

**UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL  
ANESTHESIOLOGY RESIDENCY PROGRAM**

**OBSTETRIC ANESTHESIOLOGY CA-2 REQUIRED ROTATION  
UMASSMEMORIAL – MEMORIAL CAMPUS**

**OVERVIEW**

The rotation is designed to be a 1 month single block at the UMassMemorial-Memorial Campus during the resident's second clinical year. The resident will work shifts during weekdays, with no call on either weekdays or weekends. As the resident will be working with the clinical faculty in a one-on-one format, a high degree of self-motivation is expected and reading assignments completed in a prompt fashion.

**I. PATIENT CARE**

At the conclusion of this rotation, the resident should be able to:

- Identify parturients who need anesthesia care during labor
- Correctly identify the analgesia options for labor
- Place a lumbar epidural catheter for analgesia with minimal assistance
- Correctly connect an epidural catheter to an infusion pump to provide continuous analgesia
- Prepare an obstetric operating room for emergency C-section
- Place a subarachnoid or epidural block for C-section
- Perform emergent rapid sequence induction with assistance for maternal/fetal distress
- Provide anesthesia for removal of retained placenta with staff assistance
- Correctly recognize and respond to an epidural wet tap
- Diagnose post-dural puncture headache (PDPH)
- Discuss management, both conservative and invasive, for PDPH
- Perform epidural blood patch with minimal assistance
- Provide anesthesia for post-partum tubal ligation

**II. MEDICAL KNOWLEDGE**

At the conclusion of this rotation, the resident should be able to:

- PHYSIOLOGIC CHANGES OF PREGNANCY
  - Describe the changes of pregnancy

- Understand the changes induced by the induction of anesthesia in both the pregnant and nonpregnant patient
- Describe the various therapeutic modalities to compensate for the physiologic changes of pregnancy during the induction of anesthesia
- UTEROPLACENTAL BLOOD FLOW
  - Describe the anatomy
  - Describe the altered response to vasoactive agents related to pregnancy
  - Understand the effects of regional anesthesia upon uteroplacental blood flow
  - Understand the effects of general anesthesia upon uteroplacental blood flow
- ANTEPARTUM AND INTRAPARTUM FETAL ASSESSMENT AND THERAPY
  - Be familiar with electronic fetal heart rate monitoring and the concepts of baseline FHR, FHR variability and periodic changes such as early, late and variable decelerations
  - Understand the significance and clinical utility of the NST, CST and BPP
  - Describe fetal scalp pH determination and the normal values
  - Describe intrauterine treatment for abnormal FHR patterns
- LABOR ANALGESIA
  - Describe the “pain pathways” of labor and the anatomy of the spinal and epidural spaces
  - Be able to discuss the commonly used regional techniques
  - Continuous and patient-controlled epidural analgesia
  - Combined spinal-epidural analgesia
  - Patient-controlled IV analgesia
  - Describe the complications associated with paracervical block in labor
- LOCAL ANESTHETICS
  - Describe the molecular structure and mode of action
  - Understand the effects of pregnancy upon the pharmacodynamics and pharmacokinetics of the agents
  - Recognize local anesthetic toxicity and describe its management
  - Recognize allergic reactions and describe their treatment
- ANESTHESIA FOR OPERATIVE DELIVERY
  - Understand the indications for a cesarean section and the classify as elective, urgent or emergent
  - Be familiar with the differences between a low transverse cesarean section and a classical C/S
  - Describe the use of spinal and epidural anesthesia for a forceps or vacuum delivery
  - Understand the anatomy of a pudendal block
  - Describe the management of regional anesthesia for a cesarean section including:
    - The choice of agents
    - The pros and cons of each technique
    - The management of a failed regional technique in a variety of clinical Settings
    - Describe the management of general anesthesia for a cesarean section including:

- The risks and complications of general anesthesia in the parturient
  - The difficult airway
  - Understand the technique of local anesthesia for a cesarean delivery
- THE OBSTETRIC AIRWAY AND ASPIRATION
  - Understand and discuss the etiology of the difficult airway in the obstetric population
  - Know the incidence of this complication
  - Outline steps taken to avoid a failed intubation and/or failed ventilation scenario
  - Be able to discuss the difficult airway algorithm and the advantages and disadvantages of each technique
  - Discuss the incidence, prophylaxis and treatment of aspiration in the parturient
  - Discuss the management of the obese parturient
- POSTDURAL PUNCTURE HEADACHE (PDPH) AND OBSTETRICAL NERVE PALPIES
  - Discuss the etiology, incidence, presentation and management of PDPH
  - Describe the etiology, presentation, course and management of femoral, obturator and peroneal nerve palsies in labor and delivery
  - Describe clinical setting where postpartum backache may have clinical significance
  - Pregnancy Induced Hypertension
  - Classify the various forms of pregnancy-induced hypertension
  - Regarding preeclampsia, discuss the etiology, presentation, classification, and management
  - Describe anticonvulsant therapy for the preeclamptic patient
  - Describe the management of the eclamptic seizure
  - Understand the fetal implications of preeclampsia and how they impact upon anesthetic management
- OBSTETRICAL HEMORRHAGE
  - Define the incidence, etiology, presentation and management of the following:
    - Placenta previa
    - Placental abruption
    - Placenta accreta
    - Vaso previa
    - Uterine Atony
    - Uterine rupture
    - Uterine inversion
  - Describe the complications of transfusion therapy
- MULTIPLE GESTATION
  - Review the physiologic changes of pregnancy associated with multiple gestations
  - Discuss the potential complications of the twin gestation
  - Describe the anesthetic management of the vaginal delivery of the twin gestation
  - Describe the anesthetic management of a cesarean delivery for a twin or greater gestation

- ABNORMAL PRESENTATION
  - Describe the obstetrical concerns with breech presentation
  - Understand the interplay between obstetrical and anesthetic management
  - Discuss the role of nitroglycerine and its indications in the management of the complicated breech delivery
- EMBOLIC DISEASE IN PREGNANCY
  - Describe the incidence, etiology, presentation and management of the following:
    - Pulmonary Embolus
    - Venous Air Embolus
    - Amniotic Fluid Embolus
- CO-EXISTING DISEASE IN PREGNANCY
  - Cardiac
  - Pulmonary
  - Renal
  - Musculo-skeletal
  - Neurologic

### III. COMMUNICATION AND INTERPERSONAL SKILLS

At the conclusion of this rotation, the resident will demonstrate the ability to:

- form a rational analgesic plan for the laboring patient
- Communicate with OB staff of any changes in patient status
- Communicate effectively and understandably with patients and families
- Cooperate with OB team to assure patient satisfaction
- Act in a consultant role as concerns care of the complex OB patient

### IV. PROFESSIONALISM

At the conclusion of this rotation, the resident should be able to:

- Demonstrate adherence to procedures designed for maternal privacy and newborn security
- Demonstrate the ability to achieve control of the parturient's pain through both effective communication and skillful technique
- Demonstrate the ability to work with all levels of obstetric care providers

### V. PRACTICE-BASED LEARNING

At the conclusion of the rotation, the resident should be able to

- Demonstrate an understanding of the anesthesia provider's role in any adverse outcomes which develop, as well as to discuss the learning points gained from such an experience

### VI. SYSTEMS-BASED PRACTICE

At the conclusion of the rotation, the resident should be able to:

- Explain the mechanism of admission to the OB unit
- Explain the role of the various obstetric care providers

**READING ASSIGNMENTS in Chestnut Second Edition**

Week #1

—Chapters 2, 11, 12, 21, 6

Week #2

—Chapters 3, 25, 26, 16, 8

Week #3

—Chapters 4, 32, 33, 30, 31

Week #4

—Chapters 44, 35, 37, 38

Attendance and participation at the OB Anesthesia Core Curriculum Lecture Series

Presentation of, and/or participation in didactic sessions throughout each day during the entire rotation