GOALS AND OBJECTIVES FOR PGY6 CARDIOTHORACIC SURGERY RESIDENT ON PENN-PRESBYTERIAN CARDIAC SURGERY SERVICE

Description:
PGY6 residents are the chief resident for 4 months on the Penn-Presbyterian Cardiac Surgery Service. The responsibilities on the service are similar to the IUHP cardiac surgery service with the additional emphasis on minimally invasive approaches to valvular heart disease. Residents will gain first had knowledge and competencies on multiple platforms of minimally invasive heart surgery including: heart port and robotic surgery. Residents act as the primary surgeon as deemed appropriate by the attending staff. Residents develop situational awareness, interacting with the perfusionist, anesthesiologists, scrub technicians, and circulating nurses. Chief residents are expected to care for their patients throughout the hospital course.

(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 cardiovascular surgical conditions, including: ischemic heart disease, valvular heart disease, thoracic aortic disease, surgical options for end-stage heart failure (transplant and non-transplant options), conduction system disturbances, cardiac tumors, pericardial disease, and trauma.
5. Advanced principles of surgery as they apply to the specialty, such as wound healing, hemostasis, surgical nutrition and hyperalimentation, electrolytes/fluid management, oncology, 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, viabiliy studies, and echocardiography.
7. The physiology, technology, indications, and complications of cardiac pacemakers and defibrillators.

(2) Clinical Skills
1. Perform a focused history and physical exam, arrive at an appropriate differential and working diagnosis, and order and 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.
5. Management of cardio- and cerebral-protection; demonstrate appropriate understanding of methods and indications for cardioplegia strategies, cardiopulmonary bypass methods, and deep hypothermic circulatory arrest.
7. Management of low-cardiac output syndrome (medical and surgical).
8. Troubleshooting pacemakers.
10. Appropriate interpretation of intra-operative echocardiography and application to surgical plan.
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, demonstrate appropriate situational awareness, management/interaction with first/second assistants, perfusionists, anesthetist, scrub technicians, and circulating nurses.
2. As the operating surgeon or as a first 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, demonstrate independent ability to perform midline sternotomy, dissect the mediastinum appropriate for the procedure, and place the patient on cardiopulmonary bypass.
4. As the operating surgeon, ability to safely perform redo-sternotomy and mediastinal dissection.
5. As the operating surgeon, demonstrate ability to select and perform alternative arterial cannulation techniques, including transverse arch, femoral, axillary, and innominate arteries.
6. As the operating surgeon, demonstrate ability to perform: coronary artery bypass on cardiopulmonary bypass, aortic valve replacement, aortic composite valve graft, mitral valve replacement and repair mitral valve annuloplasty, tricuspid valve replacement, tricuspid valve annuloplasty, pericardectomy, and insertion of pacemaker.
7. As the operating surgeon perform: off-pump coronary artery bypass grafting, mitral valve repair, Type A dissection repair, resection of cardiac tumors, myotomy/myectomy for HOCM, atrial fibrillation surgery.
8. As the operating surgeon or 1st /2nd assistant, participate in valve-sparing root replacements, aortic root enlargement, stentless aortic valve replacement, aortic arch replacements, thoracoabdominal aortic aneurysm repairs, mechanical assist device placement, repair mechanical complications of ischemic heart disease (LV aneurysm, VSD repair, acute MR).
9. As operating surgeon or first assistant they will perform minimally invasive mitral valve repair and replacement; aortic valve replacement using heartport and other techniques of minimally invasive heart surgery. They also will gain skills and expertise in the use of the robot for minimally invasive heart surgery.
(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. Actively participate in journal club.
7. 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