

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

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

The CA-3 General O.R. rotation at Marlborough Hospital is designed to provide the resident with exposure to a small, community hospital practice setting that offers a routine case mix coming from predominantly private practice surgeons. Across both the OR suite (consisting of 4 operating rooms) and non-OR off-site anesthetics (e.g., endoscopy, radiology, etc.), the Department of Anesthesiology covers a maximum of 3 simultaneous anesthetics. This is accomplished using an anesthesia care team model consisting of 2 attending anesthesiologists who work with 2 CRNAs or 1 CRNA and 1 CA-3 resident.

While the clinical complexity of the cases performed by the resident will be limited, the rotation offers a unique opportunity to focus on the operational issues typically emphasized in a private practice environment. Specifically, the resident will be expected to provide timely, efficient and cost-effective care that is of the highest quality and fully centered on the patient. The staffing model described above will necessitate a significant degree of autonomy and independence on the part of the CA-3 resident. While the resident will start the day with a room assignment, he will be expected to take initiative in facilitating patient through-put for all three rooms whenever possible. The challenge for the resident will be to strive for operational efficiency and excellence while never compromising on the provision of patient-center clinical care of the highest quality.

While the Marlborough OR offers a wide array of surgical specialties, the resident's practice will predominantly focus on generally surgery, orthopedic and urological cases. The orthopedic practice includes a large number of regional anesthetics. Every effort will be made to facilitate placement of regional blocks by the resident. Because of the limited staffing, however, it will often be necessary for the attending anesthesiologist to place the nerve block to facilitate a timely room turnover. Furthermore, the resident may occasionally be able to participate in the provision of regional anesthetics for ophthalmology patients (peri- and retrobulbar blocks), but these opportunities will typically be limited due to a targeted maximum room turnover time of 10 minutes for these cases.

**GOALS**

Upon completion of this rotation, the resident will have solidified the skills necessary for the delivery of timely, efficient and cost-effective care that is of the highest quality and fully centered on the patient. Expectations will include the ability to:

- Provide a timely, focused pre-operative evaluation
- Obtain informed consent with attention to relevant risks and benefits of different anesthetic approaches
- Develop an appropriate anesthetic plan
- Facilitate rapid room turnover
- Manage an anesthetic with minimal supervision
- Exercise appropriate discretion with regard to utilization of anesthetic equipment (e.g., Bair Hugger, fluid warmer, etc.)
- Provide patient-centered care expected from a community hospital
- 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 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 3<sup>rd</sup>-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 positioning
- Management of analgesia, including use of a pre-emptive, multimodal pain control regimen

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 transurethral resection of the prostate, including 'TURP-syndrome'
- Positioning issues, implications and complications specific to patients undergoing genitourinary procedures

d. 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 focused preoperative evaluation
- Provide appropriate pre-operative instructions
- Prepare an operating room in an efficient and timely manner
- Assemble and utilize necessary equipment, including fluid warmers, transducers, nerve stimulators, infusion pumps when indicated
- 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
- Contribution to quality improvement conferences
- Attendance at practice-based case presentations
- 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 small, private-practice community hospital 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. This includes the ability to evaluate social and economic costs as well as clinical risks and benefits of proceeding, delaying or cancelling a case.