

PATIENT CARE GOALS

Pediatric Cardiac Anesthesiology

At the completion of the pediatric cardiac rotation, the fellow will be able to:

1. Research, learn and obtain necessary knowledge base to provide anesthesia care for children of all ages with congenital or acquired heart disease.
2. Optimize preparation and delivery of anesthesia to complex cardiac patients with and without cardiopulmonary bypass. This will include:
 - a. Careful management of fluids and electrolytes
 - b. Maintaining intraoperative temperature regulation
 - c. Management of hemodynamic effects of anesthesia
 - d. Appreciation of pediatric and developmental pharmacology
 - e. Management of mechanical ventilation
3. Perform a wide variety of procedures requiring anesthesia/sedation in congenital heart disease patient population including procedures in the cardiac operating room, catheterization laboratory, and general operating room.
4. Obtain informed consent from caregivers and appropriately aged adolescents with respect to cardiac procedures and their risks in this population.
5. Formulate anesthetic plans for the perioperative management of children with cardiac disease of all ages with a variety of disorders and associated co-morbid diseases.
6. Identify and assist in the care of critical pediatric cardiac emergencies.
7. Develop competency with the set-up, management and application of anesthesia techniques to manage pain in the pediatric cardiac population.
8. Recognize unexpected or complicated situations that may arise from the care of cardiac patients of all ages and acuities.
9. Demonstrate understanding of the insertion, management, and interpretation of data of arterial, central venous, and pulmonary artery catheterization.
10. Diagnose and treat intraoperative coagulopathy and massive blood loss.
11. Diagnose and treat intraoperative hemodynamic instability in pediatric patients undergoing cardiac surgery.
12. Understand the diagnoses and support of patients with intraoperative cardiac dysrhythmias with medications and temporary pacemakers.
13. Participate in the safe transport and handoff of critically ill pediatric cardiac patients to and from the cardiac ICU.
14. Participate in the development and implementation of post-operative care plans in the cardiac intensive care unit, including hemodynamic, fluid, ventilator, and pain management.
15. Identify those pediatric cardiac patients whose required level of care exceeds the knowledge or ability of the current anesthesia team or facility at which the patient is presently scheduled for a procedure.
16. Recognize those pediatric cardiac patients who will require additional monitoring following anesthetic care and triage them to the appropriate post-operative location.

MEDICAL KNOWLEDGE GOALS

Pediatric Cardiac Anesthesiology

At the completion of the pediatric cardiac rotation, the fellow will be able to:

1. Synthesize current knowledge of genetics, embryology, anatomy, and physiology of congenital heart disease:
 - a. Acyanotic CHD with left to right shunt: i.e., VSD, ASD, PDA
 - b. Acyanotic CHD without left to right shunt: i.e., Coarctation of the Aorta, Aortic valve stenosis
 - c. Cyanotic CHD with ductal dependent pulmonary blood flow: i.e., Pulmonary Atresia, Ebstein's Anomaly, Single Ventricle, TOF
 - d. Cyanotic CHD with ductal dependent systemic blood flow: i.e., HLHS, critical AS, Interrupted AoArch
 - e. Cyanotic CHD with mixing lesions: i.e., DORV, DILV, AV Canal, TGA, TOF
 - f. Pulmonary hypertension
2. Develop sufficient understanding of surgical procedures involved in treating and palliating congenital heart diseases, their alternatives, and anesthetic management implications associated with each alternative.
3. Develop sufficient depth of understanding and proficiency in the perioperative evaluation, management, and follow-up of cardiac pediatric patients for cardiac procedures, such that they can demonstrate knowledge to our surgical and medical colleagues.
4. Develop sufficient depth of understanding and proficiency in the perioperative evaluation, management, and follow-up of cardiac pediatric patients for diagnostic studies and non-cardiac procedures such that they can communicate effectively with our surgical and medical colleagues.
5. Gain experience with technologies such as ECMO, HFOV, iNO, and VAD and incorporate them into treatment and management of congenital heart disease.
6. Synthesize knowledge of congenital disorders associated with congenital heart disease and their implications for the perioperative care and anesthetic management.
7. Gain understanding of the latest safety protocols concerning cardiac patients including peri-procedural antibiotic prophylaxis, blood conservation strategies, neuroprotection, coagulation, and anticoagulation.
8. Gain expertise in pediatric cardiac physiology and pathophysiology, pediatric cardiac pharmacology, and pediatric pain management in children with congenital heart disease.
9. Develop insight into the psychosocial consequences of living with congenital heart disease and their implications for developmental milestones in the life of a patient.
10. Gain expertise in collaborating with multidisciplinary teams to transition the patients into adult congenital cardiac care clinics.

PRACTICE BASED LEARNING & IMPROVEMENT GOALS

Pediatric Cardiac Anesthesiology

At the completion of the pediatric cardiac rotation, the fellow will be able to:

1. Compare personal performance and patient outcomes using accepted standards and comparative data, and use data to improve practice as applied to the care of patients with congenital heart disease.
2. Incorporate evidence-based practices into management of pediatric patients with heart disease.
3. Identify strengths, deficiencies, and limits in one's knowledge and expertise in the practice of pediatric cardiac anesthesia and then make and fulfill a plan to meet any gap.
4. Incorporate feedback from multiple sources into daily practice to promote lifelong learning.
5. Teach pediatric cardiac anesthesia concepts to students, other trainees, other health professionals, patients and families.
6. Participate in pediatric cardiac anesthesia scholarly activity including research projects and quality projects and disseminate this work through presentations or publications.

INTERPERSONAL & COMMUNICATION SKILLS GOALS

Pediatric Cardiac Anesthesiology

At the completion of the pediatric cardiac rotation, the fellow will be able to:

1. Demonstrate interpersonal and communications skills that result in effective exchange of information and collaboration within the pediatric cardiac care team.
2. Maintain comprehensive, timely, and clear medical documentation in the setting of cardiac bypass and cardiac catheterization.
3. Manage communication with patients and families of different socioeconomic and cultural backgrounds.
4. Identify and manage pediatric cardiac patient and family conflicts and seek assistance when appropriate.
5. Communicate effectively in crises and contentious situations within the pediatric cardiac perioperative team to ensure safe care. This includes the cardiac surgeon, perfusionist, scrub nurse, circulator nurse, cardiologist, and intensive care team.
6. Work effectively with other members of the health care team as a consultant in the care of the pediatric cardiac patient.
7. Advocate for and utilize hand-off tools for the continuity of care of patients with congenital heart disease.

PROFESSIONALISM GOALS

Pediatric Cardiac Anesthesiology

At the completion of the pediatric cardiac rotation, the fellow will be able to:

1. Act responsibly and ethically in interactions with patients, families, and society.
2. Be truthful in all forms of communication.
3. Respect a patient's right to confidentiality, privacy, and autonomy, and treat patients and their families with cardiac disease with compassion and respect regardless of gender, race, religion, sexual orientation or socioeconomic status.
4. Model compassion and appropriate behavior in dealing with perioperative morbidity and mortality of children with congenital heart disease.
5. Take responsibility for the care provided to pediatric cardiac patients and seek assistance appropriately, taking into consideration one's own experience and knowledge.
6. Seek, accept, and provide constructive feedback.
7. Comply with requirements to assist with preservation of own health, mitigation of fatigue, or prevention of physician impairment (e.g., work hour rules, occupational health policies, controlled substance policies).
8. Complete all required administrative and documentation tasks in a timely manner.
9. Demonstrate the ability to balance personal, institutional, and societal goals with professional responsibilities and model this behavior for one's colleagues.

SYSTEMS BASED PRACTICE GOALS

Pediatric Cardiac Anesthesiology

At the completion of the pediatric cardiac rotation, the fellow will be able to:

1. Describe the roles of all the members of the pediatric cardiac perioperative teams in which they work.
2. Discuss the activities for the pediatric cardiac anesthesiologist in the pediatric perioperative home as pertains to cardiac patients.
3. Transition care to others within the interdisciplinary team.
4. Identify the advocacy roles for pediatric cardiac anesthesiologists.
5. Provide cost-effective and safe care in interdisciplinary teams to pediatric cardiac patients.
6. Consider costs of medications, devices, and procedures when making clinical decisions regarding care of pediatric cardiac patients to optimize cost-effective pediatric perioperative care.
7. Conduct a formal analysis of a medical error or a sentinel event within the pediatric cardiac population.
8. Work in inter-professional teams to promote and enhance safety of the pediatric cardiac patient.