GOALS AND OBJECTIVES FOR PGY5 CARDIOTHORACIC SURGERY RESIDENT ON PENN-PRESBYTERIAN CARDIAC SURGERY SERVICE

Description:
PGY5 residents rotate for four months on the adult cardiac surgery service at Penn-Presbyterian Hospital. Residents develop basic technical skills in cardiac surgery, as well as understand the natural history of the disease processes, indications for treatment, treatment alternatives and options, complications, and postoperative management. Residents perform portions of the operation appropriate for level, as well as first/second assist. Assisting in complex cases is necessary to perform these same operations efficiently during the chief year. Finally, residents care for critical care patients in the ICU, working closely with the Cardiac ICU Team.

(1) Medical Knowledge
1. Anatomy, embryology, physiology and pathology of the pericardium, heart and great vessels.
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 cardiovascular surgical patients.
4. The natural history of treated and untreated cardiac surgical conditions; ischemic heart disease and its complications, valvular heart disease, thoracic aortic disease (aortic dissection and aneurysm), surgical options for end-stage heart failure (transplant and non-transplant options), conduction system disturbances, cardiac tumors, pericardial disease, thoracic and cardiac trauma, and sepsis.
5. Advanced principles surgery as they apply to the specialty, such as wound healing, hemostasis, surgical nutrition and hyper alimentation, and principles of transplant immunology.
6. The technology, interpretation and complications of invasive and noninvasive diagnostic methods, including CT and MRI scanning, cardiac catheterization, coronary angiography, respiratory function tests, viability studies, and echocardiography.
7. The physiology, technology, indications and complications of cardiac pacemakers and defibrillators.

(2) Clinical Skills
1. Perform an appropriate relevant history and physical exam in the ward, ambulatory and emergency department settings.
2. Arrive at an appropriate differential diagnosis.
3. Order appropriate laboratory, radiological and other diagnostic procedures and demonstrate proper interpretation of the results.
4. Arrive at an acceptable plan of management, demonstrating knowledge in the operative and the non-operative management of the disease process.
5. 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.
6. Provide a plan for patient follow up.
7. Management of cardio- and cerebral-protection; demonstrate appropriate understanding of methods and indications for cardioplegia strategies, cardiopulmonary bypass methods, and deep hypothermic circulatory arrest.
8. Management of post-operative bleeding (medical and surgical).
10. Troubleshooting pacemakers.
11. Assessment and treatment of post-operative arrhythmias.
13. Identification of critically ill and major complications of patients on the ward with appropriate acute management.

(3) Patient Care
1. Assist in the operating room as the first or second assistant for elective and complex cases; demonstrate an ability to anticipate surgical manoeuvres, to take direction well, to make reasonable suggestions, and to contribute to a positive operating room atmosphere.
2. Perform sternotomy and cannulation in preparation for CPB.
3. Perform sternal closure.
4. Independently harvest internal mammary artery as conduits.
5. Perform or first assist in axillary or innominate artery exposure, dacron graft anastamosis, and cannulation.
7. Perform setup for cardiopulmonary bypass circuit with perfusionist supervision.
8. Insertion and removal of intraaortic balloon pump.
9. Perform or first assist basic operations in cardiac surgery such as CAB; aortic and mitral valve operations.
10. Insertion of central lines, PA catheter, arterial lines, chest tubes in the operative and ICU setting.
11. Closure of great vessels and cardiac chambers after exposures with appropriate selection of technique and sutures for individual patient.
12. Demonstrate ability to recognize errors in technique and possible consequences of specific technical mistakes.
13. Preparation of the internal thoracic artery.
14. Perform thoracoabdominal incision/exposure, including retroperitoneal dissection.
15. Reoperation for acute post-cardiotomy bleeding (chest re-exploration).
17. Insertion of pacemakers.

(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**
4. Utilize resources effectively to balance patient care and learning needs.
5. Allocate finite health care resources wisely.
6. 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**
4. End of rotation online evaluation
5. Yearly in-service training exam.
6. Bi-annual case log review