

Maternal-Fetal Physiology and Anatomy

- **Respiratory and acid-base changes during pregnancy**
- **Cardiovascular and hematologic changes during pregnancy**
- **Gastrointestinal and renal changes during pregnancy**
- **Central nervous system changes during pregnancy**
- **Fetal oxygenation:**
 - Uterine and placental blood flow and gas exchange
 - Aortocaval compression
 - Supine hypotensive syndrome
- **Physiology of labor and delivery, stages of labor**

Pathophysiology and Anesthetic Management

- **Anesthesia for non-laboring pregnant patients**
- **Anesthesia for complicated pregnancy:**
 - Diabetes
 - Hypertension
 - Cardiac diseases
 - Fetal demise
 - Ectopic pregnancy
 - Cerclage
 - Placenta previa/accreta
 - Aspiration
 - Multiple pregnancy
 - Abruption placenta
 - Retained placenta
 - Cord prolapse
 - Uterine atony
 - Breech presentation
 - Disseminated intravascular coagulation
 - Eclampsia and preeclampsia
 - HELLP syndrome
 - Embolic disorders (amniotic fluid embolism, DVT and pulmonary thromboembolism)
 - Antepartum and postpartum hemorrhage
 - Preterm labor
 - Multiple gestation pregnancy
- **Anesthesia in the obstetric unit**
 - Pregnancy definitions:
 - Preterm labor
 - Age of viability

- Gravida/para (G/P)
 - Ectopic pregnancy, dilation and curettage
- **Pharmacology and fluid therapy:**
 - Teratogens
 - Uterotonic and tocolytic therapy
 - Neuraxial drugs
- **Fetal/newborn monitoring:**
 - Cardiotocography
 - Scalp blood analysis
 - APGAR score
- **Labor analgesia and anesthetic techniques:**
 - Epidural
 - Spinal
 - Combines spinal/epidural
 - Dural puncture epidural
 - Continuous spinal anesthesia
 - Pudendal and paracervical nerve blocks
 - IV analgesics
 - Nitrous oxide
- **Anesthetic management for caesarean section:**
 - Unplanned
 - Emergency
 - With spinal anesthesia
 - With epidural anesthesia
 - With general anesthesia
- **Management of complications:**
 - Ineffective epidurals
 - Difficult airway algorithm for laboring patients
 - High spinal
 - Hemorrhage
 - Patchy blocks
 - Inadvertent dural puncture and post dural puncture headache
- **Pharmacology:**
 - Anesthetic drugs and placental transfer (effects on fetus and newborn)
 - Drugs interactions and potential teratogens
 - Oxytocic and tocolytic drugs