GOALS AND OBJECTIVES FOR PGY4 CARDIAC SURGERY RESIDENT ON HUP CARDIAC SURGERY SERVICE

Description:
PGY4 residents spend 2 months on the cardiac surgery service at HUP. Residents operate as the primary surgeon or first assistant, under direct attending supervision. Importantly, each patient is evaluated by the resident, presented to the attending, and subsequently scheduled for surgery if appropriate. Residents act as the primary physician postoperatively, working closely with the attending and ICU team.

(1) Medical Knowledge
1. Anatomy, embryology, physiology and pathology of the pericardium, heart, great vessels, trachea, lungs, esophagus, and mediastinum.
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 cardiothoracic surgical patients.
4. The natural history of treated and untreated cardiac surgical conditions, including ischemic heart disease and its complications, valvular heart disease, thoracic aortic disease, heart failure and transplantation of heart and lung, conduction system disturbances, pericardial disease.
5. Advanced principles surgery as they apply to the specialty, such as wound healing, hemostasis, electrolytes/fluid management, surgical nutrition, hyperalimentation, and ventilatory magement
6. The technology, interpretation and complications of invasive and noninvasive diagnostic methods, including CT and MRI scanning, cardiac catheterization, coronary angiography, 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; demonstrate proper interpretation of the results.
4. Arrive at an acceptable plan of management, demonstrating knowledge in the operative and 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. As the operating surgeon or first assistant, demonstrate an ability to anticipate surgical maneuvers, 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. Independently remove the long saphenous vein.
4. Independently harvest the left internal mammary artery.
5. Insertion and removal of intraaortic balloon pump.
6. Insertion of central lines, PA catheter, arterial lines, chest tubes in the operative and ICU setting.
7. As the operating surgeon, demonstrate the ability to perform: coronary artery bypass on cardiopulmonary bypass, aortic valve replacement, mitral valve replacement, mitral valve annuloplasty, complex thoracic aortic disease heart and lung transplantation, insertion of pacemaker, insertion of ventricular assist devices, and complex anti-arrhythmic operations.
8. Demonstrate ability to recognize errors in technique and possible consequences of specific technical mistakes.
9. As the operating surgeon, demonstrate the ability to perform off-pump CABG (including preparation of cardiac stabilizers).
10. Exposure, cannulation, and subsequent closure of femoral vessels for CPB.
11. Reoperation for acute post-cardiotomy bleeding (chest re-exploration).
12. Perform redo-sternotomy and mediastinal dissection.

(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 and learning needs.
2. Allocate finite health care resources wisely.
3. Understand the importance of 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