

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
  - Abruptio 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