Obstetric Anesthesia Rotation (CA-1) Goals and Objectives

Rotation director: Eva Szabo, M.D.
Site: University of New Mexico Health Sciences Center, Labor and Delivery Unit
Length: 1 month
Date: April 5, 2011

Introduction

During the two mandatory Obstetric Anesthesia subspecialty rotations on our Labor and Delivery unit, the residents will learn to manage a wide range of challenging procedures and obstetric surgical cases. The basic CA-1 rotation in Obstetric Anesthesia is a one-month rotation. Residents will gain further obstetric anesthesia experience during their second rotation and whenever they take call in obstetric anesthesia. Also, on the days when the resident assigned to obstetric anesthesia is before or after call, other residents will fill in.

Goals

The overall goal for each resident is to become a consultant in anesthesiology with respect to the obstetric patient. Except for unusual circumstances, a resident and a faculty member are assigned to cover obstetric anesthesia thus most of the work is done under one on one supervision or immediate availability of the faculty providing an excellent clinical experience. The resident will learn to develop a comprehensive plan for anesthetic management, discuss it with the patient and communicate with the perinatal team. The resident will develop all necessary skills and will be able to perform anesthetics and procedures related to obstetric anesthesia. Each patient receiving labor analgesia or an anesthetic for a surgical procedure receives follow-up the next day, which helps determine whether the management was optimal. The caseload is more than adequate with nearly 3,700 deliveries per year, a 30% epidural rate, 23% cesarean section rate, and a very large percentage of high-risk patients.

Structured teaching takes place during the Friday morning sessions where in the current 2-year cycle there are 4 lectures on obstetric anesthesia subjects:

1. Physiologic changes during pregnancy and labor (cardiovascular changes during pregnancy and labor, respiratory, renal changes, etc.) and placental physiology (anatomy, physiology and drug transfer including fetal transfer of local anesthetics, placental blood flow)
2. Intrapartum fetal assessment and therapy (including new classification of fetal heart rate pattern, supine hypotension, and the effect of anesthetic agents on the uterine tone). A Maternal-Fetal Medicine specialist is usually invited to give this portion of the lecture. Neonatal assessment and resuscitation. (Apgar score)
3. Labor analgesia (labor pain transmission, techniques, PDPH versus postpartum headache characteristics, post partum nerve injury, local anesthetics) and general anesthesia for the
pregnant patient (supine hypotension, crash cesarean section, peripartum hemorrhage, anesthesia for non-obstetric surgery, MAC during pregnancy)


The entire curriculum has been divided up into discussion/study topics and these were assigned to faculty members so they can be engaged by the resident in an up to date discussion of the topic. These discussions are frequently case-based or can be more formal lectures given by the faculty. Each topic has a description of its suggested contents below, and together they cover the entire SOAP curriculum.

**Resident assessment/evaluation:**

Multiple assessment methods are used to provide a fair and reliable evaluation for each resident. In combination, these methods evaluate all competencies.

Each resident is evaluated by multiple faculty members during the rotation. Individual daily evaluation forms are filled out by the faculty. These are based on observation of patient encounters and procedures.

The resident maintains the checklist of discussion topics. Whenever a topic is completed, the faculty responsible signs on the corresponding line. Fifteen topics have to be covered during the month. The form is turned in to the rotation director who keeps a copy; the original is kept in the resident file.

A spinal anesthesia checklist for self-evaluation is available but not mandatory.

An end-of-rotation formative evaluation is completed by the rotation director on New Innovations. Whenever the rotation director has not had enough time with the resident, she will ask for input from other faculty (e-mail or verbal communication).

The evaluation of resident performance is accessible for review by the resident.

**Medical knowledge**

1. Residents will demonstrate familiarity with the use of the electronic database available through UNMHSC Library including, but not limited to Pub Med (with links to full text articles), MD Consult (where clinics and the full text of obstetric and anesthesia textbooks are available), The Cochrane Library etc, in preparation for topic discussions and complex cases.

2. An understanding of the crisis management topics is required by the end of the first week of the OB rotation whereas an understanding of all basic topics is required by the end of the first month.
3. For each starred “*” category the resident should be able to demonstrate the following:
   a. General understanding of how the disease impacts on pregnancy.
   b. General understanding of how pregnancy impacts on the disease.
   c. General understanding of the obstetric implications and management of the disease.
   d. Ability to communicate the anesthetic implications of the disease to non-
      anesthesiologist colleagues attending the patient.
   e. Assess the severity of disease and evaluate the need for patient transfer to a high risk
      facility.
   f. Describe the anesthetic management of the patient for vaginal or cesarean delivery.

   Crisis management topics

A. High Spinal
   Describe the symptoms and treatment of total or near total spinal.

B. General Anesthesia for Cesarean Section
   1. Obstetric indications for abdominal delivery and classification according to urgency.
   2. Inherent maternal anesthetic risk of urgent or emergent delivery.
   3. Indications for general endotracheal (GETA) anesthesia.
   4. Ventilatory requirements of parturients.
   5. Medication choices for induction and maintenance and the appropriate doses for
      cesarean delivery.
   6. Impact on the fetus of the induction to delivery and uterine incision to delivery
      intervals

C. Hemorrhage
   1. Understand management of maternal ante- or postpartum hemorrhage (uterine rupture,
      abruption or atony, placenta previa or accreta, retained placenta).
   2. Surgical and anesthetic management of bleeding during delivery, including drug
      therapy, surgical maneuvers, transfusion therapy.

D. Failed Intubation & Difficult airway
   Discuss airway assessment and airway changes during pregnancy and labor
   Outline a failed intubation plan following the ASA algorithm.

E. Maternal Embolic Events
   Understand the pathophysiology, presentation and treatment of amniotic fluid, air or
   thromboembolism.

F. CPR in OB
   Approach to CPR in a parturient, awareness of need for delivery of baby.

G. Seizures in Obstetrics, Differential Diagnosis and Management
Treatment of systemic local anesthetic toxicity, including maternal seizure or cardiotoxicity.
Understanding of hypertensive disorders of pregnancy and treatment of eclamptic seizures

H. Local Anesthetic Toxicity
Describe the symptoms and treatment of systemic local anesthetic toxicity, including maternal seizure or cardiotoxicity.

Basic Topics

1. Maternal Physiology
   1. Maternal physiology: time course and changes during gestation.
      a. Cardiovascular adaptations to pregnancy.
      b. Pulmonary, respiratory, and airway changes.
      c. Gastrointestinal, hematologic, and renal changes.
   2. MAC and local anesthetic adjustments during pregnancy.
   3. Approach to CPR in a parturient, awareness of need for delivery of baby.

2. Progress of Labor
   1. Physiology of labor and the smooth muscle of the uterus.
   2. Define the stages of labor and typical duration
   3. Effect of uterine contractions on placental exchange and fetal oxygenation
   4. Indications for analgesia during labor
   5. Effect of analgesia on labor and delivery.

4. Placental Physiology
   1. Placental development, structure and inability to autoregulate placental flow.
   2. Placental gas exchange, nutrient transport, drug transfer.

5. Local Anesthetics
   1. General principles of local anesthetic pharmacology.
   2. Treatment of systemic local anesthetic toxicity, including maternal seizure or cardiotoxicity.
   3. Response to total or near total spinal.
   4. Effect of local anesthetics on the uterus and fetus.
   5. Effect of vasoconstrictors and other local anesthetics additives on the uterus and fetus.
   6. Placental transfer and fetal uptake (potential for fetal ion trapping).
   7. Fetal and newborn local anesthetic toxicity.
   8. Potential for maternal local anesthetic neurotoxicity.

6. Regional Analgesia for Labor & Delivery
   Indications for analgesia during labor.
   Pain pathways involved in labor and delivery.
   Contraindications to regional anesthesia.
Management of the alterations in the cardiovascular and respiratory systems caused by neuraxial analgesia or anesthesia. Approach to inadequate regional anesthesia during labor or operative delivery.

7. Neuraxial Opioids for Obstetrics
   1. General principles of neuraxial opioid pharmacology.
   2. Treatment of opioid side effects and toxicity, including maternal respiratory arrest.
   3. Effect of opioids on the uterus and fetus.
   4. Interaction between neuraxial opioids and local anesthetics.

8. Regional Anesthesia for Cesarean Section
   1. Obstetric indications for abdominal delivery and classification according to urgency.
   2. Inherent maternal anesthetic risk of urgent or emergent delivery.
   3. Management of the alterations in the cardiovascular and respiratory systems caused by neuraxial analgesia or anesthesia.
   4. Approach to inadequate regional anesthesia during labor or operative delivery.
   5. Convert labor analgesia to anesthesia for operative delivery.
   6. Describe the advantages and disadvantages of spinal, epidural and general anesthesia for cesarean section.

9. Preeclampsia / Eclampsia *
   1. Classification of hypertensive disorders during pregnancy.
   2. Epidemiology of preeclampsia - risk factors
   3. Pathophysiology of preeclampsia as a multisystem disease.
   4. Medical/obstetric management of preeclampsia.
      a. term vs. preterm fetus.
      b. mild vs. severe disease.
      c. assessment of fetal well being.
      d. seizure prophylaxis; magnesium sulfate effects.
      e. antihypertensive therapy
      f. management of oliguria
      g. indications for invasive monitoring.
   5. Anesthetic selection for and management of the preeclamptic parturient
      a. labor and vaginal delivery
      b. abdominal delivery – non urgent
      c. abdominal delivery - urgent

10. Diabetes *

11. Post-partum tubal ligation
    Discuss pertinent physiologic changes after delivery and choice of anesthetic.

12. Fetal Physiology & Assessment
    1. Antenatal fetal evaluation (growth, fluid, positions, biophysical profile).
    2. Fetal circulation.
    3. Fetal and neonatal effects of maternally administered anesthetic drugs.
    4. Fetal adaptations to hypoxia.
5. Fetal heart rate patterns during labor and their response to hypoxia or asphyxia.

13. Morbid Obesity*

14. Anesthesia for non-obstetric surgery during pregnancy *
   2. Understand when and which medicines may be teratogens.
   3. Considerations for trauma or emergency surgery during pregnancy.
   4. Understand when fetal monitoring is needed during maternal surgery.
   5. Physiology of pregnancy as it might impact cardiovascular, respiratory and transfusion decisions during surgery.

Patient care

Goal: Residents must be able to provide patient care that is compassionate, appropriate and effective.

Objectives: Residents will be expected to be able to:
   1. Perform an appropriate preanesthetic evaluation including history, physical examination. Obtain relevant laboratory results from the chart, electronic medical record and other members of the care team. Assess and interpret fetal heart rate tracing
   2. Interpret and use medical specialty consultations in the care of complex patients.
   3. Manage coexistent medical disease (e.g., treat the patient with eclamptic seizure)
   4. List medical problems in order of priority
   5. Formulate an anesthetic plan based on the individual patient’s medical history and expected peripartum course, while demonstrating judicious use of current best evidence, and applying the principles of evidence-based medicine.
   6. Discuss recommendations with the patient, her family and the obstetric team
   7. Demonstrate appropriate positioning, monitoring and documentation pertinent to the pregnant patient.
   9. Recognize and treat anesthesia related complications e.g.:
      a. Hypotension
      b. Maternal bradycardia
      c. Fetal bradycardia (in utero resuscitation)
      d. High spinal
      e. Inadequate anesthesia
      f. Post dural puncture headache
   10. Order and manage post-cesarean section analgesia
   11. Perform a thorough but efficient post-operative visit
# Spinal Anesthesia Competency Evaluation or Self Evaluation Checklist:

<table>
<thead>
<tr>
<th>Competency</th>
<th>Completed without attending involvement</th>
<th>Comments</th>
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<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
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<tr>
<td><strong>1 Informed consent</strong></td>
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<tr>
<td>Able to discuss planned anesthetic procedure with the patient, list the risks and benefits, and obtain informed consent. Risks include block failure, possible need for general anesthesia, hypotension, backache, post dural puncture headache, total spinal anesthesia, neurologic injury.</td>
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<td><strong>2 Preparation</strong></td>
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<td>Clean hands before patient contact</td>
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<td>Collect and organize equipment and drugs</td>
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<td>Position the patient appropriately</td>
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<td>Apply monitors appropriately</td>
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<td><strong>3. Patient support</strong></td>
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<td>Effectively communicate with the patient to explain procedure, allay anxiety, etc.</td>
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<td>Request support personnel to help position the patient</td>
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<td>Order/administer appropriate sedatives and analgesics, if indicated</td>
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<td><strong>4. Procedure</strong></td>
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<td>Prep the back and apply the drape.</td>
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<tr>
<td>Draw up drugs for intrathecal injection and local anesthetic for skin infiltration.</td>
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<td>Check to make sure correct drugs were drawn up.</td>
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<tr>
<td>Identify the L4-5, L3-4 or L2-3 interspace.</td>
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<tr>
<td>Inject local anesthetic wheal and use needle to confirm correct position in an interspace.</td>
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<tr>
<td>Insert the introducer into the interspace.</td>
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<tr>
<td>Insert the spinal needle carefully</td>
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<tr>
<td>Redirect introducer and spinal needles if bone is encountered or intrathecal</td>
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space cannot be identified. Ask patient if she felt the needle (left, right, middle) and redirect appropriately

Confirm free flow of CSF.

Stabilize needle, attach syringe to needle and confirms presence of CSF “swirl”.

Inject intrathecal drug(s).

Withdraw introducer, needle and syringe as a unit.

Maintain sterility during procedure

Dispose of sharp equipment properly.

Reposition patient as needed.

5. **Post-procedure**

Monitor vital signs at a minimum of 2 - 3 min interval until stable.

Treat hypotension with appropriate vasopressors.

Administer supplemental oxygen if appropriate.

Determine level of sensory blockade at a minimum of 2-3 minute interval until stable

Adjust level of block, as appropriate, with changes in patient positioning.

6. **Charting**

Chart procedure technique

Chart vital signs.

Chart drugs.

Chart complications.

7. **Overall procedure completed**

Efficiently and organized.

Safely.

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*Adapted from SEA*

**Practice based learning and improvement**

Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices.

Residents are expected to:

1. Analyze their own practice for needed improvement.
   a. Read, understand and apply ASA guidelines relevant to the practice of obstetric anesthesia
b. Review the anesthetic record prior to the postoperative visit, inquire about the adequacy of analgesia/anesthesia during the postoperative visit and reflect upon opportunities for improvement.

c. Actively participate in debriefing sessions after critical incidents and initiate these if necessary.

d. Initiate thoughtful discussions with attendings and other residents following failed blocks, emergency procedures or new experiences in general, soliciting recommendations for improvement then deliberately modifying the approach when faced with similar circumstances.

e. Learn from mistakes, accept criticism and instruction.

2. Use information technology to obtain evidence from scientific studies. Apply research and statistical methods.

   a. Demonstrate the ability to quickly obtain relevant evidence based information online using a variety of sources including: PubMed, MD Consult, Up To Date, Cochrane, National Guideline Clearinghouse, National Institute for Clinical Evidence.

   b. Understand recruitment criteria for ongoing studies and enroll qualifying new patients.

   c. Actively participate in Journal Clubs and evaluate the articles as practice changing or non-practice changing. Apply new information deemed practice changing in everyday practice, after consultation with the attending.

3. Facilitate the learning of others

   a. Competently educate patients on risks and frequent side effects associated with labor analgesia and anesthesia for cesarean section.

   b. Teach patients about the use of PCEA button.

   c. Educate nurses in anesthesia related issues (e.g. difference between epidural, combined spinal, epidural and intrathecal catheters; important signs of intravascular injection of local anesthetic; aspiration prophylaxis and NPO guidelines; morbid obesity and anesthesia etc.)

   d. Actively participate in Journal Clubs and M&M conferences.

**Systems based practice**

Residents must demonstrate an awareness of, and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.

Residents are expected to:

1. Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice
a. Demonstrate familiarity with the Code “OB” flowchart and how the members of the care team (anesthesiologist, obstetricians, nurses, secretary etc) are mobilized during an obstetric emergency

b. Effectively communicate relevant information to the oncoming resident during hand-offs (including any unstable patients, patients with significant comorbidities, functioning epidurals etc).

c. Communicate effectively with obstetricians, and nurses any specific concerns that may arise during patient care (as during transfer of the patient to recovery room); understand and respond to concerns raised by obstetricians during the handover board meetings at 0700 and 1700.

2. Advocate for quality patient care and assist patients in dealing with system complexities. Opportunities include:
   a. Ensuring that patients were given the opportunity to read the “Pain during childbirth” teaching material and understand it. Educate the nurses on the importance of this in the process of educating patients about their options and obtaining informed consent.
   c. Expediting the start of elective procedures by being ready on time and communicating effectively with surgeons and nurses, thus minimizing the number of cancellations and reducing the amount of time patients have to wait for their elective cesarean section.

3. Know how types of medical practice and delivery systems differ from one another, including methods of controlling health care costs and allocating resources. Have an understanding of what data are used for billing and what typical costs are for various anesthesia services.

4. Practice cost-effective health care and resource allocation that does not compromise quality of care
   a. Minimize waste of medications, supplies and resources. Examples include:
      i. Avoid unnecessary crossmatch when a type and screen is enough. Appreciate the advantages of computerized crossmatch
      ii. Understand the impact of long versus short acting local anesthetics on recovery after spinal, discharge from recovery room, manpower and throughput of the L&D unit etc.
   b. Show basic familiarity with the costs of various drugs and supplies

5. Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance
   a. Understand hospital policies, JCAHO and HIPAA requirements applicable to the practice of obstetric anesthesia and demonstrate compliance with these requirements

Assessment of this competency will focus on the following (TACTICS):

1. Teamwork:
   a. Helps prioritize tasks and set team goals
b. Requests and gives help when needed
c. Productively interacts with obstetricians, RNs and support staff

2. Advocacy:
   a. Advocates for optimal patient care
   b. Involves family in patient care plans (informed consent, who goes back to the OR during cesarean section)

3. Coordination:
   a. Transfers care responsibly
   b. Manages patient flow through the unit
   c. Interfaces with consults and other services
   d. Participates in meetings to coordinate care
   e. Effectively communicates decisions and plans

4. Technology:
   a. Complies with policies
   b. Performs proper room/machine/equipment check and set-up. Disposes of expired medications and labels syringes appropriately.
   c. Uses existing patient care devices safely
   d. Seeks to understand and master new care devices

5. Improvement:
   a. Follows up on complications
   b. Actively seeks feedback
   c. Offers constructive feedback

6. Cost:
   a. Identifies material and medication misuse and wastes

7. Safety:
   a. Charts accurately
   b. Complies with controlled substance policies. (Does not leave opioids around, resolves Pyxis discrepancies before leaving the hospital.)
**Professionalism**

Goal: Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. The teaching of this competency will rely in large measure on role modeling by faculty besides lectures on ethics, cultural diversity.

Objectives: Residents are expected to:

1. Demonstrate respect, empathy, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and ongoing professional development
2. Demonstrate a commitment to ethical principles pertaining to provision of clinical care, confidentiality of patient information, informed consent, and business practices
3. Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities. In obstetric anesthesia we encounter a large percentage of patients who don’t speak English. This provides an opportunity for demonstrating and assessing cultural sensitivity.

Examples of desirable behaviors include:

1. Character and ethics:
   a. Empathy/compassion/altruism
      i. Demonstrate appropriate affect to patient and family
      ii. Explain anesthetic risk at a level appropriate to patient and family
      iii. Establish balance of personal and professional life
   b. Honesty and integrity
      i. Admit mistakes
      ii. When necessary say “I don’t know or I am not sure” and do not bluff
      iii. Comment only on topics within your area of expertise
      iv. Consult experts on topics beyond your area of expertise
   c. Respect
      i. Introduce self and team members to patient and family
      ii. Address the patient appropriately
      iii. Use terminology that the patient can understand
      iv. Exhibit a clean, neat, appropriate appearance

2. Citizenship
   d. Departmental milieu
      i. Clean up after yourself and if the previous resident left you with a messy office clean it up and let him/her know.
ii. Follow departmental protocols
iii. Ask questions and challenge ideas without offending

e. Institutional integration
   i. Maintain security of controlled substances
   ii. Label syringes properly and discard expired drugs
   iii. Report potentially hazardous or negligent procedures that you observe

f. Community obligations
   i. Advocate for patient’s rights and health care
   ii. Facilitate access to care (prompt response to consult requests)

g. Work ethic
   i. Do not disappear when there is work to be done
   ii. Avoid excessively long breaks
   iii. Do not manipulate schedule for your own benefit
   iv. Follow protocol for time off requests (don’t no-show or abuse calling in “sick”)

h. Team player
   i. Share all aspects of work fairly with peers
   ii. Volunteer when someone else is not able to perform their duties
   iii. Look for work to do and do it
   iv. Treat all personnel with respect
   v. Follow the leadership
   vi. Lead when indicated

3. Self regulation

   i. Self awareness
      i. Appreciate your own strength
      ii. Understand your own limitations

   j. Self improvement
      i. Actively seek feedback
      ii. Change behavior/practice based on feedback
      iii. Take responsibility for own education
      iv. Attend lectures and other structured learning opportunities
      v. Seek opportunities to share knowledge/educate others
      vi. Strive for excellence, maturity and independence
      vii. Strive for maturing from team member to team leader

   k. Accountability/Dependability
      i. Take responsibility for own actions
      ii. Do not try to shift blame
      iii. Collaborate with faculty supervisor to develop anesthetic plan
      iv. Implement anesthetic plan as discussed
      v. Consult faculty about significant changes in plan or patient condition
      vi. Confront unethical/unprofessional behavior by others with faculty support
1. **Reliability/Responsibility**
   
i. Be punctual
   
ii. Be prepared
   
iii. Complete post-op follow-up
   
iv. Complete case logs
   
v. Answer pages promptly
   
vi. Establish continuity of care
   
vii. Avoid substance abuse

**Interpersonal and communication skills**

Goal: Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families and professional associates.

Objectives:

a. Create and sustain a therapeutic and ethically sound relationship with patients. Interact effectively with patients and their families in the peripartum period while demonstrating respect and care for individuals. Answer patients’ and families’ questions with information that is clearly understood in language and terminology at their level of comprehension.

b. Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.

c. Demonstrate the ability to discuss patient care issues with nurses and obstetricians in a collegial, non-confrontational manner.

d. Communicate accurately and completely when transferring care of patients and when handing over the service to the incoming anesthesia team.

e. Maintain comprehensive, timely, and legible medical records.

**Required reading**

1. Prior to starting the rotation, residents are expected to have read the Resident Manual and the chapter on obstetric anesthesia of the basic textbook of their choice, usually Clinical Anesthesiology, 4th edition by Morgan GE and Mikhail MS.


4. Practice Guidelines for Obstetric Anesthesia - 2007 [https://www.asahq.org/For-Members/Practice-Management/~/media/For Members/Practice Management/PracticeParameters/ObstetricAnesthesia.ashx](https://www.asahq.org/For-Members/Practice-Management/~/media/For Members/Practice Management/PracticeParameters/ObstetricAnesthesia.ashx)

5. Articles:
d. Palmer CM. Obstetric Emergencies and Anesthetic Management. 2007 ASA Annual Meeting Refresher Course Lecture

Suggested reading
1. Halpern SH, Douglas JM. Evidence-based Obstetric Anesthesia 2005 – consider reading at least the conclusions at the end of each chapter
7. Safa-Tisseront V. Effectiveness of epidural blood patch in the management of post-dural puncture headache. Anesthesiology 2001;95:334-9
9. Obstetric anesthesia guidelines:
   Guidelines for Neuraxial Anesthesia in Obstetrics — 2010
   Optimal Goals for Anesthesia Care in Obstetrics - 2010
10. Stern DT, Papadakis M. The developing physician – becoming a professional. NEJM 2006;355:1794
Primary Obstetric Anesthesia Rotation Educational Documentation

Resident Name ____________________________
Month/Year _______________________

Topics

1. Crisis management topics
   High spinal
   Emergency Cesarean section
   Hemorrhage
   Failed intubation & difficult airway
   Maternal embolic events
   CPR in OB
   Seizures in obstetrics, differential diagnosis and management
   Local anesthetic toxicity

2. Maternal physiology

3. Local anesthetics

4. Non-regional labor analgesia

5. Regional analgesia for labor and delivery

6. Neuraxial opioids for obstetrics

7. Anesthesia for Cesarean section
8. Preeclampsia / eclampsia

9. Peripartum hemorrhage

10. Diabetes

11. PPTL (Post-partum tubal ligation)

12. Fetal physiology & assessment

13. Fetal and neonatal recuscitation

14. Morbid obesity*

15. Anesthesia for surgery during pregnancy