TRANSESOPHAGEAL ECHOCARDIOGRAPHY ROTATION

THE ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF CANADA

Objectives of Training and Specialty Training Requirements in Anesthesia

Specific Objectives in CanMEDS Format

OVERALL GOALS

Residents completing a one block elective in Transesophageal Echocardiaography (TEE) will gain a basic understanding of the role of echocardiography in perioperative patient assessment and its integration as a monitor during cardiac surgery. In addition, the core focus will be on performing a complete perioperative examination.

ROTATION OBJECTIVES

At the completion of training, the resident will have acquired the following competencies and will function effectively as:

Medical Expert

A. *Physiology and Anatomy*

The resident is expected to:

- Describe detailed cardiac anatomy, physiology and its relationship to images obtained during a TEE exam.
- Know important aspects of the anatomy and physiology of cardiac valves, left ventricle, right ventricle, left and right atria, coronary sinus, SVC, IVC and aorta.

B. *Monitoring*

The resident will be able to:

- Describe the advantages and limitations of TEE as a cardiac monitor.
- Understand the concepts of wall motion analysis and wall motion scores and the effect of ischemia and other disease processes on this score.
- Describe ways of monitoring the cardiac ejection fraction.
- Performance of a complete examination to obtain standard views.
- Demonstrate the role of TEE in the perioperative setting including advantages for its use as well as limitations and contraindications

C. *Clinical Management*

Clinical management will be limited as the scope of the rotation will not allow complex echocardiographic interpretation. Any management issues will be coordinated with the consultant anesthesiologist. However, some basic concepts will be reviewed:

- Identify potential causes of hypotension on TEE and suggest treatment options (hypovolemia, LV failure)
- Identify potential high risk stroke patients (poor aorta's) and be aware of alternate treatment strategies for management of these patients.
- Identify the use of TEE during weaning from bypass and suggest treatment options for hypotension (volume, inotropes).

Communicator

Effective communication skills will be taught and encouraged at several levels:

- Between Resident and the Cardiac Anesthesiology Attending
  - Communicate TEE findings and the implications for the current procedure or for treatment during unstable events.
- Between Resident and the Surgeon
  - To provide a brief TEE report to the surgeon to identify potential problems or abnormalities discovered during the examination and to come to an agreement on the presumed best course of action.

Collaborator

Residents are expected to learn this role in several areas and become increasingly comfortable with it in their senior years:

- Recognize their limitations and seek consultation from medical experts in other disciplines
- Learn how to advise other physicians in an oral format on cardiac issues in which the resident has developed expertise.
- Foster healthy team relationships

Professional

Residents must:

- Always demonstrate respectful, and compassionate behavior toward patients, their families and other health care providers
- Remain calm and organized in stressful, or emergency situations
- Participate through attendance, interaction and presentation at rounds including departmental, echocardiographic and cardiac didactic teaching.

READING LIST

Written material (books, lecture notes) as well as material on the web site (videotaped lectures, electronic journals) is made available to residents. There is also an extensive library of digitally archived images to review.

Reviewed: June 2012, Dr. Granton