



## MASSACHUSETTS

Blue Cross Blue Shield of Massachusetts is an Independent Licensee of the Blue Cross and Blue Shield Association

# Medical Policy

## Transthoracic Echocardiography (TTE)

### Table of Contents

- [Policy: Commercial](#)
- [Authorization Information](#)
- [Coding Information](#)
- [Description](#)
- [Policy History](#)
- [References](#)
- [Information Pertaining to All Policies](#)
- [Endnotes](#)

### Policy Number: 115

BCBSA Reference Number: N/A

### Related Policies

Transesophageal Echocardiography (TEE), #[114](#)

### Policy<sup>1</sup>

#### Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity

This policy addresses the medically necessary and appropriate application of TTE, including stress echocardiography. Transesophageal echocardiography (TEE) is addressed in policy #114.

Echocardiography is **MEDICALLY NECESSARY** in the evaluation of derangements of valvular, endocardial, myocardial and pericardial structure and function. The general applications for coverage include:

#### Transthoracic Echocardiogram

Per the [American College of Cardiology \(ACC\), the American Heart Association \(AHA\) and the American Society of Echocardiography \(ASE\) 2003 Guideline Update for the Clinical Application of Echocardiography](#).

#### Ventricular Function, Cardiomyopathies and Heart Failure

TTE is considered **MEDICALLY NECESSARY** for the following:

1. When the etiology is in doubt, echocardiography can document or rule out the common cardiac causes of pulmonary congestion left-sided valvular disease, depressed systolic or diastolic function, and cardiomyopathy. In this regard, echocardiography is the preferred initial diagnostic test when the history, physical examination, and routine laboratory tests suggest (or cannot eliminate) cardiac disease. ([ACC/AHA/ASE 2003 Guideline Update, pg. 35](#))
2. Echocardiography is recommended for patients with edema with clinical signs of elevated central venous pressure when a potential cardiac etiology is suspected or when central venous pressure cannot be estimated with confidence and clinical suspicion of heart disease is high. TTE is also recommended for patients experiencing dyspnea with clinical signs of heart disease. ([ACC/AHA/ASE 2003 Guideline Update, pg. 37](#))
3. Echocardiography is not recommended in patients with edema when the jugular venous pressure does not appear to be elevated. ([ACC/AHA/ASE 2003 Guideline Update, pg. 35](#)).

### **Hypertensive Cardiovascular Disease**

TTE is considered **MEDICALLY NECESSARY** for the following:

1. Evaluating the cardiac effects of systemic hypertension ([ACC/AHA/ASE 2003 Guideline Update, pg. 42](#))
2. In young individuals and in individuals with borderline hypertension, the decision to commit to long-term antihypertensive therapy may be determined by the presence of left ventricular hypertrophy and /or left ventricular mass calculation.

### **Acute Myocardial Infarction and Coronary Insufficiency**

TTE is considered **MEDICALLY NECESSARY** for the following:

1. The evaluation of regional motion, systolic thickening perturbations and mural thinning
2. The evaluation of right ventricular ischemia and/or infarction
3. The diagnosis or evaluation of complications of acute infarction (e.g., mural thrombi, papillary muscle dysfunction and rupture, septal defects, true or false aneurysm and myocardial rupture)
4. After an initial TTE in the setting of acute infarction, repetition frequency will typically be dictated by the acute clinical course. The medical record should document the medical necessity of the frequency for TTE assessment.
5. The evaluation of chest pain in patients with suspected acute myocardial ischemia when baseline ECG and other laboratory markers are nondiagnostic and when study can be obtained during pain or within minutes after its abatement.
6. The diagnosis of acute myocardial infarction when the clinical history and ECG findings are nondiagnostic. ([ACC/AHA/ASE 2003 Guideline Update, pg. 15](#))

### **Exposure to Cardiotoxic Agents (chemotherapeutic and external)**

TTE is considered **MEDICALLY NECESSARY** for the following:

1. An initial complete TTE may be performed prior to first administration of the agent with the frequency of repeat studies determined by the patient's clinical course and the toxicity profile of the agent being administered, although tests performed bimonthly during chemotherapy and at six (6) months following therapy are generally considered medically appropriate.

### **Cardiac Transplant and Rejection Monitoring**

TTE is considered **MEDICALLY NECESSARY** for the following:

1. TTE is an integral part of the cardiac donor-selection and donor-recipient matching process. Evaluation focuses on analysis of ventricular function and valvular integrity.
2. TTE in the management of allograft recipients is typically performed weekly for the first four to eight (4-8) weeks following transplant, with reduced frequency over time. Absent acute rejection episodes, approximately two (2) TTE examinations are typically performed yearly in chronic transplant recipients. TTE of cardiac allografts is most appropriately serially performed at transplant centers by examiners with expertise in the management of cardiac allograft recipients.

### **Native Valvular Heart Disease**

TTE is considered **MEDICALLY NECESSARY** for the following:

1. TTE is well established as a technique of primary choice for the evaluation of valvular pathology and its effect upon global myocardial function.
2. In some patients, Doppler echocardiography is the only noninvasive method capable of identifying the cause of a heart murmur. ([ACC/AHA/ASE 2003 Guideline Update, pg. 7](#))

It is **NOT MEDICALLY NECESSARY** to repeat these examinations more than once per year. When the patient's clinical status shows evidence of change or the plan of care includes consideration for imminent valvular surgery, more frequent exams may be necessary.

### **Prosthetic Heart Valves (Mechanical & Bio-prostheses)**

TTE is considered **MEDICALLY NECESSARY** for the following:

1. To assess after prosthetic valve implant to establish a baseline structural and hemodynamic profile with reassessment following convalescence (3-6 months). Thereafter, re-evaluation of patients with suspected dysfunction, thrombosis or a change in clinical status or symptoms is indicated.

### **Acute Endocarditis**

TTE is considered **MEDICALLY NECESSARY** for the following:

1. Diagnostic and evaluation of suspected endocarditis or complications or sequelae of acute infective endocarditis.
2. Examination frequency in the acute phase of illness is dictated by the individual clinical course. When the acute process has been stabilized, the frequency of serial TTE evaluation will be determined by the residual pathophysiology and discrete clinical events, analogous to the serial assessment of chronic valvular dysfunction and/or normally functioning prosthetic valves.

### **Pericardial Disease**

TTE is considered **MEDICALLY NECESSARY** for the following:

1. The detection and quantitation of the amount of pericardial effusion.
2. To characterize the hemodynamic consequences of pericardial fluid accumulation.
3. As an adjunct during the removal of pericardial fluid and creation of pericardial windows.
4. The diagnosis of pericardial constriction and differentiating it from restrictive myocardial disease (may require Doppler).
5. The acute clinical status will dictate examination frequency. In a patient with evolving pericardial pathology, a limited focused TTE exam may be appropriate.

### **Abnormalities of the Great Vessels**

TTE is considered **MEDICALLY NECESSARY** for the following:

1. The evaluation of acute or chronic aortic pathology (Note: TEE is often a more determinative study unless images suitable for serial quantitation can be obtained by TTE).
2. Routine (yearly) evaluation is indicated in patients with severe aortic stenosis or regurgitation, in whom the information obtained will be used in determining or modifying the plan of care.
3. Individuals with ascending aortic dilatation or aneurysms, a focused limited follow-up exam to serially measure ascending aortic diameters may be indicated.
4. The evaluation of the main pulmonary artery segment and the proximal right and left pulmonary arteries.
5. The evaluation of the vena cavae and diagnosing congenital and acquired abnormalities such as vena caval thrombosis, vena caval dilation, and thrombosis or extension of tumors from the inferior vena cava to the right-heart chambers.

### **Congenital Heart Disease**

TTE is considered **MEDICALLY NECESSARY** for the following:

1. TTE with Doppler hemodynamic measurements for diagnosis and noninvasive serial assessment of most congenital heart diseases.
2. When the disease process and therapy are stable, assessment more often than annually requires medical necessity documentation.
3. In asymptomatic patients following repair of atrial septal defect (ASD), patent foramen ovale (PFO), ventricular septal defect (VSD) or patent ductus arteriosus (PDA) follow up examination is only indicated within the first year after correction.

### **Suspected Cardiac Thrombi and Embolic Sources**

TTE is considered **MEDICALLY NECESSARY** for the following:

1. When indicated for the evaluation for cardiovascular source of embolic events (PFO/ASD, atrial or ventricular thrombus, intracardiac tumor) in evaluation for patients with abrupt occlusion of a major peripheral or visceral artery or for with neurological events without evidence of cerebrovascular disease or other obvious cause.

### **Cardiac Tumors and Masses**

TTE is considered **MEDICALLY NECESSARY** for the following:

1. The diagnosis and assessment of cardiac tumors.
2. Serial TTEs may be medically necessary to monitor tumor size or tumor recurrence.

### Critically Ill and Trauma Patients

TTE is considered **MEDICALLY NECESSARY** for the following:

1. The diagnosis of suspect aortic or central pulmonary pathology, cardiac contusion, or pericardial effusion.
2. The assessment of volume status.
3. The frequency of these typically acute studies will be dictated by the clinical circumstances.

### Arrhythmias and Palpitations

TTE is considered **MEDICALLY NECESSARY** for the following:

1. To evaluate cardiac function in which arrhythmias occur, and may be useful in the management of cardiac arrhythmias. Some arrhythmias are frequently associated with underlying organic heart disease or may predispose the patient to hemodynamic deterioration. Atrial fibrillation and atrial flutter are examples of arrhythmias in which echocardiography may be appropriate to assess the underlying disorder. Echocardiographic studies are appropriate only when there is evidence of heart disease.
2. Palpitations without evidence of arrhythmias, or minor arrhythmias (e.g., isolated APC's or VPC's) without evidence of heart disease, are not covered indications for transthoracic echocardiography.

### Syncope

TTE is considered **MEDICALLY NECESSARY** for the following:

1. In the initial evaluation of syncope and when other findings are suggestive of valvular heart disease or obstructive cardiomyopathy.

### Pulmonary

TTE is considered **MEDICALLY NECESSARY** for the following:

1. To assess right ventricular size and performance and quantify the severity of pulmonary hypertension using Doppler flow in unexplained pulmonary hypertension, and pulmonary emboli with suspected right atrial or right ventricular sources of emboli.

### Contrast Echocardiography

Contrast echocardiography is **MEDICALLY NECESSARY** when:

1. A conventional study has failed to provide adequate and critically needed information on left ventricular function.
2. It is used to improve the delineation of the left ventricular endocardial borders in a patient whose non-contrast study is inadequate or suboptimal, and for whom the LV function information is essential to the management of the patient.
3. More than two (2) contiguous segments of the left ventricular border are not visualized.

### LIMITATIONS

Echocardiography performed for screening purposes is **NOT COVERED**. Screening includes testing performed on patients who present with risk factors (including the risk factor as having a positive family history, e.g., familial history of Marfan's disease).

The following indications are **NOT MEDICALLY NECESSARY** and are therefore **NOT COVERED**:

1. Routine (yearly) re-evaluation of asymptomatic patients with corrected ASD, VSD or PDA more than one year after successful correction.
2. Routine (yearly) re-evaluation of mitral valve prolapse in patients with no or mild mitral regurgitation and no change in clinical status.
3. Routine (yearly) re-evaluation of an asymptomatic patient with mild native aortic stenosis or mild-moderate native mitral stenosis and no change in clinical status.
4. Routine (yearly) re-evaluation of mild native valvular regurgitation in an asymptomatic patient with mild regurgitation, no change in clinical status and normal left ventricular size.
5. Routine (yearly) re-evaluation of a patient with a prosthetic valve in whom there is no suspicion of valvular dysfunction and no change in clinical status.

6. Routine (yearly) re-evaluation of patients with heart failure (systolic or diastolic) in whom there is no change in clinical status or physical exam that would prompt suspicion of valvular dysfunction.
7. Routine (yearly) re-evaluation of hypertrophic cardiomyopathy in a patient with no change in clinical status.
8. Patients who have isolated atrial premature complexes (APC) or ventricular premature complexes (VPC) without other evidence of heart disease.
9. Re-evaluation of left ventricular (LV) function with normal ventricular function in patients in whom there has been no change in clinical status.
10. Initial evaluation of patient with suspected pulmonary embolism in order to establish the diagnosis.
11. Evaluation of native and/or prosthetic valves and endocardium in patients with brief or transient fever but without evidence of bacteremia or new murmur.
12. Re-evaluation of a patient with known hypertensive heart disease without a change in clinical status.
13. Routine evaluation of patients with systemic hypertension without suspected hypertensive heart disease.
14. Evaluation of a patient with atrial fibrillation or flutter for left atrial thrombus or spontaneous contrast when a decision has already been made to anticoagulate and not to perform cardioversion.

Source: [ACCF/ASE/ACEP/ASNC/SCAI/SCCT/SCMR 2007 Appropriateness Criteria for Transthoracic and Transesophageal Echocardiography, JACC 2007.](#)

### Follow-up Studies or Limited Studies

A complete study includes a full evaluation of all aspects of the heart, including the cardiac chambers, valves, blood flow, and great vessels. The images are reviewed, measured, analyzed and interpreted by the physician. A report is prepared for the patient's record.

When a less than complete examination is performed for the purpose of evaluation of one specific cardiac problem, or region of the heart, the service performed is reported as follow-up or limited studies.

The following are examples of a **MEDICALLY NECESSARY** follow-up study:

1. A patient with pericardial effusion following heart surgery,
2. To evaluate progression or resolution of the effusion; **OR**
3. A serial evaluation of left ventricular function during antineoplastic chemotherapy.

The following are examples of a **MEDICALLY NECESSARY** recording of tricuspid regurgitant velocity:

1. To estimate pulmonary artery systolic pressure; **OR**
2. A sequential evaluation of the transmitral velocity profile in a patient with mitral stenosis, in order to evaluate for a change in gradient or valve area.

### Doppler Color Flow Velocity Mapping

Spectral Doppler echocardiography and Doppler color flow-velocity mapping may be **MEDICALLY NECESSARY** as part of an echocardiogram when those techniques could contribute significant information about the patient's diagnosis, prognosis, or treatment plan. Typically, Doppler is indicated in the evaluation of some heart murmurs, valvular problems, shunts, suspected congenital heart disease, complications of myocardial infarction, or cardiomyopathy. Doppler should be **MEDICALLY NECESSARY** for the evaluation and management of the patient.

The use of the Doppler is inherent in the ultrasonic cardiac evaluation. However, if the test reports fail to document the use of this technique to assess these structures and function (e.g., measurement of valvular insufficiency or stenosis, myocardial diastolic function, etc. as described by the [American Society of Echocardiography](#) (ASE), or if the medical records fail to document that the examination was "clinically necessary" (e.g., follow-up of pericardial effusion size) then the Doppler portion of the test may be considered **NOT MEDICALLY NECESSARY**.

### Limited Capability Ultrasound Scanners

Some small scanners have more limited capabilities and lack either the permanent recording capabilities or some of the functional capabilities needed to perform a complete examination. Such a study may be quite useful as an extension of the physical examination.

However, an examination that does not meet the standards required for a complete diagnostic echocardiographic examination – whether performed with a "conventional" scanner or a limited capability ultrasound scanner – will be considered **NOT MEDICALLY NECESSARY**.

### **Stress Echocardiography**

Stress Echocardiography may be **MEDICALLY NECESSARY** when the evaluation could contribute significant information about patient's diagnosis, prognosis, or treatment plan. A non-imaging stress test focuses on the hemodynamic and electrocardiographic responses to stress. To enhance the diagnostic specificity of those modalities, the stress EKG test may be combined with echocardiographic imaging or scintigraphic imaging.

A contrast agent may be used with echocardiographic imaging to enhance endocardial visualization and diagnostic accuracy. When two (or more) imaging studies (e.g., ultrasound and scintigraphy) are billed without a supporting clinical indication for each and for why both are needed, one of the services will be denied as **NOT MEDICALLY NECESSARY**.

The following addresses the echocardiographic imaging that is done in association with a stress test.

Stress echocardiography may be **MEDICALLY NECESSARY** in the care of patients with real or suspected ischemic heart disease in the following clinical settings:

1. To detect coronary artery disease in patients presenting with chest pains including atypical chest pains and exertional dyspnea when the suspicion of CAD is high.
2. To assess prognosis and functional capacity in patients following an acute myocardial infarction.
3. To evaluate the extent of exercise induced ischemia in patients who have had a revascularization procedure (PCTA, stent or coronary bypass) or patients who have known coronary artery disease (CAD).
4. In women, stress imaging has been recommended as the "initial test."
5. As a substitute for a nuclear perfusion study, to evaluate a prior nondiagnostic or abnormal ECG exercise test.
6. Prior to a scheduled major surgical procedure (e.g., aneurysm, vascular surgery, surgeries with large volume shifts, etc) or transplant procedure, to evaluate patients who are at high risk for myocardial infarction.
7. To evaluate patients presenting with arrhythmias (atrial and/or ventricular) or syncope (near or pre-syncope) when the suspicion of occult coronary artery disease is high.
8. To evaluate patients when an indicated standard exercise ECG is likely to be non-diagnostic, including:
  - a. patients with an abnormal resting ECG,
  - b. orthostatic or hyperventilation induced ECG changes,
  - c. nonspecific ST-T abnormalities due to ventricular hypertrophy drugs or associated intraventricular conduction defect.
9. To assess myocardial viability (hibernating myocardium), or functional significance of coronary lesions (if not already known), in planning for revascularization.
10. To evaluate cardiomyopathy when the evaluation could reasonably be expected to contribute significant information regarding the patient's diagnosis, prognosis, or treatment plan.
11. To evaluate ventricular dysfunction due to post-transplant rejection when the evaluation could reasonably be expected to contribute significant information regarding the patient's diagnosis, prognosis, or treatment plan.
12. To evaluate congenital heart disease, when stress echocardiography helps to determine:
  - a. systemic and right ventricular function at rest and following stress
  - b. presence of any other structural abnormalities, including valvular lesions that may be accentuated with stress.
13. To evaluate exercise hemodynamics in patients with mitral stenosis, mitral regurgitation, pulmonary hypertension, aortic stenosis/regurgitation, prosthetic valves and other conditions where symptoms suggest a more severe impairment than the assessment done at rest, when combined with Doppler.

14. Dobutamine stress echo is especially useful for the evaluation of aortic stenosis and flow (contractile) reserve in symptomatic patients with severe aortic stenosis by calculated valve area, low flow/low gradient, and ejection fraction < 50%. It may be considered for other indications above, when a patient cannot exercise (e.g. due to musculoskeletal or pulmonary issues).

Stress Echocardiography is considered **NOT MEDICALLY NECESSARY** for the following:

1. To identify ischemic heart disease in the absence of established diagnoses, signs, or symptoms.
2. Since echocardiography, nuclear testing, magnetic resonance imaging (MRI), and positron emission tomography can yield overlapping if not identical information, often with similar or comparable accuracy, when two or more of these tests provide equivalent information, one (but not both/all) will be covered when medically necessary.
3. Stress tests by multiple modalities (e.g. stress echocardiography, nuclear SPECT) for the same clinical event are covered only if the preceding test was inconclusive or uninterpretable.
4. Studies with or without contrast will be considered a single study, whether performed on the same or subsequent days.
5. Contrast echocardiography is not covered when used to evaluate perfusion. Contrast is not indicated unless more than two (2) contiguous segments of the left ventricular border are not visualized.

**3-Dimensional Echocardiography**

Three-dimensional echocardiography performed in conjunction with transthoracic echocardiography is **MEDICALLY NECESSARY** for:

1. Pre-operative planning in patients who will be having surgery to repair mitral valve prolapse (in addition to a diagnosis for a pre-operative examination, a secondary diagnosis of mitral valve prolapse is required on the claim).
2. Monitoring the mitral valve area in patients with moderate to severe mitral stenosis.

While three-dimensional echocardiography performed alone provides improved calculation of volumetric studies when compared to 2D echocardiography, its value in affecting clinical outcomes is not yet proven and is therefore **NOT MEDICALLY NECESSARY**.

**Prior Authorization Information**

**Inpatient**

- For services described in this policy, precertification/preauthorization **IS REQUIRED** for all products if the procedure is performed **inpatient**.

**Outpatient**

- For services described in this policy, see below for products where prior authorization **might be required** if the procedure is performed **outpatient**.

	<b>Outpatient</b>
<b>Commercial Managed Care (HMO and POS)</b>	Prior authorization is <b>not required</b> .
<b>Commercial PPO and Indemnity</b>	Prior authorization is <b>not required</b> .

**CPT Codes / HCPCS Codes / ICD Codes**

*Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member’s contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.*

*Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.*

*The following codes are included below for informational purposes only; this is not an all-inclusive list.*

**The above medical necessity criteria MUST be met for the following codes to be covered for Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity:**

## CPT Codes

CPT codes:	Code Description
93306	Echocardiography, transthoracic, real-time with image documentation (2D), includes m-mode recording, when performed, complete, with spectral doppler echocardiography, and with color flow doppler echocardiography
93307	Echocardiography, transthoracic, real-time with image documentation (2D), includes m-mode recording, when performed, complete, without spectral or color doppler echocardiography
93308	Echocardiography, transthoracic, real-time with image documentation (2D), includes m-mode recording, when performed, follow-up or limited study
C8923	Transthoracic echocardiography with contrast, or without contrast followed by with contrast, real-time with image documentation (2D), includes m-mode recording, when performed, complete, without spectral or color doppler echocardiography
C8924	Transthoracic echocardiography with contrast, or without contrast followed by with contrast, real-time with image documentation (2D), includes m-mode recording, when performed, follow-up or limited study
C8929	Transthoracic echocardiography with contrast, or without contrast followed by with contrast, real-time with image documentation (2D), includes m-mode recording, when performed, complete, with spectral doppler echocardiography, and with color flow doppler echocardiography

[Link to A56781 Billing and Coding: Transthoracic Echocardiography \(TTE\) covered ICD diagnosis codes](#)

In addition to the covered diagnosis codes in Billing and Coding Article A56781, the following ICD diagnosis codes are considered medically necessary for commercial products when submitted with the CPT/HCPCS codes above if medical necessity criteria are met:

## ICD-10 Diagnosis Codes

ICD-10-CM diagnosis codes:	Code Description
Q20.9	Congenital malformation of cardiac chambers and connections, unspecified
Q21.4	Aortopulmonary septal defect
Q21.8	Other congenital malformations of cardiac septa
Q24.9	Congenital malformation of heart, unspecified

The above medical necessity criteria **MUST** be met for the following codes to be covered for Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity:

## CPT Codes

CPT codes:	Code Description
93303	Transthoracic echocardiography for congenital cardiac anomalies; complete
93304	Transthoracic echocardiography for congenital cardiac anomalies; follow-up or limited study
C8921	Transthoracic echocardiography with contrast, or without contrast followed by with contrast, for congenital cardiac anomalies; complete
C8922	Transthoracic echocardiography with contrast, or without contrast followed by with contrast, for congenital cardiac anomalies; follow-up or limited study



[Link to A56781 Billing and Coding: Transthoracic Echocardiography \(TTE\) covered ICD diagnosis codes](#)

The above **medical necessity criteria MUST** be met for the following codes to be covered for Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity:

**CPT Codes**

<b>CPT codes:</b>	<b>Code Description</b>
93350	Echocardiography, transthoracic, real-time with image documentation (2D), includes m-mode recording, when performed, during rest and cardiovascular stress test using treadmill, bicycle exercise and/or pharmacologically induced stress, with interpretation and report;
93351	Echocardiography, transthoracic, real-time with image documentation (2D), includes m-mode recording, when performed, during rest and cardiovascular stress test using treadmill, bicycle exercise and/or pharmacologically induced stress, with interpretation and report; including performance of continuous electrocardiographic monitoring, with supervision by a physician or other qualified health care professional
93352	Use of echocardiographic contrast agent during stress echocardiography (list separately in addition to code for primary procedure)
C8928	Transthoracic echocardiography with contrast, or without contrast followed by with contrast, real-time with image documentation (2D), includes m-mode recording, when performed, during rest and cardiovascular stress test using treadmill, bicycle exercise and/or pharmacologically induced stress, with interpretation and report
C8930	Transthoracic echocardiography, with contrast, or without contrast followed by with contrast, real-time with image documentation (2D), includes m-mode recording, when performed, during rest and cardiovascular stress test using treadmill, bicycle exercise and/or pharmacologically induced stress, with interpretation and report; including performance of continuous electrocardiographic monitoring, with physician supervision

[Link to A56781 Billing and Coding: Transthoracic Echocardiography \(TTE\) covered ICD diagnosis codes](#)

In addition to the covered diagnosis codes in Billing and Coding Article A56781, the following ICD diagnosis codes are considered medically necessary for commercial products when submitted with the CPT/HCPCS codes above if **medical necessity criteria** are met:

**ICD-10 Diagnosis Codes**

<b>ICD-10-CM diagnosis codes:</b>	<b>Code Description</b>
I05.9	Rheumatic mitral valve disease, unspecified
I08.9	Rheumatic multiple valve disease, unspecified

**Note:** In addition to the covered diagnosis codes in Billing and Coding Article A56781, any procedure code from column 1 must be accompanied by any procedure code from column 2 to be considered medically necessary.

[Link to A56781 Billing and Coding: Transthoracic Echocardiography \(TTE\) covered ICD diagnosis codes](#)

Column 1 CPT/HCPCS code	Column 1 Description	Column 2 CPT/HCPCS code	Column 2 Description
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	93303	Transthoracic echocardiography for congenital cardiac anomalies; complete
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	93304	Transthoracic echocardiography for congenital cardiac anomalies; follow-up or limited study
		93306	Echocardiography, transthoracic, real-time with image documentation (2D), includes m-mode recording, when performed, complete, with spectral doppler echocardiography, and with color flow doppler echocardiography
		93307	Echocardiography, transthoracic, real-time with image documentation (2D), includes m-mode recording, when performed, complete, without spectral or color doppler echocardiography
		93308	Echocardiography, transthoracic, real-time with image documentation (2D), includes m-mode recording, when performed, follow-up or limited study

**Description**

Transthoracic Echocardiography is the ultrasonic examination of the heart through the chest wall. Two-dimensional (2D) TTE may allow visualization of the cardiac chambers, cyclic variation in myocardial wall thickness, valvular structure and function, the proximal great vessels and the pericardium.

Doppler flow evaluation uses the changes in frequency when a transmitted ultrasound wave is reflected from moving surfaces (e.g., heart valves, red blood cells) and allows measurement of blood flow velocity which can be used to identify valvular stenosis or regurgitation, estimate cardiac output and intracardiac pressures, or identify the presence of intracardiac shunts.

In order to qualify as a valid echocardiographic service, the study must be done for an accepted clinical indication by a properly trained examiner and must include a permanent record of the findings, data sufficient to support the conclusions and an appropriate interpretation and written report. Such a study would meet the standards required for a complete echocardiographic examination, regardless of the size or portability of the instrument used to perform the study.

## Policy History

Date	Action
11/2024	Updated link to A56781.
10/2024	New medical policy describing medically necessary and not medically necessary indications. Effective 10/1/2024.

## Information Pertaining to All <sup>2</sup>Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:

- [Medical Policy Terms of Use](#)
- [Managed Care Guidelines](#)
- [Indemnity/PPO Guidelines](#)
- [Clinical Exception Process](#)
- [Medical Technology Assessment Guidelines](#)

## References

1. ACCF/ASE/ACEP/ASNC/SCAI/SCCT/SCMR 2007 Appropriateness criteria for transthoracic and transesophageal echocardiography. <http://www.acc.org/qualityandscience/clinical/pdfs/TTE.TEE.pdf>. Accessed February 24, 2007.
2. AHA Position Statement, Cardiac transplantation: recipient selection, donor procurement, and medical follow-up. *Circulation*. 1992;86(3):1061-1079.
3. American College of Cardiology, Guidelines for the Clinical Application of Echocardiography. [www.acc.org](http://www.acc.org).
4. Braunwald E. *Heart Disease: A Textbook of Cardiovascular Medicine*. 6th ed. Philadelphia, PA: W.B. Saunders Company;2001.
5. Cheitlin MD, Armstrong WF, Aurigemma GP, et al. ACC/AHA/ASE/ASE 2003 guideline update for the clinical application of echocardiography: a report of the American College of Cardiology/American Heart Association Task Force on practice guidelines (ACC/AHA/ASE/ASE Committee to update the 1997 guidelines for the clinical application of echocardiography). 2003. [http://www.acc.org/qualityandscience/clinical/guidelines/echo/index\\_clean.pdf](http://www.acc.org/qualityandscience/clinical/guidelines/echo/index_clean.pdf). Accessed February 24, 2007. CMD Cardiology Work Group.
6. Douglas PS et al. ACCF/ASE/ACEP/AHA/ASNC/SCAI/SCCT/SCMR 2008 Appropriateness criteria for stress echocardiography: a report of the American College of Cardiology Foundation appropriateness criteria task force, American Society of Echocardiography, American College of Emergency Physicians, American Heart Association, American Society of Nuclear Cardiology, Society for Cardiovascular Angiography and Interventions, Society of Cardiovascular Computed Tomography, and Society for Cardiovascular Magnetic Resonance endorsed by the Heart Rhythm Society and the Society of Critical Care Medicine. *J. Am. Coll. Cardiol*. 2008;51;1127-1147; originally published online Mar 3, 2008; doi:10.1016/j.jacc.2007.12.005.
7. Hung J, Lang R, Flachskampf F, et al. 3D echocardiography: a review of the current status and future directions. *J. Am. Soc Echocardiography*. 2007;20:213-233.
8. LMRP Workgroup, American College of Cardiology and American Society of Echocardiography.
9. Otto C. *The Practice of Clinical Echocardiography*. 2nd ed. Philadelphia, PA: W.B. Saunders Company;2002.

10. Pepi M, Tamborini G, Maltagliati A, et al. Head-to-head comparison of two-and three-dimensional transthoracic and transesophageal echocardiography in the localization of mitral valve prolapse. *J Am Coll Cardiol.* 2006;48:2524-2530.
11. Quinones MA, Douglas PS, Foster E, et al. ACC/AHA clinical competence statement on echocardiography. *Journal of the American College of Cardiology.* 2003;41(4):687-708.
12. Schiller N. Protocols for stress echocardiography in coronary heart disease, UpToDate, Online 13.1. [www.uptodate.com](http://www.uptodate.com).

## Endnotes

---

- <sup>1</sup> [Local Coverage Determination \(LCD\) Transthoracic Echocardiography \(TTE\) L33577](#)  
[Billing and Coding: Transthoracic Echocardiography \(TTE\) A56781](#)

Last revision date: 10/1/2019