

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

**CA-3 GENERAL O.R. ROTATION
MEMORIAL CAMPUS
GOALS AND OBJECTIVES**

The CA-3 General O.R. rotation at the Memorial Campus of the UMassMemorial Medical Center is designed to provide the resident with exposure to routine and moderately complex surgical cases not commonly seen at the University Campus. The Memorial Campus is the site for both the Women's Health Center and the Arthritis and Joint Replacement Center providing significant opportunities for experience in the management of urogynecologic procedures, gynecologic oncology surgery, breast surgery and total joint replacement procedures. Resident case experience will also focus on procedures for colorectal, genitourinary and endocrine (thyroid and parathyroid) pathology.

GOALS

Upon completion of this rotation, the resident will have solidified their knowledge base and technical skills. Expectations will include the ability to:

- Provide a thorough pre-operative assessment of the above patient population
- Develop an appropriate anesthetic plan, including the options for postoperative analgesia
- Manage an anesthetic with minimal supervision
- Discuss and manage the common anesthesia-related complications in these patient populations
- Manage the patient during initial postoperative period in the PACU including issues with fluid management, perioperative medical problems or complications and postoperative analgesia.

COMPETENCIES

I. MEDICAL KNOWLEDGE

At the CA-3 level of training, the resident should have a strong base of medical knowledge to use in the planning and management of an anesthetic. This should include the ability to discuss:

- Assessment of preoperative status including optimization of co-existing medical conditions (with particular emphasis on cardiopulmonary disease), risk stratification
- Choice of anesthetic (MAC, general anesthesia, regional anesthesia, combined techniques)
- Airway management including management of the anticipated or un-anticipated difficult airway, and the choice of endotracheal intubation versus laryngeal mask airway
- The pharmacology of the patient's preoperative medications and the anesthetic agents utilized
- Issues related to positioning and prevention of peripheral nerve injury, including the specific concerns with cases requiring the prone, lateral, lithotomy, steep Trendelenberg, beach-chair or 'field-avoid' position
- Fluid management issues, including 3rd-space requirements and indications for transfusion
- Etiology, implications and prevention of hypothermia
- Postoperative analgesia, including risk-benefit decision-making regarding use of regional analgesia techniques postoperatively

During the rotation, the resident should also become familiar with the common pathologies and anesthesia issues seen in these particular subsets of patients and for each should be able to discuss:

a. Total Joint Replacement Surgery

- Anesthetic management concerns in the patient undergoing hip, knee or shoulder replacement including preoperative evaluation of cardiopulmonary status
- Implications and management of lateral and beach-chair positioning
- Management of postoperative analgesia, including risk-benefit decisions regarding use of regional analgesia and the impact of different DVT-prophylaxis regimens on this decision-making process

b. Colorectal Surgery

- Anesthetic management concerns in the patient undergoing abdominal surgery
- Physiologic consequences of laparoscopic surgery including respiratory issues and oliguria
- Complications of laparoscopic surgery, including pneumomediastinum, subcutaneous emphysema and barotrauma
- Physiologic consequences of open abdominal surgery, including fluid management and the concept of third space fluid shifts

c. Genitourinary Surgery

- Indications for urologic surgery
- Renal pathophysiology and its anesthetic implications
- Indications for Monitored Anesthesia Care (MAC), regional anesthesia and/or general anesthesia for urologic procedures
- Anesthetic management concerns in the patient undergoing nephrectomy
- Anesthetic management concerns in the patient undergoing open versus laparoscopic robotic-assisted prostatectomy
- Anesthetic management concerns in the patient undergoing transurethral resection of the prostate, including 'TURP-syndrome'
- Positioning issues, implications and complications specific to patients undergoing genitourinary procedures

d. Endocrine Surgery

- Anesthetic management issues for the patient undergoing thyroidectomy and/or parathyroidectomy

e. Urogynecology & General Gynecology

- Anesthetic management concerns in the patient undergoing gynecologic or urogynecologic procedures
- Indications, positioning, and implications of trans-vaginal procedures
- Physiologic consequences and anesthetic implications of laparoscopic surgery
- Implications of ruptured ectopic pregnancy

f. Gynecologic Oncology

- Adequate pre-operative evaluation, including implications of past chemotherapy regimen(s) and the indications for assessment of left ventricular function
- Anesthetic and fluid management for major debulking procedures, including indications for invasive monitoring
- Indications and contraindications for use of postoperative epidural analgesia

g. Breast Surgery

- Indications for MAC vs. general anesthesia for breast biopsy with or without lymph node biopsy

II. PATIENT CARE

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

- Develop an appropriate anesthetic plan based on a thorough preoperative evaluation
- Provide appropriate pre-operative instructions
- Prepare an operating room completely for a major case
- Assemble and utilize necessary equipment, including fluid warmers, transducers, nerve stimulators, infusion pumps
- Demonstrate skill in placement of intravenous and intra-arterial catheters
- Perform induction of general anesthesia with or without rapid sequence induction, in ASA I-III patients with minimal assistance
- Demonstrate competence with performance of various regional techniques (epidural, spinal, peripheral nerve block), including appropriate local anesthetic selection, level adjustment, management of initial postoperative analgesic interventions and assessment/management of complications
- Safely position anesthetized patients in lateral, lithotomy, beach-chair, field-avoid or prone positions
- Demonstrate competent intraoperative and postoperative (PACU) management of a general or regional anesthetic, including vigilant recognition and management of perioperative problems and complications common to the above procedures

III. INTERPERSONAL SKILLS AND COMMUNICATION

The resident will:

- Demonstrate an understanding of the need for effective communication among members of the health care team
- Effectively communicate with patients in order to obtain a complete pre-operative evaluation, present and discuss an anesthetic plan, discuss post-operative analgesia methodology, and provide an adequate amount of information to ensure informed consent
- Communicate in a collegial manner with the surgical team to identify immediate problems (e.g. complications of CO2 insufflation) and to ensure a collaborative approach to shared issues such as postoperative analgesia and need for transfusion
- Provide a concise and accurate report to PACU, including pertinent patient history, intra-operative course and anticipated management issues in the PACU

IV. PROFESSIONALISM

The resident will demonstrate professional medical behavior by:

- Demonstrating respect, caring and compassion for patients
- Demonstrating respect for colleagues and team members in both words and actions
- Observing patient confidentiality
- Dressing appropriately
- Arriving at work on time and prepared
- Completing all documentation as required by the department
- Developing an understanding of their own limitations and asking for assistance when it is in the best interest of the patient

V. PRACTICE-BASED LEARNING

Residents will become accustomed to the principles of practice-based learning through:

- Attendance at departmental didactic lectures and Grand Rounds
- Attendance at lectures of interest within the Memorial Campus
- Contribution to quality improvement conferences
- Attendance at practice-based case presentations
- Participation in mock oral exams
- Use of texts, journals and web-based educational tools
- Portfolio entries in order to 'learn from experience'

VI. SYSTEMS-BASED PRACTICE

Residents will gain an understanding of:

- Practice differences between an academic, university-based trauma center and a large, private-practice, university-affiliated practice setting
- Differences in environment, case scheduling, patient flow pattern and room turnover expectations between the two settings
- The importance of problem solving in order to prevent surgical delay and cancellation