

STATEMENT ON TRANSESOPHAGEAL ECHOCARDIOGRAPHY

Committee of Origin: Economics

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A number of patients with cardiovascular disease undergoing anesthesia for various surgical procedures require precise cardiovascular assessment and prompt treatment of physiologic changes that occur in the perioperative period. Sophisticated instruments, such as transesophageal echocardiography (TEE), can provide specific information about cardiovascular function and physiologic and anatomic changes that is not available from routine monitors utilized in the operating room. For example, evaluation by TEE may be required to obtain the most precise information to guide surgical interventions (e.g., myocardial revascularization, valvular competence and repair of congenital heart defects) and to guide pharmacological support and/or fluid administration in the perioperative period. The position of the American Society of Anesthesiologists (ASA) is that the placement of the TEE probe and the acquisition and interpretation of the complex information obtained from TEE are medical services provided by anesthesiologists or other qualified physicians and have not been and are not currently incorporated within the usual base or time units of the ASA Relative Value Guide®.

In 1996, the House of Delegates of the American Society of Anesthesiologists approved the “Practice Guidelines for Perioperative Transesophageal Echocardiography.” In 2009 the House of Delegates updated and readopted these Practice Guidelines. This document addresses many of the issues that are raised regarding the use and value of TEE in the perioperative period. Among other things, these evidence-based guidelines describe the circumstances in which TEE offers important advantages over other techniques. For example, both an electrocardiogram (ECG) and pulmonary artery catheter (e.g., Swan-Ganz), can provide continuous assessment of global cardiac performance, but are unable to provide the important dynamic and specific diagnostic information (e.g., wall motion abnormalities, impaired compliance or perivalvular leakage) that can be provided readily and rapidly by TEE.

The indication for TEE is generally based on the individual patient’s condition rather than the specific surgical procedure. Select patients need echocardiography due to underlying structural (congenital), functional (valvular disease, cardiomyopathy) or ischemic (atherosclerotic) cardiovascular disease. Factors such as the patient’s disease process and anticipated diagnostic dilemmas during surgery are weighed when deciding which patients will benefit from intraoperative TEE. Information derived from intraoperative TEE in patients undergoing cardiac surgery results in changes to the planned procedure in as many as 30 percent of cases and has been shown to improve outcomes in patients undergoing cardiac and non-cardiac surgery.

Because the use of TEE is dependent on the patient’s underlying clinical condition, not the specific surgical procedure that the patient is undergoing, neither the work value nor practice expense of TEE services has been considered when developing the base unit values for anesthesia services in which TEE may be used.

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). As a result, the ASA recommends 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. “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 the patient. “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 with appropriate training or comparable experience in perioperative TEE, and who have been credentialed for basic or advanced perioperative TEE, should perform perioperative TEE.

USE OF TRANSESOPHAGEAL ECHOCARDIOGRAPHY

93312 Echocardiography, transesophageal, real-time with image documentation (2D) (with or without M-mode recording); including probe placement, image acquisition, interpretation, and report

This service involves placement of the transesophageal probe, obtaining the appropriate images and views and critical analysis of the data. Patients with increased risks of hemodynamic disturbances may require probe insertion and interpretation of the echocardiogram. This includes, but is not limited to, histories of congestive heart failure, severe ischemic heart disease, valvular disease, aortic aneurysm, major trauma and burns. It may also be indicated in certain procedures that involve great shifts in the patient’s volume status. Such procedures may include vascular surgery, cardiac surgery, liver resection/transplantation, extensive tumor resections and radical orthopedic surgery. The use of TEE may also be indicated when central venous access is contraindicated or difficult and it is not possible to adequately assess blood loss and replacement, impairment of venous return, right and left heart function without the TEE.

93313 Echocardiography, transesophageal, real-time with image documentation (2D) (with or without M-mode recording); placement of transesophageal probe only

Although the procedure is generally safe, the proper insertion of the probe requires skill and judgment. There are a few inherent risks to placement of the probe, including pharyngeal and/or laryngeal trauma, dental injuries, esophageal trauma, bleeding, arrhythmias, respiratory distress and hemodynamic effects. There have even been some case reports of perioperative death

attributed to TEE probe placement. This code is only reported by the physician placing the probe if another physician interprets the images and issues a report of the findings, which is reported with code 93314.

93314 Echocardiography, transesophageal, real-time with image documentation (2D) (with or without M-mode recording); image acquisition, interpretation and report only

This code is used when one physician inserts the probe and another physician interprets the images. Physicians who obtain and interpret cardiac images and provide a report but who did not place the TEE probe should use this code to report their service.

93315 Transesophageal echocardiography for congenital cardiac anomalies; including probe placement, image acquisition, interpretation and report

This service involves placement of the transesophageal probe, obtaining the appropriate images and views, and critical analysis of the data in patients with congenital cardiac anomalies. This includes, but is not limited to, congenital valve problems, such as bicuspid aortic valve, septal defects, including patent foramen ovale, and more complicated congenital heart defects. Patients undergoing both cardiac and complicated non-cardiac surgery would benefit from the use of TEE to evaluate anticipated and unanticipated hemodynamic disturbances and the patient's response to therapy. This includes, but is not limited to, all the indications listed for code 93312, but in patients with congenital cardiac anomalies.

93316 Transesophageal echocardiography for congenital cardiac anomalies; placement of transesophageal probe only

Although the procedure is generally safe, probe insertion in patients with congenital cardiac anomalies requires skill and judgment. There are a few inherent risks to placement of the probe, including pharyngeal and/or laryngeal trauma, dental injuries, esophageal trauma, bleeding, arrhythmias, respiratory distress and hemodynamic effects. There have even been some case reports of perioperative death attributed to TEE probe placement. This code is only reported by the physician placing the probe if another physician interprets the images and issues a report of the findings, which is reported with code 93317.

93317 Transesophageal echocardiography for congenital cardiac anomalies; image acquisition, interpretation and report only

This code is used when one physician inserts the probe and another physician interprets the images in patients with congenital cardiac anomalies. Physicians who obtain and interpret cardiac images and provide a report but who did not place the TEE probe should use this code to report their service.

93318 Echocardiography, transesophageal (TEE) for monitoring purposes, including probe placement, real time 2-dimensional image acquisition and interpretation leading to ongoing (continuous) assessment of (dynamically changing) cardiac pumping function and to therapeutic measures on an immediate time basis

This code is used when the patient's condition, as described under 93312, requires repetitive evaluation of cardiac function in order to guide ongoing management.

93355 - Echocardiography, transesophageal (TEE) for guidance of a transcatheter intracardiac or great vessel(s) structural intervention(s) (eg, TAVR, transcatheter pulmonary valve replacement, mitral valve repair, paravalvular regurgitation repair, left atrial appendage occlusion/closure, ventricular septal defect closure) (peri-and intra-procedural), real-time image acquisition and documentation, guidance with quantitative measurements, probe manipulation, interpretation, and report, including diagnostic transesophageal echocardiography and, when performed, administration of ultrasound contrast, Doppler, color flow, and 3D

This service involves placement of the transesophageal probe, obtaining the appropriate images and views, and critical analysis of the images and data for patients undergoing major transcatheter cardiac or vascular intervention. Patients undergoing these procedures have cardiovascular disease and may have co-morbidities of such severity that they are deemed too high risk for an open procedure. These patients are at increased risk for hemodynamic disturbances due to cardiovascular lesions, which include, but are not limited to, severe valvular heart disease, intra-cardiac defects, and aortic aneurysm. Diagnostic interpretation of the TEE data guides selection and positioning of implanted devices, determines successful deployment, and identifies complications. It is not appropriate to separately report spectral Doppler, color flow Doppler, 3D echocardiography, or administration of ultrasound contrast.

+93320 Doppler echocardiography, pulsed wave and/or continuous wave with spectral display (List separately in addition to codes for echocardiographic imaging); complete

This add-on code is used to evaluate blood velocity and flow patterns through various cardiac and vascular structures. Stenotic lesions generally lead to increased blood velocity proportional to the degree of stenosis, thereby providing a method to assess the severity of stenosis. Velocity measurements are also used to calculate the area of stenotic valves and regurgitant orifices.

+93325 Doppler echocardiography color flow velocity mapping (List separately in addition to codes for echocardiography)

This add-on code is used to evaluate the direction and character of blood flow through various cardiac and vascular structures.

76376 - 3D rendering with interpretation and reporting of computed tomography, magnetic resonance imaging, ultrasound, or other tomographic modality with image postprocessing under concurrent supervision; not requiring image postprocessing on an independent workstation.

Physicians requesting 3D services should generate a written request indicating the clinical need for the additional 3-D imaging and that the interpreting physician's report address those specific clinical issues. CPT code 76376 may be considered medically unnecessary and denied if

equivalent information obtained from the test has already been provided by two-dimensional ultrasound.

76377 - 3D rendering with interpretation and reporting of computed tomography, magnetic resonance imaging, ultrasound, or other tomographic modality with image postprocessing under concurrent supervision; requiring image postprocessing on an independent workstation.

Physicians requesting 3D services should generate a written request indicating the clinical need for the additional 3-D imaging and that the interpreting physician's report address those specific clinical issues. CPT code 76377 may be considered medically unnecessary and denied if equivalent information obtained from the test has already been provided by two-dimensional ultrasound.

USE OF MODIFIERS

If the TEE is performed for diagnostic purposes by the same anesthesiologist who is providing anesthesia for a separate procedure, modifier 59 should be appended to the TEE code to note that it is distinct and independent from the anesthesia service. If the anesthesiologist does not own the TEE equipment, s/he reports only the professional component of the TEE service and should append modifier 26 (Professional Component) to the TEE code, along with modifier 59.

BUNDLING ISSUES

Transesophageal echocardiography (TEE) is a special diagnostic tool, which may be used by properly trained physicians (i.e., anesthesiologists, cardiologists) to benefit patient care. Perioperative use of TEE should be separately reported and paid for the following reasons:

1. TEE is a special tool and not a standard intraoperative technique. It provides unique information that no other diagnostic procedure can provide. TEE permits ongoing assessment of cardiovascular function and immediate treatment of abnormalities related to surgical interventions, anesthesia effects and changing patient conditions.
2. Intraoperative TEE is a relatively new diagnostic tool, which has not been factored in any of the current base unit values for anesthesia care payment. The ASA Relative Value Guide® unit values for anesthesia services factor in neither the special information TEE provides nor the increased risk and work of the echocardiographer.
3. Because medical conditions that indicate the use of TEE exist in patients undergoing a great variety of operations, the unit values of specific anesthesia services should not reflect the use of the TEE.
4. A TEE examination is a service extending beyond the scope of standard perioperative anesthesia care. This is obvious when the service is requested by the surgeon or other physician, but is also true if the anesthesiologist believes the TEE to be clinically indicated in a given patient.
5. Any physicians using TEE should be specifically credentialed by their institution to do so.

6. Anesthesiologists using TEE provide information equivalent to that provided by any consulting physician (e.g., cardiologist) using echocardiography for a given indication. This is not part of, but rather in addition to, the anesthesia service being provided.