre-term labor and PPROM
- Isoimmunization
- Hypertensive disorders of pregnancy
- Fetal growth restriction
- Intrauterine fetal death
- Post-term pregnancy

Procedures to be mastered in the PGY-1 year:

- Full term spontaneous vaginal delivery
- Episiotomy and repair
- Administration of anesthetic: local, pudendal
- Primary LTCS in vertex presentation
- Postpartum tubal sterilization
- Basic real-time Ultrasonography
Procedures introduced in the PGY-1 year (but mastered in the PGY-2 year):

- Operative vaginal delivery
- Preterm spontaneous vaginal delivery
- Primary LTCS of preterm, multifetal, or malpresented pregnancy
- Repeat cesarean delivery
- External cephalic version

IV. **Rotation Structure**

The PGY-1 resident will review the curriculum prior to the first day of the rotation with the Chief Resident. Goals and objectives will be reviewed and expectations for performance clarified.

**The PGY-1 Obstetrics Resident Responsibilities**

- Arrive in-house no later than 6:00a.m.
- Postpartum rounds on private vaginal deliveries and personal surgical (Cesarean section) patients.
- Must report all complicated private postpartum patients to OB senior resident.
- Present service post-op patients in morning report with the assistance of senior resident.
- Attend morning report, Chairman’s rounds, Grand Rounds, Journal Club.
- Attend weekly continuity clinic as scheduled.
- Primary cesarean section experience.
- Performance of circumcisions of service patients with attending staff supervision
- On PPD#1, performance of circumcisions of service post-op patients on POD #1/2/3.
- Manage B-1 floor rounds and calls, carry the OB Triage Resident Vocera.
- Learn triage of OB patients/board management with senior resident
- Prepare OB lectures as assigned (ACOG guidelines)
- Attend all scheduled lectures, Tumor Board
- Follow up labs in the culture book
- Sign-out to night float team prior to leaving for the day. Board sign out is at 6:00pm
- Dictate own Cesarean sections op note and discharge summaries for Cesarean sections and private postpartum stays greater than 48 hours.
- May be required to attend HROB clinic and assist MFM resident.
- Prepare Journal Club presentations as assigned.
The PGY-1 resident will actively participate in:

- Morning Conference sessions (daily).
- “Board Review” sessions, during which the care plans of all current obstetrical inpatients are presented and reviewed under staff supervision.
- Routine prenatal clinic.
- Ultrasound preceptorship, devoted to second and third trimester obstetric sonography, with focus on pregnancy dating, estimation of fetal weight, placental localization, amniotic fluid index calculation, basic anatomy evaluation, and performance of BPP. These skills will be supervised and monitored by a certified sonographer and MFM attending. This rotation will be explained in another document.
- At all other times, it is expected that the PGY-1 resident will remain on the labor floor, involved directly with patient care encounters.

V. Resident Supervision

The resident’s daily activities fall under the management of the Chief Resident and the OB attending.

Deliveries and 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

- Fetal Heart Rate Monitoring, Freeman
- ACOG Compendium 2009
- UpToDate Clinical Reference Library
- Drugs in Pregnancy and Lactation
- Operative Obstetrics
- Sonography in Obstetrics and Gynecology, Fleischer
- Cochrane Database

VII. Method of Evaluation

Residents will receive on-site timely formative feedback from the Chief Resident and attending physician(s) during this rotation.

- All deliveries and obstetrical procedures will be scored for both operative skills and for the resident’s ability to discuss the clinical management of the patient (clinical evaluation score).
Global and 360 degree summative evaluations of PGY-I 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.
Genomics

Obstetrics

The passage of genetic information from one generation to the next is the ultimate demonstration of genomics in action. The obstetrician's presence during this event demands both an understanding of genetics and genomics and using this understanding for the good of the patient, her family and her unborn.

A. Basic mechanism of genetic inheritance

1. Describe the basic structure and replication of DNA.

2. Describe the processes of mitosis and meiosis.

3. Describe common terms associated with genetic expression.
   a. Exon
   b. Intron
   c. Codon
   d. Transcription
   e. Translation

4. Describe the clinical significance of karyotype abnormalities, such as:
   a. Trisomy
      i. 13
      ii. 18
      iii. 21
   b. Polyploidy
   c. Monosomy
   d. Sex chromosome abnormalities
   e. Deletions
   f. Inversions
   g. Translocations
h. Mosaicism
  i. Chimeras

5. Describe the normal process of gametogenesis.

6. Describe the normal process of fertilization and the combination of genetic information.

B. Clinical implications of heritable disease

1. Describe the clinical significance of heritable diseases, such as cystic fibrosis, Tay-Sachs disease, and hemophilia.

2. Counsel patients about the techniques for and implications of testing for heritable diseases.

3. Discuss treatment and surveillance options for patients or newborns with genetically derived disease.

C. Genetic counseling

1. Elicit a history for inherited disorders, ethnic- or race specific risks, and teratogen exposure.

2. Describe the concepts of penetrance and variable expression and their impact on prognosis for a given genetic disorder.

3. Distinguish between various forms of genetic inheritance:
   a. Autosomal dominant
   b. Autosomal recessive
   c. X-linked
   d. Mitochondrial
   e. Genomic imprinting

4. Counsel patients about the manifestations of common genetic disorders.

5. Describe the indications for, and limitations of, noninvasive diagnostic tests for fetal aneuploidy and structural malformations (e.g., ultrasonography, serum analytes).

6. List ultrasonography findings that are often associated with genetic disorders for:
a. Duodenal atresia
b. Omphalocele
c. Nuchal translucency/nuchal skin fold
d. Echogenic bowel
e. Heart defects
f. Diaphragmatic hernia
g. Ventriculomegaly

7. Counsel patients about the risks and benefits of various methods of invasive fetal testing, such as:

a. Chorionic villus sampling
b. Amniocentesis/ Cordocentesis
d. Pre-implantation genetic testing

8. Order and interpret appropriate maternal and fetal/neonatal tests to evaluate possible causes of fetal demise.

9. Counsel a patient with an abnormal fetus regarding management options.

10. Counsel a patient and her family after adverse pregnancy outcome about such factors as recurrence, future care, and possible interventions.

11. Counsel a patient and other health care professionals about fetal effects from exposure to various pharmacologic agents or to indicated diagnostic studies utilizing ionizing radiation.

12. Counsel a patient about the genetic implications of advancing maternal and paternal age.

D. Describe the indications and uses for umbilical cord stem cells and counsel patients on the advantages and disadvantages of cord blood banking.
Procedures

The following Table lists the procedures pertinent to obstetric care 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>
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</thead>
<tbody>
<tr>
<td><strong>Antepartum</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amniocentesis</td>
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<tr>
<td>2nd trimester—genetic diagnosis</td>
<td>X 1</td>
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<tr>
<td>3rd trimester—assessment of fetal lung maturity</td>
<td>X 3,4</td>
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<td>Cervical cerclage</td>
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<td>Transabdominal</td>
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<td>Transvaginal</td>
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<td>X 2,3,4</td>
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<td>Chorionic villus sampling</td>
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<tr>
<td>Cordocentesis</td>
<td>X 1</td>
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<tr>
<td>Fetal assessment, antepartum</td>
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<td>Biophysical profile</td>
<td></td>
<td>X 1</td>
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<tr>
<td>Contraction stress test</td>
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<td>X 1</td>
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<td>Nonstress test</td>
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<td>X 1</td>
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<td>Vibroacoustic stimulation</td>
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<td>X N/A</td>
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<tr>
<td>Intrauterine transfusion</td>
<td></td>
<td>X 3</td>
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<tr>
<td>Ultrasound examination</td>
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<tr>
<td>Abdominal and endovaginal</td>
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<td>X 1</td>
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<tr>
<td>Abdominal ultrasonography, targeted examination</td>
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<td>X 1</td>
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<tr>
<td>Color Doppler ultrasonography</td>
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<td>X 1</td>
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<td>Three-dimensional ultrasonography</td>
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Doppler velocimetry

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<th>Procedure</th>
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<td><strong>Intrapartum</strong></td>
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<td>Amniocentesis</td>
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<td>Amniotomy</td>
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<tr>
<td>Anesthetic/analgesic procedures</td>
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<tr>
<td>Administration of parenteral analgesics/sedatives</td>
<td>X</td>
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<td>Administration of narcotic antagonists</td>
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<tr>
<td>Epidural anesthesia</td>
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<td>General anesthesia</td>
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<td>Spinal anesthesia</td>
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<tr>
<td>Cesarean delivery</td>
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<td>Classical</td>
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<tr>
<td>Low transverse</td>
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<td>Low transverse</td>
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<tr>
<td>Low vertical</td>
<td>X</td>
<td>2</td>
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<tr>
<td>Cesarean hysterectomy</td>
<td>X</td>
<td>3, 4</td>
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<tr>
<td>Curettage for adherent placenta</td>
<td>X</td>
<td>2</td>
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<tr>
<td>Dilation and evacuation for second-trimester fetal death</td>
<td>X</td>
<td>1</td>
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<tr>
<td>Episiotomy and repair</td>
<td>X</td>
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<td>Procedure</td>
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<tr>
<td>Fetal assessment, intrapartum</td>
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<tr>
<td>Fetal heart rate monitoring</td>
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<td>(internal/external)</td>
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<td>Fetal scalp pH determination</td>
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<td>Fetal scalp stimulation test</td>
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<tr>
<td>Vibroacoustic stimulation test</td>
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<td>Forceps delivery</td>
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<td>Outlet</td>
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<td>Low</td>
<td>X 2</td>
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<tr>
<td>Hypogastric artery ligation</td>
<td>X 1</td>
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<tr>
<td>Induction of labor with prostaglandins or oxytocin</td>
<td>X 1</td>
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<tr>
<td>Manual removal of the placenta</td>
<td>X 2</td>
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<tr>
<td>Skin incision</td>
<td></td>
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<tr>
<td>Vertical</td>
<td>X 1</td>
<td></td>
</tr>
<tr>
<td>Transverse</td>
<td>X 1</td>
<td></td>
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<tr>
<td>Suction evacuation for first trimester fetal death</td>
<td>X 1</td>
<td></td>
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<tr>
<td>Uterine artery ligation</td>
<td>X 3</td>
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<tr>
<td>Vacuum extraction</td>
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<tr>
<td>Outlet</td>
<td>X 2</td>
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<td>Low</td>
<td>X 2</td>
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<tr>
<td>Vaginal delivery, breech</td>
<td>X 1</td>
<td></td>
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<tr>
<td>Vaginal delivery, spontaneous</td>
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<td>X 1</td>
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# Postpartum

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Understand</th>
<th>And Perform</th>
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</thead>
<tbody>
<tr>
<td>Circumcision, neonatal (with anesthesia)</td>
<td>X 1</td>
<td>X 1</td>
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<tr>
<td>Hematoma evacuation</td>
<td></td>
<td></td>
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<tr>
<td>Intraabdominal</td>
<td>X 1</td>
<td>X 3,4</td>
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<tr>
<td>Vulvar</td>
<td></td>
<td>X 3,4</td>
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<tr>
<td>Vaginal</td>
<td>X 1</td>
<td></td>
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<tr>
<td>Neonatal resuscitation, immediate</td>
<td></td>
<td>X 1</td>
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<tr>
<td>Repair of genital tract lacerations</td>
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<td></td>
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<tr>
<td>Cervical</td>
<td>X 2,3,4</td>
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<tr>
<td>Perineal (second, third, and fourth degree lacerations)</td>
<td>X 2,3,4</td>
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<td>Vaginal</td>
<td>X 1</td>
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<tr>
<td>Sterilization</td>
<td>X 1,2,3,4</td>
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<tr>
<td>Wound care</td>
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<tr>
<td>Débridement</td>
<td>X 2</td>
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<td>Incision and drainage of abscess or hematoma</td>
<td>X 2</td>
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<tr>
<td>Repair of dehiscence</td>
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<tr>
<td>Secondary closure</td>
<td>X 3,4</td>
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