

CA-3 Curriculum for Obstetric Anesthesia Department of Anesthesiology

Description of Rotation or Educational Experience

The goal of the elective CA-3 rotation in obstetric anesthesia is to build upon the knowledge and skills acquired during the CA1/CA2 obstetric anesthesia experience. The resident should become more adept and be able to demonstrate additional knowledge, expertise, and skills commensurate with the duration of additional training. After completing the CA-3 rotation the resident should be able to function as a consultant anesthesiologist with recognized additional expertise in the field of obstetric anesthesiology.

Patient Care

Goals

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents are expected to:

- Deliver urgent regional anesthesia rapidly in a safe and skillful manner
- Identify the obstetric patient requiring invasive monitoring
- Interpret data regarding fetal lung maturity
- Distinguish fetal heart rate patterns during labor
- Assess the severity of maternal and fetal pathology and the need for transfer to a high risk facility
- Evaluate the neonate and recognize the indications for resuscitation
- Perform successful regional anesthetic techniques in morbidly obese parturients
- Manage trauma or emergency surgery during pregnancy
- Recognize signs of pulmonary aspiration of gastric contents and implement a management plan

Competencies

- Ability to perform neonatal resuscitation when indicated
- Recognize nonreassuring fetal heart rate tracings and anticipate the need for urgent or emergent cesarean delivery and proactively prepare for administering anesthesia to identified patients
- Consultant level technical skills in epidural and spinal regional anesthetic techniques and general anesthetics in parturients

Objectives

By the end of the rotation the resident will accomplish the following

- Pass the exam for the Neonatal Resuscitation Course
- Pass the ACOG/NACOG competency on interpretation of fetal heart rate tracings
- Evaluate a minimum 15 patients for labor analgesia and develop an anesthetic plans which are validated by the attending physician
- Evaluate a minimum 12 patients for obstetric surgical procedures and develop anesthetic plans which are validated by the attending physician

- Successfully Perform a minimum of 15 epidural anesthetics for labor analgesia
- Successfully Perform at least 5 of the 15 labor epidurals as Combined Spinal Epidurals
- Successfully Perform at least 5 of the 15 labor epidurals as Patient Controlled Epidural Analgesia
- Successfully Perform a minimum of 12 spinal anesthetics for Cesarean Delivery
- Successfully Perform at least 4 of the 12 spinal anesthetics as Combined Spinal Epidurals
- Successfully Perform at least 5 epidural anesthetics for Cesarean Delivery
- During the last week of the rotation Pass an Oral Examination based upon the American Board of Anesthesiology format and scored using ABA criteria Demonstrating appropriate Patient Management
- Successful demonstration of adequate patient care as assessed by faculty on Written Formative Evaluations

Medical Knowledge

Goals

Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care. Residents are expected to:

- Demonstrate expertise in the differential diagnosis of headache in obstetric patients particularly following regional anesthesia
- Demonstrate expertise in the diagnosis and the postoperative management of patients with suspected aspiration of gastric contents
- Demonstrate expertise and consultant level knowledge in the perioperative management of obstetric hemorrhage
- Demonstrate expertise and consultant level knowledge of the varied techniques employed to provide labor analgesia
- Demonstrate expertise and consultant level knowledge related to any current controversies in obstetric anesthesia
- Demonstrate expertise and consultant level knowledge of the physiologic, anesthetic and teratogenic effects related to anesthetics and perioperative medications
- Demonstrate expertise and consultant level knowledge of the physiologic changes in pregnancy
- Demonstrate expertise and consultant level knowledge related to the indications for fetal monitoring during maternal nonobstetric surgery
- Be aware of the elements in diagnosis and treatment of local anesthetic toxicity
- Demonstrate expertise and consultant level knowledge related to the diagnosis and treatment of maternal embolic and thrombotic disease
- Awareness of progression of fetal development and the current medical limits of fetal viability

Competencies

- Be able to list and describe the major anatomic and physiologic changes associated with the Cardiovascular system during pregnancy and correlate with

- the conduct of anesthesia during pregnancy
- Be able to list and describe the major anatomic and physiologic changes associated with the Respiratory system during pregnancy and correlate with the conduct of anesthesia during pregnancy.
 - Be able to list and describe the major anatomic and physiologic changes associated with the Endocrine function during pregnancy and correlate with the conduct of anesthesia during pregnancy
 - Be able to list and describe the major anatomic and physiologic changes associated with the Gastrointestinal system during pregnancy and correlate with the conduct of anesthesia during pregnancy
 - Be able to list and describe the major anatomic and physiologic changes associated with the Hematologic system during pregnancy and correlate with the conduct of anesthesia during pregnancy
 - Be able to list and describe the major anatomic and physiologic changes associated with Metabolism during pregnancy and correlate with the conduct of anesthesia during pregnancy
 - Be able to list and describe the major anatomic and physiologic changes associated with the Renal function during pregnancy and correlate with the conduct of anesthesia during pregnancy
 - Be able to list and describe the major anatomic and physiologic changes associated with the Neurologic function during pregnancy and correlate with the conduct of anesthesia during pregnancy
 - Be able to list and describe pregnancy specific disease states and the impact of these diseases on the conduct of anesthesia during pregnancy
 - Be able to list and describe obstetric complications and the impact of these diseases on fluid management and the conduct of anesthesia during pregnancy
 - Be able to list and describe the steps in the diagnosis and management of gastric contents
 - List known pharmacological agents effecting uterine tonicity and describe their indications, contraindications, and side effects
 - Detail the effects of common anesthetic drugs that differ between pregnant and non-pregnant patients

Objectives

- Demonstrate additional knowledge of obstetric anesthesia by preparing a 50 minute presentation on a topic in obstetric anesthesia of the residents choice. The presentation should occur at a suitable venue including Anesthesiology or OB/GYN Grand Rounds, hospital outreach. The topic should be approved and mentored by a member of the anesthesiology faculty
- During the last week of the rotation Pass an Oral Examination based upon the American Board of Anesthesiology format and scored using ABA criteria Demonstrating appropriate knowledge in the area of Obstetric Anesthesia.
- Pass a Written Examination during the last week of the rotation
- Successful knowledge acquisition as assessed by faculty on Written Formative Evaluations

- Complete Portfolio Assignment – Resident Experience Narrative: Faculty assessment of knowledge exhibited in resident case work up of 1 patient with a pregnancy related co-morbidity as outlined under Practice- Based Learning and Improvement Objectives
- Residents electing a CA3 obstetric anesthesia experience SHOULD elect to perform a senior project related to obstetric anesthesia demonstrating an additional level of expertise. Case Reports, Review Articles, Patient Chart Reviews, Abstracts or Prospective Research are all acceptable formats for this project.

Practice- Based Learning and Improvement

Goals

Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life long learning. Residents are expected to develop skills and habits to be able to:

- Identify and access appropriate reference resources to solve complex obstetric anesthesia management problems in a timely manner
- Independently seek answers to previously unencountered clinical questions and incorporate this knowledge acquisition into appropriate management and care plans
- Develop a routine of review of the post-anesthetic hospital course of patients receiving anesthesia or analgesia, identify complications or suboptimal outcomes, and devise alternative management plans that could have improved those outcomes
- Access “on-line” reference sources pertinent to the anesthetic management of obstetric patients

Competencies

- Identify personal strengths, deficiencies and limits in knowledge and expertise related to the field of obstetric anesthesia.
- Set learning and improvement goals based on patient and colleague feedback
- Actively participate and seek educational opportunities
- Systematically analyze anesthesia practice, peri-operatively and through post-anesthetic assessment of patients and restructure anesthetic practice based on improved patient outcomes
- Incorporate formative evaluation feedback into daily practice
- Incorporate pertinent findings and conclusions of scientific studies to improve obstetric anesthesia outcomes
- Use information technology to optimize learning
- Disseminate knowledge acquired for the further education of patients, families, students, residents and other health professionals

Objectives

- Portfolio: Case Management: Residents will identify 1 patient with a pregnancy

related co-morbidity, perform a literature search, identify at least 2 references pertinent to the patient and produce a 1 page synopsis of the evaluation, alternatives, their proposed management of the patient, and anticipated possible complications. The resident will review the case with the attending physician and submit copies for inclusion in their portfolio.

- Portfolio: Review of Patient Record - Post-Anesthetic Rounds: Residents will identify 2 patients on post-anesthetic rounds that they feel had suboptimal outcomes. Residents will summarize the anesthetic management of each patient in writing and submit a brief synopsis of alternative management techniques that might have produced more optimal outcome. Residents will review the plans with the attending physician and submit copies for their portfolio.
- During the last week of the rotation Pass an Oral Examination based upon the American Board of Anesthesiology format and scored using ABA criteria Demonstrating appropriate strategies for acquisition of additional skills and knowledge for care and management of the anesthetic of an obstetric patient.
- Successful demonstration of adequate practice- based learning and improvement as assessed by faculty on Written Formative Evaluations

Systems Based Practice

Goals

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Residents are expected to:

- Prioritize the delivery of anesthesia and analgesia in complex obstetric patients based on the acuity of the parturient and fetus in consultation with obstetric providers
- Function as a member of a care team with nurses, obstetricians, pediatricians and neonatologists
- Provided expertise and leadership in the field of practice of Obstetric Anesthesiology
- Effectively communicate the anesthetic implications of obstetric and notobstetric disease to other team members
- Assist team leadership in the mobilization of resources in an obstetric emergency

Competencies

The list below reflects competencies that fall under Systems Based Practice.

- Work effectively with nurses, obstetricians, pediatricians and neonatologists to deliver timely and effective anesthetic care
- Coordinate patient care within the health care system relevant to obstetric anesthesia
- Incorporate considerations of risk-benefit analysis in patient care
- Advocate for quality patient care and educate nurses, obstetricians, pediatricians of the anesthetic implications to maternal – fetal well being
- Participate as part of inter-professional team to enhance patient safety and

- improve patient care quality
- Participate in identifying systems errors and in implementing potential systems solutions

Objectives

- Overall satisfactory performance on a 360 evaluation demonstrating satisfactory performance as part of an obstetric patient care team.
- Successful acquisition of patient information from hospital based systems as documented in the resident's Portfolio of patient case presentation.
- During the last week of the rotation Pass an Oral Examination based upon the American Board of Anesthesiology format and scored using ABA criteria Demonstrating appropriate utilization of hospital based resources in preparation and management of an obstetric anesthetic.
- Successful demonstration of adequate systems based practice as assessed by faculty on Written Formative Evaluations

Professionalism**Goals**

Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Residents are expected to:

- Provide the highest possible quality obstetric anesthesia care
- Provide a role model to students and related practitioners as to commitment and professional conduct in the care of obstetric patients
- Be aware of the potential conflict between maternal and fetal well-being
- Understand fetal development and the current limits of fetal viability
- Recognizes need for timely consultation on difficult moral or legal issues

Competencies

- Demonstrates Courtesy and Respect for patients, nurses, physicians, and ancillary staff
- Demonstrates Compassion and Integrity for others
- Responds to patient requests for labor analgesia in a timely manner that supersedes self-interest
- Completes patient care tasks and provides appropriate follow-up and feedback to patient and staff
- Acts in the best interest of the patient
- Advocates quality and timely patient care
- Respects patient privacy and autonomy
- Accountable to patients, society, and the profession
- Sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in age, culture, race, religion, disabilities, and sexual orientation

Objectives

- Demonstration of professionalism on 360 degree evaluation
- During the last week of the rotation Pass an Oral Examination based upon the American Board of Anesthesiology format and scored using ABA criteria

Demonstrating appropriate interpersonal interaction strategies for dealing with anesthesia and obstetric faculty and residents, MICC nursing staff, surgical technologists, secretarial staff or other support staff.

- Successful demonstration of adequate professionalism as assessed by faculty on Written Formative Evaluations

Interpersonal and Communication Skills

Goals

Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and teaming with patients, their families, and professional associates. Residents are expected to:

- Effectively obtain pertinent medical history from the parturient Effectively describe available anesthetic options at appropriate age and education specific levels
- Obtain informed consent for anesthesia and labor analgesia and explain related risks including the potential anesthetic impact the parturient and the baby
- Provide sensitive reassurance while performing regional anesthesia
- Present the relative risks of elective, non-obstetric surgery with both patients and colleagues
- Discuss the relative risks to both the mother and fetus at appropriate level: patient and family vs. professional

Competencies

- Communicate effectively with patients and families across a broad range of socioeconomic and cultural backgrounds
- Communicate effectively with physicians, nurses, and ancillary staff
- Work effectively as a member of the health care team
- Act in a consultative role to other physicians and health professionals
- Maintain comprehensive, timely, and legible medical records

Objectives

- Demonstrate effective communication skills by preparing and presenting a 50 minute presentation as outlined in the section on ‘Knowledge’
- Positive assessment of interpersonal and communication skills on 360 degree evaluation
- During the last week of the rotation Pass an Oral Examination based upon the American Board of Anesthesiology format and scored using ABA criteria Demonstrating appropriate communication skills.
- Successful demonstration of adequate interpersonal and communication skills as assessed by faculty on Written Formative Evaluations
- Demonstrate effective written communication skills on Portfolio entries
- Demonstrate effective written communication skills in production of senior project if applicable

Teaching Methods

Teaching methods used during this rotation include the following:

- Didactic Lectures (Goal of 70% Compliance)
- Socratic Method

- Review and discussion of Preoperative evaluations and anesthetic plans
- Intraoperative discussion of pertinent physiologic changes and case management
- Review and discussion of post-anesthetic evaluation
- Case Scenario discussions
- Portfolio assignments
- Suggested Readings
- Emphasis on continuing education and self study

Assessment Method (residents)

- Oral Examination
- Written Examination
- Clinical Performance Ratings (Global)
- 360 Degree Evaluation
- Review of Patient Record: Post-anesthetic Rounds
- Resident Experience Narrative: Complicated Obstetric Patient
- Focused Observation and Evaluation

	Patient Care	Medical Knowledge	Practice Based Learning	System Based Practice	Professionalism	Communication
Clinical Performance Ratings	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly
Resident Experience Narrative	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Oral Examination	Monthly	Monthly				
Written Examination		Monthly				
360 Degree Evaluation				Monthly	Monthly	Monthly
Review of Patient Record	Monthly	Monthly	Monthly			Monthly
Focused Observation and Assessment	Weekly					Weekly

Assessment Method (Program Evaluation)

- Assessment of successful Patient Care Competency in oral examinations and faculty evaluations of observations of clinical practice.
- Performance of residents on written and oral examinations
- Performance on the Obstetric Anesthesia subset of In-Service Examinations administered by the American Board of Anesthesiology
- Performance on the Obstetric Anesthesia subset of Anesthesia Knowledge Test
- Performance of program graduates on the Obstetric Anesthesia subset of the written examination of the American Board of Anesthesiology
- Review of Resident Evaluations of Faculty Performance
- Review of Resident Program Evaluations
- Post-graduate assessments of adequacy of training

Level of Supervision

- Residents are supervised 1:1 by an attending anesthesiologist with sub-specialty training or documented subspecialty interest in Obstetric Anesthesia.

Educational Resources

Recommended readings and references:

PRIMARY TEXT: Chestnut, David. Obstetric Anesthesia: Principles and Practice. Mosby, Inc. Philadelphia, PA 2004.

REFERENCE TEXTS:

Halpern, Stephen and Douglas, M. Joanne. Evidence Based Obstetric Anesthesia. Blackwell Publ, Ltd. Malden, MA 2005.

Datta, Sanjay. Anesthetic and Obstetric Management of High Risk Pregnancy. Springer-Verlag, Inc. New York, NY 2004.

WEB REFERENCES:

ASA Practice guidelines on obstetrical anesthesia:

<http://www.asahq.org/publicationsAndServices/obguide.html>

ASA Guidelines for regional anesthesia in obstetrics

<http://www.asahq.org/publicationsAndServices/standards/11.html>

ASA Guidelines optimal goals for anesthesia care in obstetrics

<http://www.asahq.org/publicationsAndServices/standards/24.html>

Society of Obstetric Anesthesia and Perinatology

<http://www.soap.org>

American Society of Anesthesiologists

<http://www.asahq.org>. Keyword: obstetric

American College of Obstetricians and Gynecologists

<http://www.acog.org> Keyword: anesthesia

ASA refresher courses: Advances in labor analgesia.

http://www.asahq.org/rcls/RCLS_SRC/212_Birnback.pdf

ASA refresher courses: Does regional anesthesia influence the progress and outcome of labor?

http://www.asahq.org/rcls/RCLS_SRC/216_Camann.pdf

ASA refresher courses: Problems in obstetric anesthesia: blood pressure, blood

loss and blood patch http://www.asahq.org/rcls/RCLS_SRC/211_Chestnut.pdf

ASA refresher courses: Anesthesia for emergency caesarean section
http://www.asahq.org/rcls/RCLS_SRC/214_Malinow.pdf

ASA refresher courses: Obstetric emergencies and anesthetic management
http://www.asahq.org/rcls/RCLS_SRC/522_Palmer.pdf

Social Justice

West Virginia University is committed to social justice. We concur with that commitment and expect to maintain a positive learning environment based upon open communication, mutual respect, and non-discrimination. Our University does not discriminate on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color, or national group. Any suggestions as to how to further such a positive and open environment in this rotation will be appreciated and given serious consideration.

Attached Addenda

Addendum 1: CA3 Obstetric Anesthesia Educational Experience Checklist

Curriculum Timeline

Written by Richard Driver Jr. MD, Christine Bezouska MD, 1995

Revised by Richard Driver Jr. MD, 1997

Revised by Richard Driver Jr. MD, 2004

Revised by Richard Driver Jr. MD, Roger Cook MD, Phillip Legg DO November 2006 thru February 2007

Approved by the Anesthesiology Education Committee on 2-26-2007

Revised by Richard Driver Jr. MD and approved June 6, 2007



West Virginia University
SCHOOL OF MEDICINE

Addendum 1

CA-3 Obstetric Anesthesia Educational Experience Check List

**CA-3 Obstetric Anesthesia
Educational Experience Check List**

Resident _____

Rotation Date _____

	Staff	Resident	Date
Materials:			
Orientation Manual	_____	_____	_____
Curriculum	_____	_____	_____
Didactic Lectures:			
Maternal Phys Review	_____	_____	_____
Consultation: PDPH	_____	_____	_____
Current issues: obstetric anesthesia	_____	_____	_____
Case Management: PIH	_____	_____	_____
Intrathecal and spinal opioids	_____	_____	_____
Consultation: difficult airway	_____	_____	_____
Case Management: obstetric hemorrhage	_____	_____	_____
Case Management: aspiration	_____	_____	_____

Assessment:

Portfolio (Mngmt)	_____	_____	_____
Case Logs	_____	_____	_____
Formal Presentation	_____	_____	_____
Oral Exam	_____	_____	_____
Portfolio (PostOp1)	_____	_____	_____
Portfolio (PostOp2)	_____	_____	_____

Section Chief _____ Date_____