GOALS AND OBJECTIVES FOR PGY4 CARDIOTHORACIC SURGERY RESIDENT ON PEDIATRIC CARDIAC SURGERY SERVICE

Description:
PGY4 residents rotate on the Pediatric Cardiac Service for a four month block. The main objective is to understand the congenital cardiac pathology, including anatomy, presentation, workup, medical treatment options, and operative repair. Residents learn to care for these complex patients in the ICU, in collaboration with the pediatric cardiology ICU team. They first and second assist in the operating room for complex cases, and act as primary surgeon for cases appropriate for level (PDA ligations; ASD repairs simple VSD repairs). Finally, residents learn to effectively communicate with the patient families.

(1) Medical Knowledge
1. Anatomy, embryology, physiology, and pathology of the heart, great vessels, trachea, lungs, and esophagus.
2. The pharmacology, indications, and complications of drugs commonly used in the specialty.
3. The principles of preoperative assessment, anesthetic management, and postoperative management of pediatric congenital surgical patients.
4. The natural history of treated and untreated common congenital surgical conditions, including: ASD, VSD, PDA, coarctation, interrupted aortic arch, tetralogy of fallot, tricuspid atresia, pulmonary atresia, transposition, ebstein’s anomaly, hypoplastic left heart syndrome, double outlet right ventricle/single ventricle physiology, anomalous and obstructed pulmonary veins.
5. Understanding of fetal circulation.
6. Advanced principles of surgery as they apply to the specialty, such as wound healing, hemostasis, surgical nutrition and hyperalimentation, electrolytes/fluid replacement, and oncology.
7. The technology, interpretation and complications of invasive and noninvasive diagnostics: methods, including CT and MRI scanning, cardiac catheterization, coronary angiography, and echocardiography.
8. Indications, physiology, and complications related to cardiac shunts, including BT shunt, central shunts, and Glenn shunt.
9. Knowledge of surgical procedures for single ventricle physiology, including contraindications.
10. The physiology, technology, indications, and complications of cardiac pacemakers.
12. Principles and complications of ECMO.
13. Principles and complications of techniques for myocardial and cerebral protection.

(2) Clinical Skills
1. Perform a focused history and physical exam, arrive at an appropriate differential diagnosis, and order/interpret the appropriate investigation in the ward, ambulatory, and emergency department settings.
2. Arrive at an acceptable plan of management, demonstrating knowledge in the operative and the non-operative management of the disease process.
3. Manage the patient throughout the hospital stay, including management in an intensive care unit setting, demonstrating knowledge and ability to anticipate, recognize, and manage potential complications of the disease processes and operative procedures.
4. Provide a plan for patient follow up.
7. Management of low-cardiac output syndrome (medical and surgical).
8. Management of single ventricle physiology, including balance between systemic and pulmonary circulation.
9. Troubleshooting pacemakers.
10. Assessment and treatment of post-operative arrhythmias, including JET.
11. Identification of critically ill and major complications of patients on the ward with appropriate acute management.

(3) Patient Care

1. As the operating surgeon or first/second assistant, demonstrate appropriate situational awareness, management/interaction with first/second assistants, perfusionists, anesthetist, scrub technicians, and circulating nurses.
2. As the operating surgeon or first/second assistant, demonstrate an ability to anticipate surgical maneuvers, to take direction well from experienced assistants, to make reasonable suggestions, and to contribute to a positive operating room atmosphere.
3. As the operating surgeon or first assistant, perform the sternotomy, mediastinal dissection, and sternal closure.
4. As the operating surgeon perform routine PDA ligations.
5. In the operating room/ICU perform peripheral intravenous access, femoral vein central venous access, chest tube placement/pigtail catheter, peritoneal catheter placement, arterial line placement (radial, femoral, and brachial).
6. In the ICU perform removal of LA/RA lines and chest tubes.
7. As first or second assistant, participate in complex congenital procedures, including VSD repair, arterial switch procedure, Fontan procedure, correction of TOF, repair of obstructed pulmonary veins, unifocalization, and coarctation repair.

(4) Professionalism

1. The ability to be honest, reliable, and respectful of the religious, racial and gender characteristics of patients, their families and other members of the health care team.
2. The ability to give and receive advice in a manner that is consistent with the harmonious operation of a health care team.
3. The ability to recognize when to seek assistance from more experienced colleagues.
4. Deliver highest quality care with ethics, integrity, honesty and compassion.
5. Exhibit appropriate personal and interpersonal professional behaviors.
6. Understand the professional, legal, and ethical codes to which physicians are bound.
(5) Interpersonal and Communication Skills
1. Listen effectively.
2. Establish therapeutic relationship with patients and families.
3. Obtain and synthesize relevant history from patients and family.
4. Inform patients and families about their condition at an appropriate and understandable level.
5. Write clear consultation notes, progress notes, discharge summaries, and clinic notes.
6. Prepare and present ward rounds in an organized manner.
7. Participate actively in scheduled rounds.
8. Communicate effectively with allied health care professionals.

(6) Systems-based Practice
1. Utilize resources effectively to balance patient care, learning needs and outside activities.
2. Allocate finite health care resources wisely.
3. Understand the importance and mechanisms to safely utilize resources in a cost-effective manner to benefit all patients.

(7) Practice-Based Learning and Improvement
2. Critically appraise sources of medical information and be aware of resources available.
3. Read around clinical cases.
4. Prepare and present scheduled rounds.
5. Participate actively in scheduled morbidity and mortality conferences.
6. Participate effectively in facilitate learning of patients, teaching house staff/students and other health professionals.

Method of assessment of resident academic performance
1. End of rotation online evaluation
2. Yearly in-service training exam.
3. Bi-annual case log review