CA-3 PEDIATRIC ANESTHESIA ROTATION

University of Minnesota Medical Center – Fairview (UMMC)
Rotation Site Director: Drs. Kumar Belani & Michael Sweeney
Rotation Duration: 2-4 weeks

Introduction:
This advanced rotation is meant to provide you with the opportunity to further develop the competencies required to meet the expectation for a Board Certified (Consultant) Anesthesiologist in the area of pediatric anesthesia.

The goal of the Advanced Pediatric Anesthesia Rotation at the University of Minnesota is to train physicians to extend their areas of knowledge and competency in their practice of Pediatric Anesthesia. We expect the residents to be able to more readily evaluate and develop treatment plans regarding neonate, infant and child patient care issues then during their previous rotations. We further expect residents to gain experience in pediatric monitoring line placement. Given the advanced nature of this rotation emphasis is placed upon enhancing residents' skills in the areas of analysis, synthesis and evaluation of the patient.

GOALS:
- To train residents who are capable of providing high quality independent anesthesia care based on principles of teamwork and collaboration for newborns, infants and children;
- To train residents who use the bio-psychosocial model and life-long learning principles in providing high quality care to pediatric patients, including preoperative assessment and preparation of patients and parents for induction of anesthesia, intraoperative, postoperative care and clinical management, and understanding of anatomical and physiologic differences of pediatric patients.

OBJECTIVES (by ACGME Competency)

Patient Care

<table>
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<tr>
<th>Developmental Milestone Objective</th>
<th>Training Level</th>
<th>Assessment Methods/Tools</th>
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<tbody>
<tr>
<td>Clinical Skills and Reasoning:</td>
<td>24-36 months</td>
<td>o Direct Observation</td>
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<tr>
<td>o Expertly uses clinical skills of interviewing and physical examination to perform a thorough preoperative assessment of pediatric patients</td>
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<td>o Simulation</td>
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Department of Anesthesiology

Goals and Objectives

- Presenting for general, urologic, orthopedic, ENT, neurosurgical, ambulatory, trauma, cardiac catheterization laboratory and noncomplex cardiac surgical procedures (perception to complex overt response)
  - Independently formulates a safe anesthetic management and monitoring plan for a pediatric patient including the plan for parental or other care-giver presence, postoperative management plan (perception to complex overt response)
  - Expertly and independently uses safe principles of sedation and monitoring for pediatric patients having procedures outside the operating room (perception to complex overt response)

Technical/Device Related Skills

- Expertly teaches how to prepare anesthesia work area for a pediatric patient to a junior resident (perception to complex overt response)
- Teaches set-up and use of syringe pumps, intravenous pumps with drips appropriate for the patient size in an organized, systematic fashion to a junior resident (perception to complex overt response)

Developmental Milestone Objective

Patient Management

- Expertly and independently provides safe anesthetic management for pediatric patients undergoing procedures such as general, urologic, orthopedic, ENT, neurosurgical, ambulatory and other surgical procedures (perception to complex overt response)
- Independently performs safe placement of appropriate size endotracheal tube, intravenous catheter, arterial line and central line, regional and neuraxial anesthesia when appropriate in newborn, infant and child (perception to complex overt response)
- Shows expertise in fluid management of newborn, infant and child (perception to complex overt response)
- Independently performs safe and efficient transports and transfer of care of neonate, infant and child to a secondary provider (perception to complex overt response)
- Independently performs safe sedation anesthesia care for a pediatric patient (perception to complex overt response)

Training Level: 24-36 months

Assessment

- Direct Observation
- Simulation
- Chart- review
- Case logs

University of Minnesota
## Medical Knowledge

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<th>Assessment</th>
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| Expertly discusses and teaches anatomy and physiology of pediatric patients, fluid management of newborn, infant and child, appropriate IV access, pathophysiologic processes involved in pediatric surgical conditions and their interactions with anesthetics, pharmacology of anesthetic agents, principles of temperature regulation for newborns, infants and children (knowledge to application) | 24-36 months | o Introductory lecture series test  
o Anesthesia knowledge test  
o Annual in-training examination |
| Expertly discusses risks, benefits, indications and contraindications for commonly performed nerve blocks – caudal, ilioinguinal, popliteal, femoral, sciatic, axillary, epidural catheter placement (knowledge to application) | 24-36 months | o Informal oral questioning  
o Simulation  
o Oral case presentations |
| Expertly discusses anesthetic management of conditions such as pyloric stenosis, tracheoesophageal fistula, diaphragmatic hernia, gastrochisis, omphalocele, PDA ligation, ASD, VSD repair and others (knowledge to application) | 24-36 months |  |

## Practice Based Learning and Improvement

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<th>Assessment</th>
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| Constantly, independently and intentionally identifies own learning deficits, does literature search, analyzes and interprets literature and improves own knowledge (valuing, organizing, internalizing) | 24-36 months | o Immediate formative feedback from attending  
o Direct observation  
o Journal club presentations and case presentations |
| Promotes life-long learning patterns in younger colleagues | 24-36 months |  |
| Continuously analyzes own practice and determine ways in which you can improve your comprehensive pediatric anesthetic plan (analysis, internalizing) | 24-36 months |  |
## Interpersonal and Communication Skills

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<tr>
<td>o Independently and expertly uses effective listening, questioning, and explanatory skills in gathering information from patients and in providing information to patients, families, the public, and other health care providers (valuing, organizing, internalizing)</td>
<td>24-36 months</td>
<td>o Direct observation with patient</td>
</tr>
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<td>o Consciously uses age appropriate communication skills with the pediatric patients and family including preparation of parent or caregiver for induction experience (valuing, organizing, internalizing)</td>
<td>24-36 months</td>
<td>o Direct observation in simulation</td>
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<td>o Consciously promotes and develops own skills in working as a member of a patient care team including other physicians, nurses, other health care professionals, social workers, and volunteers (valuing, organizing, internalizing)</td>
<td>24-36 months</td>
<td>o 360 global rating</td>
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<td>o Consciously maintains and teaches maintenance of comprehensive, timely, and legible medical records (receiving to valuing)</td>
<td>24-36 months</td>
<td>o Learner classroom presentation</td>
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## Professionalism

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<td>o Consciously analyzes and shows understanding of own values and attitudes, which might interfere with appropriate patient care specific to management of pediatric patient (valuing to internalizing)</td>
<td>24-36 months</td>
<td>o direct observation</td>
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<td>o Teaches responsiveness to and management of issues that relate to socio-cultural aspects of family life, and social adjustment related to ethnicity, religion, culture, gender or sexual preference to younger colleagues (valuing to internalizing)</td>
<td>24-36 months</td>
<td>o 360</td>
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<td>o Proudly and consciously shows consistent compassion, honesty, integrity and respect for others in all professional activities (valuing to internalizing)</td>
<td>24-36 months</td>
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System Based Practice

**Developmental Milestone Objective**

- Expertly works in inter-professional teams to increase patient safety and quality of care (perception to complex overt response) **Training Level:** 24-36 months **Assessment:**
  - Direct observation
  - 360
  - M&M conference presentation with system analysis

- Independently coordinates patient care in the settings of pediatric surgery (perception to complex overt response) **Training Level:** 24-36 months **Assessment:**
  - Direct observation
  - 360
  - M&M conference presentation with system analysis

- Leads discussion of system-based problems as they pertain to patient care at M&M conferences (knowledge to analysis) **Training Level:** 24-36 months **Assessment:**
  - Direct observation
  - 360
  - M&M conference presentation with system analysis

Scholarly/Research Activities

**Reading Requirements**

The resident should read the following chapters while taking the rotation:

- **Text:**
  - SMITH’S ANESTHESIA FOR INFANTS AND CHILDREN 6th Edition (there is a copy in the library)
  - PEDIATRIC ANESTHESIA, Editor George Gregory 4th Edition

**Assessments**

The resident will receive a summative written evaluation form at the end of the rotation from the Site Director, as well as verbal feedback informally throughout the rotation. The case-logs of the resident will also be evaluated periodically by the clinical competency committee for the number and type of procedures and anesthetic techniques entered to ensure they are obtaining adequate experience.

**Notes**