Perioperative TEE Certification:
What I Need to Know

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TRAINING AND CLINICAL COVERAGE CONSIDERATIONS:
An intraoperative echocardiography service requires a core group of physicians and sonographers/technicians with appropriate training, experience and proficiency to provide comprehensive clinical coverage in transesophageal echocardiography (TEE), epicardial/epiaortic ultrasonography and surface ultrasound for assisting in central line placement 1-3, all of which are considered within the domain of perioperative echocardiography. While hiring at least one qualified physician with advanced training and education in perioperative echocardiography (i.e., the echocardiography laboratory lab director) may be necessary and costly when starting a perioperative echocardiography service, many practices rely on recruiting more junior staff who have received formal perioperative echocardiography training during a cardiothoracic anesthesia fellowship to provide the bulk of the clinical service. In addition, as long as experienced clinicians are available for consultation, cost-effective, “on the job” training can be acquired by the remaining staff, if designating dedicated non-clinical time is not practical 4,5. The American Society of Echocardiography (ASE) and Society of Cardiovascular Anesthesiologists have published guidelines for training in perioperative echocardiography. Assigning personnel, ideally with sonographic training, to the tasks of facilitating with the knobology during the acquisition of the examination, setting up equipment, maintaining equipment and entering data from reports, can be achieved in an efficient manner.

Historically, an intraoperative echocardiography service has focused primarily on cardiac surgical patients. However, the value and practicality of this important diagnostic tool and monitor of cardiac performance has highlighted its utility for several other patient populations in other clinical environments, including non-cardiac surgical patients, those undergoing cardiac catheterization and electrophysiology interventions, as well as critically ill patients in the intensive care unit and emergency room. Providing service in these other clinical environments has important implications for personnel, equipment, reimbursement, and political considerations with previously established “non-perioperative” echocardiography services within the institution, and therefore should be considered early on in the establishment of a perioperative echocardiography service.

CREDENTIALING AND CERTIFICATION:
Knowledge of appropriate criteria for credentialing and certification is essential for the establishment of a successful perioperative echocardiography service.
Credentialing is defined as a process whereby a physician is granted clinical privileges by a local health care organization. Criteria for credentialing may be established by the echocardiography laboratory director with the support of the institution, in order to determine the necessary level of education and expertise to perform perioperative echocardiography and maintain one’s clinical skills. Certification is the process whereby a national organization certifies that an individual physician has met pre-defined certification criteria. The purpose for having a credentialing process is to establish a domain for the practice of perioperative echocardiography for the purpose of board certification; to be able to assess the level of knowledge demonstrated by a licensed physician practitioner of perioperative echocardiography in a valid manner; to enhance the quality of perioperative echocardiography and individual professional growth in perioperative echocardiography, to formally recognize individuals who satisfy the requirements set by the certification organization, and to serve the public by encouraging quality patient care in the practice of perioperative echocardiography.

Since 2004, a certification process to achieve “diplomate” status in Advanced Perioperative TEE has been provided by the National Board of Echocardiography (NBE). The scope of practice for advanced perioperative TEE is defined as “The application of an advanced perioperative TEE examination is to utilize the full diagnostic potential of perioperative TEE including direction of the perioperative surgical decision making process.” Current criteria for acquiring advanced certification in perioperative TEE through the NBE include possession of a current license to practice medicine (unconditional and unrestricted at the time of application) and current Medical Board Certification. In addition, achieving “testamur” status by successfully completing the corresponding examination offered by the NBE is required. An examination in advanced perioperative TEE (PTEeXAM) has been offered by the NBE since 1998, and currently includes 200 written and video based questions encompassing material involving all applications of perioperative echocardiography with an emphasis on applications for cardiac surgery. From 1998 through 2008, the PTEeXAM was given in written format. However, since 2009 the PTEeXAM has been offered as a computer based examination with the next exam scheduled for July 2015. Specific training/experience in the perioperative care of surgical patients with cardiovascular disease is also required for NBE certification and can be achieved either through a 1-year fellowship in cardiovascular disease (i.e., training) or by demonstrating experience in the perioperative management of at least 150 patients with cardiovascular disease per year for 2 years (i.e. at least 300 cases). Finally specific training/experience in perioperative echocardiography must also be demonstrated either through “Supervised” training pathway” (i.e., fellowship) which involves studying 300 complete TEEs of which 150 must be personally performed, or through a “Practice Experience Pathway” in which candidates must personally perform at least 300 TEEs on surgical patients with no less than 50 TEE in any year, and acquire 50 hours of AMA category 1 CME in echocardiography both within 4 years prior to application for certification. It is important to note that the practice experience option will expire for those candidates completing their core residency after June 30, 2009. For these individuals, training for board certification must be completed within a formal, accredited training program designed to accomplish training in perioperative TEE. However, the practice experience option will remain open indefinitely for those completing their core residency before June 30, 2009. Since
PTEeXAM certificates expire 10 years after the test date, candidates must recertify to maintain NBE “diplomate” status. A recertification PTEeXAM (RePTE) has been offered by the NBE since 2007 and includes a subset of the PTEeXAM questions. In addition, recertification in perioperative TEE requires that applicants demonstrate continued experience by performing at least 50 TEEs in 2 of the 3 years prior to application, and acquire 15 hours of AMA category 1 CME within 3 years prior to application.

In October of 2006, the ASA House of Delegates approved the development of a basic echocardiography education training program, and resolved that ASA uniquely or collaboratively explore a pathway for anesthesiologists to obtain experience and privileges in echocardiography as a basic perioperative monitor. The ASA finalized an agreement with the National Board of Echocardiography (NBE) in 2010 to (1) develop a Basic Perioperative TEE examination and (2) to develop criteria for a certification pathway to achieve diplomate status in Basic Perioperative Echocardiography under the scope of practice which includes non-diagnostic monitoring within the customary practice of anesthesiology; a focus on intraoperative monitoring rather than specific diagnosis; and with the understanding that except in emergent situations, diagnoses requiring intraoperative cardiac surgical intervention or post-operative medical/surgical management must be confirmed by an individual with advanced skills in TEE or by an independent diagnostic technique. A Basic PTEE Exam and Certification process has been available from the NBE since 2010. The next Basic PTEE Examination will be given in July 2016. Current criteria for Basic Perioperative TEE Certification proposed by the NBE include:

1. Requirement 1. Applicants must have passed the Basic PTE Exam or the PTEeXAM
2. Requirement 2. Applicants must hold a current and unrestricted license to practice medicine at the time of application
3. Requirement 3. Applicants must be board certified in anesthesiology
4. Requirement 4. Specific Training in PTEE: performance/review of 150 basic PTEE examinations with variations in +/- supervision, +/- CME, time frame for completion (2 - 4 yrs), depending upon the pathway:
   1) Supervised Training Pathway
   2) Practice Experience Pathway (availability through 6/2016)
   3) “Extended CME Pathway”

Further details for acquiring certification in echocardiography through the NBE can be found on their website: www.echoboards.org.

REFERENCES
