

# Scope of Practice for Perioperative Transesophageal Echocardiography

## **Purpose:**

The purpose of this document is to define the Scope of Practice for professionals who perform and interpret perioperative transesophageal echocardiography (TEE). While the current scope of practice is defined below, the scope of practice and the indications for perioperative TEE may evolve as technology advances.

## **Definition of Perioperative Transesophageal Echocardiography**

Perioperative TEE refers to TEE performed on surgical patients before, during, or immediately after surgery and interventional procedures, and includes the critical care setting as well as non-traditional interventional settings including the cardiac catheterization laboratory.[1] TEE is recommended (in the absence of contraindications) for all patients undergoing open chamber cardiac or thoracic aortic surgery by the American Society of Anesthesiologists (ASA) and Society of Cardiac Anesthesiologists (SCA) in their Practice Guidelines for Perioperative Echocardiography.[1] TEE should be considered for selected patients undergoing coronary revascularization. During non-cardiac surgery, intraoperative TEE can provide useful clinical information in patients with cardiovascular pathology; can be used to monitor cardiac performance during surgical procedures that are associated with potentially life-threatening hemodynamic, pulmonary, or neurologic compromise and facilitate clinical decision-making; and can be useful for determining the etiology of acute, unanticipated hemodynamic collapse. These recommendations for TEE use during cardiac and non-cardiac surgery are mirrored in the recent guidelines from the European Association of Echocardiography (EAE) and the European Association of Cardiothoracic Anaesthesiologists (EACTA).[2]

## **Scope of Practice**

The ASA/SCA and the EAE/EACTA recommend specific benchmarks for TEE competency to ensure that the examination is complete and provides a meaningful assessment of ventricular and valvular function, intravascular volume, and great vessels within the thorax. TEE is an invasive procedure with a small but measurable risk of physical injury, but carries a greater potential risk of misinterpretation or incomplete evaluation (missing an important finding). “Basic Perioperative TEE” refers to the medical practice of performing TEE for image and data acquisition by a physician who intends to use the information primarily for monitoring. “Advanced Perioperative TEE” refers to the medical practice of performing TEE for image and data acquisition by a physician who intends to utilize the full diagnostic potential of perioperative TEE, including the interpretation of data for perioperative surgical decision making. The acquisition and interpretation of TEE data cannot be delegated to non-physicians.

The scope of practice includes a determination of medical necessity, identification of appropriate indications and contraindications, an understanding of the technical aspects of probe placement and manipulation, image generation, interpretation of the data generated by TEE, integration of diagnostic imaging information into the clinical decision-making process, appropriate storage of images and data, and generation of a report. Only physicians who have completed training, demonstrated and maintained expertise in the use of TEE and interpretation of the studies, and are credentialed by their hospital specifically for TEE, should perform perioperative TEE.

1. Practice guidelines for perioperative transesophageal echocardiography. An updated report by the American Society of Anesthesiologists and the Society of Cardiovascular Anesthesiologists Task Force on Transesophageal Echocardiography. *Anesthesiology*, 2010. 112(5): p. 1084-96.
2. Flachskampf FA, Badano L, Daniel WG et al: Recommendations for transoesophageal echocardiography: update 2010. *Eur J Echocardiogr*, 2010. 11(7): p. 557-76.