

# TTE LMRP (April 2003 – updated March 2004)

## LOCAL MEDICAL REVIEW POLICY

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Carrier

### **LMRP Title**

TRANSTHORACIC ECHOCARDIOGRAPHY

### **AMA CPT Copyright Statement**

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### **CMS National Coverage Policy**

- Title XVIII of the Social Security Act, Section 1862 (a)(7)  
This section excludes routine physical examinations.
- Title XVIII of the Social Security Act, Section 1862 (a)(1)(A)  
This section allows coverage and payment for only those services considered medically reasonable and necessary.
- Title XVIII of the Social Security Act, Section 1833 (e)  
This section prohibits Medicare payment for any claim that lacks the necessary information to process the claim.
- Medicare Carrier's Manual Part 3, section 15360  
This section allows billing for contrast material for use in echocardiography
- Program Memorandum, Transmittal AB-02-085 (CR 2194).  
Medicare Contractor Annual Update of the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)

### **Primary Geographic Jurisdiction**

Downstate NY (excluding Queens)

### **Secondary Geographic Jurisdiction**

N/A

### **CMS Region**

02

### **CMS Consortium**

Northeast

### **DMERC Region LMRP Covers**

N/A

### **Original Policy Effective Date**

### **Original Policy Ending Date**

N/A

## **Revision Effective Date**

## **Revision Ending Date**

N/A

## **LMRP Description**

Echocardiography is an ultrasonic examination of the heart. It is a widely used noninvasive technology to assess cardiac anatomy and function. A Doppler examination is a valuable adjunct to a complete echocardiographic examination. The basic principle utilizes the changes in frequency when a transmitted ultrasound wave is reflected from moving surfaces (e.g., heart valves, red blood cells), allowing the capability of measuring normal and abnormal velocities of blood flow. Such data may lead to the calculation of valvular stenosis, valvular regurgitation, cardiac output, intracardiac pressures or intracardiac shunts.

## **Indications and Limitations of Coverage and/or Medical Necessity**

### **Indications**

Echocardiography is generally indicated in the evaluation of derangements of valvular, myocardial and pericardial function. The specific applications for coverage can be summarized by the following conditions:

#### **1. Native Valvular Heart Disease**

Detection of mitral stenosis was among the first practical clinical applications of TTE. TTE is well established as a technique of primary choice for the evaluation of valvular pathology and its effect upon global myocardial function. The relative severity of valvular pathologies can be quantified. Visualization of the valve and valvular apparatus facilitates therapeutic decisions when competing therapeutic options exist. For example, Noninvasive TTE remains the study of choice for monitoring chronic aortic pathology when images suitable for serial quantitation can be obtained.

#### **2. Prosthetic Heart Valves (Mechanical and Bio-prostheses)**

TTE assessment soon after prosthetic valve implant is important in establishing a baseline structural and hemodynamic profile unique to the individual and the prosthesis. Size, position, underlying ventricular function and concomitant valve pathologies all impact this unique profile.

#### **3. Acute Endocarditis**

TTE can provide diagnostic information. Larger vegetations may be directly visualized, while valvular anatomy and ventricular function directly assessed. The complications or sequelae of acute infective endocarditis can be detected and monitored over time. 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.

#### **4. Ventricular Function and Cardiomyopathies**

Changes in myocardial thickness (hypertrophy and thinning), chamber volume and morphology as well as derived parameters of contractility can be quantified and charted over time by TTE. Cardiac responses to

volume perturbations, chronic pressure excess and therapeutic interventions can be monitored. Recognition of the relative contributions of myocardial and valvular functional perturbations to a clinical presentation is facilitated. TTE aids the recognition of myopathies and their classification into hypertrophic, dilated and restrictive types. That there are increasing data to support the prognostic value of diastolic function parameters in patients with systolic dysfunction.

Although TTE is used in the assessment of ventricular diastolic function, reproducible pathognomonic findings are not well established. In individuals with signs and/or symptoms suggestive of ventricular dysfunction, the demonstration by TTE of normal systolic function and/or ventricular hypertrophy may suggest the presence of diastolic functional abnormalities. The use of spectral (black & white) Doppler may be helpful in defining this entity.

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

TTE can detect ischemic and infarcted myocardium. Regional motion, systolic thickening perturbations and mural thinning can be quantified and global functional adaptation assessed. The relative contributions of right ventricular ischemia and/or infarction can be evaluated. Complications of acute infarction (mural thrombi, papillary muscle dysfunction and rupture, septal defects, true or false aneurysm and myocardial rupture) can be diagnosed and their contribution to the overall clinical status placed in perspective. Following an initial TTE in the setting of acute infarction, repetition frequency will typically be dictated by the acute clinical course.

The role for TTE in the emergency room assessment of individuals who present with chest pain is in evolution. This application may be used as part of a thoughtful clinical evaluation, especially as a triage decision on chest pain syndrome.

### **6. Hypertensive Cardiovascular Disease**

Left ventricular hypertrophy (LVH) correlates with prognosis in hypertensive cardiovascular disease. Certain antihypertensive medications have been reported to stabilize and possibly contribute to the regression of left ventricular hypertrophy and the insidiously progressive development of left ventricular dysfunction and dilatation. 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. For the purpose of re-evaluation to guide antihypertensive therapy based on LV mass regression, it is appropriate to perform subsequent studies as limited TTE studies unless a new indication for a complete TTE study has developed.

### **7. Cardiac Transplant and Rejection Monitoring**

TTE is an integral part of the cardiac donor selection and donor recipient matching process. Evaluations focus on analysis of ventricular function and the integrity of valvular performance. TTE is also incorporated into the management of allograft recipients. Myocardial thickness, refractile properties, contractile patterns and indices, restrictive hemodynamics and the late development of pericardial fluid may alert to a rejection episode. None of these findings has achieved diagnostic sensitivity or specificity.

### **8. Exposure to Cardiotoxic Agents (Chemotherapeutic and External)**

Measures of myocardial contractility, thinning and dilatation are important in the titration of therapeutic agents with known myocardial toxicity. When echocardiography is used to monitor cardiac toxicity of chemotherapeutic agents, 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

### **9. Pericardial Disease**

Detection and quantitation of the amount of pericardial effusion were among the first and remain an important application of TTE. Pericardial fluid accumulations of as little as twenty (20) milliliters have been reliably diagnosed by TTE. Cardiac motion and blood flow patterns demonstrated by TTE characterize the hemodynamic consequences of pericardial fluid accumulation. A collage of TTE findings have been found to be reliable indices of cardiac tamponade. TTE can be a valuable adjunct during the removal of pericardial fluid and creation of pericardial windows. The acute clinical status will dictate examination frequency. TTE and Doppler techniques are quite helpful in identifying pericardial constriction and differentiating it from restrictive myocardial disease.

### **10. Congenital Heart Disease**

In children and young adults, TTE provides accurate anatomic definition of most congenital heart diseases. Coupled with Doppler hemodynamic measurements, TTE usually provides accurate diagnosis and noninvasive serial assessment. A technically adequate TTE can obviate the need for preoperative catheterization in select individuals.

### **11. Cardiac Tumors and Masses**

Infiltrative and ventricular tumors and masses can be visualized, their extent quantified and their hemodynamic consequences assessed by TTE. Right atrial space occupying masses are usually well visualized by TTE. TEE provides a more detailed view of the left atrium and is more sensitive in quantifying mass characteristics (solid, cystic, etc.) extensions and attachments. These acute pathologies are not typically followed serially.

### **12. Critically Ill and Trauma Patients**

There is a role for echocardiography in the management of critically ill patients and trauma victims. The cause of a persistent fever may be elucidated. The diagnosis of suspected aortic or central pulmonary pathology, cardiac contusion, or a pericardial effusion may be confirmed. Perturbations of volume status may be more completely defined and management strategies modified. The frequency of these typically acute studies will be dictated by the exigencies of the clinical milieu.

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

TTE is particularly sensitive in the detection of ventricular thrombi and potentially embolic material. Limited visualization of atrial appendages and the more peripheral and superior portions of the atria render TTE less sensitive than TEE in the detection of atrial thrombus and potentially embolic material. In individuals with cardiac pathology associated with a high incidence of thromboemboli (valvular heart disease, arrhythmias such as atrial fibrillation, cardiomyopathies and ventricular dysfunction) TTE usually provides adequate supplemental therapeutic decisional data. In those instances where the precise diagnosis and localization of potentially embolic material is of paramount therapeutic importance and the information so obtained will potentially and substantively alter therapy, or the risk of anticoagulants is inordinately high, consideration should be given to TEE if TTE provides inadequate decisional information.

**14. Contrast echocardiography** is indicated when a conventional study has failed to provide adequate and critically needed information on left ventricular function. A contrast agent is considered medically necessary when 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.

### **Limitations**

- Echocardiography studies are **not indicated** for following clinical scenarios. Most of these conditions fall in the Class III indications of the American College of Cardiology/American Heart Association Practice Guidelines.
  1. Asymptomatic heart murmur that has been identified by an experienced observer as functional or innocent
  2. Routine re-evaluation of asymptomatic adult patients with mild aortic stenosis having stable physical signs and normal LV size and function
  3. Routine re-evaluation of asymptomatic adult patients with mild to moderate mitral stenosis and stable physical signs
  4. Routine re-evaluation of asymptomatic adult patients with mild valvular regurgitation having stable physical signs and normal LV size and function
  5. Mitral valve prolapse (MVP) in patients with ill defined symptoms in the absence of a constellation of clinical symptoms or physical findings suggestive of MVP or a positive family history
  6. For infective endocarditis, native valves, routine repetition of echocardiography in patients with MVP with no or mild regurgitation and no changes in clinical signs or symptoms
  7. For infective endocarditis, native valves, evaluation of fever and nonpathological murmur without evidence of bacteremia
  8. Routine re-evaluation of patients with valve replacements without suspicion of valvular dysfunction and unchanged clinical signs and symptoms
  9. For valvular heart disease and prosthetic valves, patients whose clinical status precludes therapeutic interventions
  10. For infective endocarditis, prosthetic valves, evaluation of transient fever without evidence of bacteremia or new murmur
  11. Evaluation of chest pain for which a noncardiac etiology is apparent
  12. Diagnosis of chest pain in a patient with electrocardiographic changes diagnostic of acute myocardial ischemia/infarction
  13. Diagnosis of acute myocardial infarction already evident by standard means
  14. For acute myocardial ischemia syndromes, routine re-evaluation in the absence of any change in clinical status
  15. For chronic ischemic heart disease, screening of asymptomatic persons with a low likelihood of coronary artery disease
  16. For chronic ischemic heart disease, routine periodic reassessment of stable patients for whom no change in therapy is contemplated
  17. For chronic ischemic heart disease interventions, routine assessment of asymptomatic patients after revascularization
  18. Evaluation of LV ejection fraction in patients with recent (contrast or

- radionuclide) angiographic determination of ejection fraction
19. For cardiomyopathy and assessment of LV function, routine re-evaluation in clinically stable patients in whom no change in management is contemplated.
  20. For cardiomyopathy and assessment of LV function, in patients with edema, normal venous pressure, and no evidence of heart disease
  21. For pericardial disease, routine follow-up of small pericardial effusion in clinically stable patients
  22. For pericardial disease, follow-up studies in patients with cancer or other terminal illness for whom management would not be influenced by echocardiographic findings
  23. Assessment of pericardial thickness in patients without clinical evidence of constrictive pericarditis
  24. Pericardial friction rub in early uncomplicated myocardial infarction or early postoperative period after cardiac surgery
  25. For cardiac masses and tumors, patients for whom the results of echocardiography will have no impact on diagnosis or clinical decision making
  26. Lung disease without any clinical suspicion of cardiac involvement
  27. Re-evaluation studies of RV function in patients with chronic obstructive lung disease without a change in clinical status  
Moved to indication #6
  28. For hypertension, re-evaluation in asymptomatic patients to assess LV function
  29. For neurological events or other vascular occlusive events, patients for whom the results of echocardiography will not impact a decision to institute anticoagulant therapy or otherwise alter the approach to diagnosis or treatment
  30. Palpitation without corresponding arrhythmia or other cardiac signs or symptoms
  31. Isolated premature ventricular contractions for which there is no clinical suspicion of heart disease  
Per ACC NEW Guidelines – not ready for primetime therefore, we can't refer to this document – please advise
  32. Patients who have been on long-term anticoagulation at therapeutic levels and who do not have mitral valve disease or hypertrophic cardiomyopathy before cardioversion
  33. Precardioversion evaluation of patients who have undergone previous TEE and with no clinical suspicion of a significant interval change
  34. Recurrent syncope in a patient in whom previous echocardiographic or other testing demonstrated a cause of syncope
  35. Syncope in a patient for whom there is no clinical suspicion of heart disease
  36. Classic neurogenic syncope
  37. Screening for cardiovascular disease
  
  38. For critically ill patients, the hemodynamically stable patient not expected to have cardiac disease
  39. For critically ill, re-evaluation follow-up studies on hemodynamically stable patients

- 40. For critically injured, suspected myocardial contusion in the hemodynamically stable patient with a normal ECG
- 41. For adults with congenital heart disease, multiple repeat Doppler echocardiography in patients with repaired patent ductus arteriosus, atrial septal defect, ventricular septal defect, coarctation of the aorta, or bicuspid aortic valve without change in clinical condition  
Committee Question – there was discussion regarding removing coarctation of the aorta, however, this limitation is taken directly from ACC’s current guideline – Please advise
- 42. For adults with congenital heart disease, repeat Doppler echocardiography in patients with known hemodynamically insignificant congenital heart lesions without a change in clinical condition.

- Studies utilizing contrast should not be routine protocol for any laboratory or office. The patients requiring contrast should be carefully selected and the decision to use contrast should be made following a pre-contrast study and an assessment of echocardiographic data that is required.
- Studies with or without contrast will be considered a *single* study, whether performed on the same or subsequent days.
- Contrast echocardiography is not covered when used to evaluate perfusion.
- Doppler echocardiography codes 93320 and 93321 can be used in conjunction with codes 93303, 93304, 93307, 93308, 93312, 93314, 93315, 93317 or 93350, as defined in CPT 2002©. Claims reporting codes 93320 and 93321 without one of these echocardiography procedures are not payable.
- Doppler echocardiography color flow velocity mapping (code 93325) can be used in conjunction with codes 76825, 76826, 76827, 76828, 93303, 93304, 93307, 93308, 93312, 93314, 93315, 93317, 93320, 93321 or 93350, as defined in CPT 2002©. Claims for this procedure without one of these echocardiography codes are not payable.

- **Training Requirements:**

While it is not the Carrier’s intention or jurisdiction to credential providers, Medicare does expect a satisfactory level of competence from providers who submit claims for services rendered. It is well known that substandard studies often lead to preventable repetition of studies and over utilization of services.

The acceptable levels of competence are outlined as follows:

For the technical portion, an acceptable level of competence is fulfilled when the image acquisition is obtained under any one of the following conditions:

- a. The service is performed by a physician; or
- b. The service is performed by a technician who is credentialed as either a Registered Diagnostic Cardiac Sonographer (RDCS) through the American Registry of Diagnostic Medical Sonographers or as a Registered Cardiac Sonographer (RCS) through the Cardiovascular Credentialing International; or
- c. The service is performed at a laboratory (e.g. office, IDTF), credentialed by the Intersocietal Commission for the Accreditation of Echocardiography Laboratories (ICAEL).

For the professional portion, an acceptable level of competence is fulfilled when the interpretation is performed by a physician meeting any one of the following requirements:

- a. The physician is board certified in Cardiovascular Diseases; or
- b. The physician has Level II training in transthoracic echocardiography, as defined by the American College of Cardiology/American Heart Association/ American College of Physicians Task Force on Clinical Competence in Echocardiography, or the equivalent of Level II training as set forth in that document; or
- c. The physician provides the interpretation in conjunction with a study that is performed at a laboratory that is accredited by the Intersocietal Commission for the Accreditation of Echocardiography Laboratories and that is subject to such laboratory's quality assurance policies and procedures; or
- d. The physician has staff privileges to interpret echocardiograms at a hospital that participates in the Medicare program.

The submission of claims for echocardiography will be considered an attestation that both the technical and professional components of the service were provided within the context of the above stated credentials. However, a grace period of four years will be allowed for providers to acquire the necessary training.

- **Hand-Carried Ultrasound (HCU) Scanners.**

#### Limited Capability Ultrasound Scanners

Some cardiac ultrasound machines have become increasingly compact and portable. Certain "hand carried" scanners are "full featured" and permit a skilled examiner to image and record permanent records of all of the tomographic images and Doppler data (both color and spectral) needed to perform a complete transthoracic echocardiographic examination that may be quite comparable, in diagnostic value, to that obtained with a larger, "state of the art" instrument. 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 of the instrument used to perform the study.

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 not be recognized as a valid echocardiographic service and will be non-covered.

**CPT/HCPCS Section & Benefit Category**

Medicine/Cardiovascular

**Type of Bill Code**

N/A

**Revenue Codes**

N/A

**CPT/HCPCS Codes**

93303	Transthoracic echocardiography for congenital cardiac anomalies; complete
93304	; follow-up or limited study
93307	Echocardiography, transthoracic, real-time with image documentation (2D) with or without M-Mode recording; complete
93308	; follow-up or limited study
93320	Doppler echocardiography, pulsed wave and/or continuous wave with spectral display (List separately in addition to codes for echocardiographic imaging); complete
93321	; follow-up or limited study (List separately in addition to codes for echocardiographic imaging.
93325	Doppler echocardiography color flow velocity mapping (List separately in addition to codes for echocardiographic imaging)
Q0188	Supply of injectable contrast material for use in echocardiography, per study (For dates of service <b>prior to January 1, 2001</b> )
A9700	Supply of injectable contrast material for use in echocardiography, per study (For dates of service <b>on or after January 1, 2001</b> )
C9112	Injection perflutren lipid microsphere, per 2 ml vial (Medicare Statute: 1833(t))
36000	Introduction of needle or intracatheter, vein

**Not Otherwise Classified (NOC)**

(Use this field only if there are no HCPCS/CPT codes)

**ICD-9-CM Codes that Support Medical Necessity**

TRUNCATED DIAGNOSIS CODES ARE NOT ACCEPTABLE.

ICD-9-CM code listings may cover a range and include truncated codes. It is the provider's responsibility to avoid truncated codes by selecting a code(s) carried out to the highest level of specificity and selected from the ICD-9-CM book appropriate to the year in which the **service was performed**.

It is not enough to link the procedure code to a correct, payable ICD-9-CM code. The diagnosis or clinical suspicion must be present for the procedure to be paid.

038.0	Streptococcal septicemia
038.10	Staphylococcal septicemia, unspecified
038.11	Staphylococcus aureus septicemia
038.19	Other staphylococcal septicemia
038.2	Pneumococcal septicemia
038.3	Septicemia due to anaerobes
038.40 – 038.44	Septicemia due to other gram-negative organisms
038.49	; other
038.8	Other specified septicemia
038.9	Unspecified septicemia
074.21	Coxsackie pericarditis
074.22	Coxsackie endocarditis
074.23	Coxsackie myocarditis
086.0	Chagas' disease with heart involvement
088.81	Lyme disease
093.0	Aneurysm of aorta, specified as syphilitic
093.1	Syphilitic aortitis
093.20-093.24	Syphilitic endocarditis
093.81	Syphilitic pericarditis
093.82	Syphilitic myocarditis
098.84	Gonococcal endocarditis
112.81	Candidal endocarditis
115.03	Histoplasma capsulatum pericarditis
115.04	Histoplasma capsulatum endocarditis
115.13	Histoplasma duboisii pericarditis
115.14	Histoplasma duboisii endocarditis
130.3	Myocarditis due to toxoplasmosis
135	Sarcoidosis
164.1	Malignant neoplasm of heart
212.7	Benign neoplasm of heart
275.0	Disorders of iron metabolism (e.g., hemochromatosis)
276.5	Volume depletion
277.3	Amyloidosis
324.0- 324.1	Intracranial and intraspinal abscess
362.34	Transient arterial occlusion
391.0- 391.9	Rheumatic fever with heart involvement
392.0	Rheumatic chorea with heart involvement
393	Chronic rheumatic pericarditis
394.0-394.9	Diseases of mitral valve
395.0 - 395.9	Diseases of aortic valve
396.0 - 396.9	Diseases of mitral and aortic valves
397.0 - 397.9	Diseases of other endocardial structures
398.0 - 398.99	Other rheumatic heart disease

402.00 - 402.01	Hypertensive heart disease, malignant
402.10 – 402.11	; benign
402.90 – 402.91	; unspecified
404.00 - 404.93	Hypertensive heart and renal disease
410.00- 410.91	Acute myocardial infarction
411.0	Other acute and subacute forms of ischemic heart disease; postmyocardial infarction syndrome
411.1	; intermediate coronary syndrome
411.81	Acute coronary occlusion without myocardial infarction
411.89	Other acute coronary occlusion without myocardial infarction
412	Old myocardial infarction
413.0-413.9	Angina pectoris
414.00-414.06	Other forms of chronic ischemic heart disease; coronary atherosclerosis
414.10	Aneurysm of heart (wall)
414.11	Aneurysm of coronary vessels
414.12	Dissection of coronary artery
414.19	Other aneurysm of heart
414.8	Other specified forms of chronic ischemic heart disease
414.9	Chronic ischemic heart disease, unspecified
415.0 – 415.19	Acute pulmonary heart disease
416.0- 416.8	Chronic pulmonary heart disease
420.0 - 420.99	Acute pericarditis
421.0 - 421.9	Acute and subacute endocarditis
422.0	Acute myocarditis
422.90-422.93	Other and unspecified acute myocarditis
423.0 - 423.9	Other diseases of pericardium
424.0 -424.99	Other diseases of endocardium
425.0 - 425.9	Cardiomyopathy
427.0	Cardiac dysrhythmias; paroxysmal supraventricular tachycardia
427.1	; paroxysmal ventricular tachycardia
427.2	; paroxysmal tachycardia, unspecified
427.31-427.32	; atrial fibrillation and flutter
427.41-427.42	; ventricular fibrillation and flutter
427.5	; cardiac arrest
427.60-427.61	; premature beats
427.69	; other
427.81	Other specified cardiac dysrhythmias; sinoatrial node dysfunction
427.89	; other
428.0	Congestive heart failure, unspecified
428.1	Left heart failure
428.20-428.23	Systolic heart failure.
428.30-428.33	Diastolic heart failure.

428.40-428.43	Combined systolic and diastolic heart failure
428.9	Heart failure, unspecified
429.0	Myocarditis, unspecified
429.1	Myocardial degeneration
429.3	Cardiomegaly
429.4	Functional disturbances following cardiac surgery
429.5	Rupture of chordae tendinae
429.6	Rupture of papillary muscle
429.71-429.79	Certain sequelae of myocardial infarction, not elsewhere classified
429.81-429.89	Other ill defined heart disease
429.9	Heart disease, unspecified
434.00 - 434.91	Occlusion of cerebral arteries
435.0 - 435.9	Transient cerebral ischemia
436	Acute, but ill-defined cerebrovascular disease
440.0	Atherosclerosis of aorta
441.00-441.03	Aortic aneurysm and dissection; dissection of aorta
441.1	Thoracic aneurysm, rupture
441.2	Thoracic aneurysm without mention of rupture
441.3	Abdominal aneurysm, rupture
441.4	Abdominal aneurysm without mention of rupture
441.5	Aortic aneurysm of unspecified site, rupture
441.6	Thoracoabdominal aneurysm, rupture
441.7	Thoracoabdominal aneurysm, without mention of rupture
441.9	Aortic aneurysm of unspecified site without mention of rupture
442.0-442.9	Other aneurysm
443.0	Other peripheral vascular diseases; Raynaud's syndrome
443.1	Thromboangiitis obliterans (Buerger's disease)
443.21	Dissection of carotid artery
443.22	Dissection of iliac artery
443.23	Dissection of renal artery
443.24	Dissection of vertebral artery
443.29	Dissection of other artery
443.81	Peripheral angiopathy in diseases classified elsewhere
443.89	Other specified peripheral vascular diseases
443.9	Peripheral vascular disease, unspecified
444.0-444.9	Arterial embolism and thrombosis
445.01-445.02	Atheroembolism; of extremities
445.81	; of other sites
445.89	; other site
446.1	Acute febrile mucocutaneous lymph node syndrome (MCLS)
446.7	Takayasu's disease
458.0	Orthostatic hypotension
458.2	Iatrogenic hypotension

458.8	Other specified hypotension
458.9	Hypotension, unspecified
518.4	Acute edema of lung, unspecified
518.82	Other pulmonary insufficiency, not elsewhere classified
674.82	Other complication of puerperium, with delivery, with mention of postpartum complication
674.84	Other complication of puerperium
710.0	Systemic lupus erythematosus
745.0-745.9	Bulbus cordis anomalies and anomalies of cardiac septal closure
746.00-746.9	Anomalies of pulmonary valve
747.0-747.49	Anomalies of great veins
759.82	Marfan's syndrome
770.81	Primary apnea of newborn
770.82	Other apnea of newborn
770.89	Other respiratory problems after birth
771.83	Bacteremia of newborn
779.81	Other specified conditions originating in the perinatal period; neonatal tachycardia
779.82	Neonatal tachycardia
779.89	Other specified conditions originating in the perinatal period
780.2	Syncope/collapse
780.51	Insomnia with sleep apnea
780.53	Hypersomnia with sleep apnea
780.6	Fever
782.3	Edema
785.2	Heart murmur
785.50 - 785.59	Shock without mention of trauma
786.03	Apnea
786.04	Cheyne-Stokes respiration
786.05	Shortness of breath
786.06	Tachypnea
786.07	Wheezing
786.09	Dyspnea and respiratory abnormalities, other
786.50	Chest pain, unspecified
786.51	Precordial pain
786.59	Chest pain, other
790.7	Bacteremia
807.4	Flail chest
861.01-861.13	Injury to heart with/without mention of open wound into thorax
901.0	Thoracic aorta injury
901.2	Superior vena cava injury
901.41	Pulmonary artery injury
901.42	Pulmonary vein injury

958.0	Air embolism as an early complication of trauma
958.1	Fat embolism as an early complication of trauma
958.4	Traumatic shock
963.1	Poisoning by antineoplastic and immunosuppressive drugs
990	Effects of radiation, unspecified
996.00-996.09	Mechanical complication of cardiac device, implant and graft
996.1	Mechanical complication of other vascular device, implant, and graft
996.60	Infection and inflammatory reaction due to unspecified device, implant, and graft
996.61	Infection and inflammatory reaction due to cardiac device, implant, and graft
996.62	Infection and inflammatory reaction due to other vascular device, implant, and graft
996.63	Infection and inflammatory reaction due to nervous system device, implant, and graft
996.66	Infection and inflammatory reaction due to internal joint prosthesis
996.71	Other complications due to heart valve prosthesis
996.72	Other complications due to other cardiac device, implant and graft
997.1	Cardiac complications
998.0	Postoperative shock, nec.
998.51	Infected postoperative seroma
998.59	; other postoperative infection
999.3	Other infection due to medical care, nec.
V42.1	Heart transplant
V42.2	Heart valve transplant
V43.2	Organ or tissue replaced by other means; heart
V43.3	; heart valve
E933.1	Adverse effects from antineoplastic and immunosuppressive drugs.

**Diagnoses that Support Medical Necessity**

N/A

**ICD-9-CM Codes that DO NOT Support Medical Necessity**

Use of any ICD-9-CM code not listed in the "ICD-9-CM Codes that Support Medical Necessity" section of this policy will be denied.

**Reasons for Denial**

- A claim submitted without a valid ICD-9-CM code will be returned as an incomplete claim under 1833(e).
- A claim submitted without one of the ICD-9-CM codes listed in the “ICD-9-CM Codes that Support Medical Necessity” section of this policy will be denied under 1862 (a)(1)(A).

- A claim for services rendered in any place of service other than those indicated as payable in the “Coding Guidelines” section of this policy will be denied.
- Section 1821(a)(7) of the Social Security Act does not extend Medicare coverage for screening procedures.
- A claim for echocardiography services, submitted without the UPIN number of the referring/ordering physician or qualified non-physician practitioner, will be returned as an incomplete claim under 1833 (e).
- Any diagnosis submitted must have documentation in the patient’s record to support coverage and medical necessity. Subsequent determination that the medical record is lacking such justification will result in a retroactive denial under 1862 (a)(1)(A).
- Claims for codes 93320 and 93321 will be denied unless used in conjunction with codes 93303, 93304, 93307, 93308, 93312, 93314, 93314, 93315, 93317 or 93350.
- Claims for code 93325 will be denied unless used in conjunction with codes 76825, 76826, 76827, 76828, 93303, 93304, 93307, 93308, 93312, 93314, 93315, 93317, 93320, 93321, or 93350.
- Studies not meeting the minimal requirements for complete studies will be considered limited or follow-up studies.
- Claims for studies done with limited capability ultrasound scanners will be denied as non covered.
- Claims from providers who do not meet the accepted levels of competence will be denied as non covered.

**Noncovered ICD-9-CM Codes**

- Use of ICD-9-CM V82.9 (Special screening of other conditions, unspecified condition) will result in the denial of claims as non-covered screening services.

**Coding Guidelines**

1. The guidelines of the Correct Coding Initiative supersede all coding instructions in this policy.
2. To bill complete or limited M-mode and 2D echocardiogram, use code 93307 or 93308.
3. Doppler services (spectral analysis) 93320, 93321) can be reported only as add-on codes to 93303, 93304, 93307, 93308, 93312, 93314, 93315, 93317 or 93350.
4. Doppler color flow velocity mapping (93325) can be reported only as an add-on code to 76825, 76826, 76827, 76828, 93303, 93304, 93307, 93308, 93312, 93314, 93315, 93317, 93320, 93321, or 93350.
5. Effective for dates of service on or after January 1, 2001, code A9700 should be used to report contrast material. The name of the contrast material, the dose administered, the unit price and the total charge must be reported in box 19 of the CMS 1500 form or the ND note on electronic claims.
  - For dates of services prior to January 1, 2001, claims for contrast material used in echocardiography procedures should be reported with code Q0188.
6. The administration of the contrast material is reported with code 36000.
7. Codes 93303 and 93304 are reported when transthoracic echocardiography is provided to individuals in which congenital heart disease is suspected and found. In cases where it is not found, the noncongenital codes should be reported.
8. Claims may be submitted electronically or on paper.
9. Payable Places of service:

Procedures	Payable Places of Service					
	11 (Office)	21(Inpatient Hospital)	22(Outpatient Hospital)	31 (SNF)	32 (NF)	IDTF(11)
93303	X				X	X
93303TC	X				X	X
9330326	X	X	X	X	X	X
93304	X				X	X
93304TC	X				X	X
9330426	X	X	X	X	X	X
93307	X				X	X
93307TC	X				X	X
9330726	X	X	X	X	X	X
93308	X				X	X
93308TC	X				X	X
9330826	X	X	X	X	X	X
93320	X				X	X
93320TC	X				X	X
9332026	X	X	X	X	X	X
93321	X				X	X
93321TC	X				X	X
9332126	X	X	X	X	X	X
93325	X				X	X
93325TC	X				X	X
9332526	X	X	X	X	X	X
A9700	X				X	X
36000	X				X	X

6. The name and UPIN of the referring/ordering physician or qualified non-physician practitioner are required in Items 17 and 17a of the CMS 1500 form. For electronic submissions, this information should be entered in the following fields:

Format	Item 17 (Name)	Item 17A (UPIN)
NSF (1.04, 2.00)	EA0.22, positions 120-139 (Last Name) EA0.23, positions 140-151 (First Name) EA0.24, position 152 (Middle Initial)	EA0.20, positions 80-94
NSF (3.01)	EA0.24, positions 120-139 (Last Name) EA0.25, positions 140-151 (First Name) EA0.26, position 152 (Middle Initial)	EA0.20, positions 80-94
ANSI X12 (30.32)	2-250.B-NM103/04/05 or	2-250.B-NM109 or

	2-420.A- NM103/04/05	2-420.A-NM109
ANSI X12 (30.51)	2-250.B-NM103/04/05 or 2-500.A-NM103/04/05	2-250.B-NM109 or 2-500.A-NM109
ANSI X12 (40.10 HIPAA version)	2-250-NM103/04/05 or 2-500-NM103/04/05	2-271-REF02 or 2-525-REF02

7. Physicians who wish to report a service utilizing the hand-carried ultrasound scanners so that a denial may be submitted the secondary insurer, should use the code 93308-52 [limited echocardiography with a reduced service modifier].

### **Documentation Requirements**

- Each claim must be submitted with ICD-9-CM codes that reflect the condition of the patient, and indicate the reason(s) for which the service was performed. Claims submitted without ICD codes will be returned.
- Each service requires a formal written report with interpretation. This report should be kept on file with copies of image documentation (paper or tape) for review if requested. The quality of images obtained on any given exam is dependent on the instrumentation, the operator and the patient. For the purposes of Medicare billing, it is assumed that the instrumentation is adequate and that the operator is proficient at performing echocardiography studies.

- A complete study should contain M mode and/or 2D measurements of LV end diastolic diameter, LV end systolic diameter, LV wall thickness, left atrial diameter, aortic valve excursion a qualitative description of the LV function, whenever possible given any technical limitations in a particular case.

- A Doppler interrogation should give both qualitative and quantitative information where appropriate.
- Claims for contrast echocardiography services must be supported by documentation that conventional studies were inconclusive and there was a need for the contrast enhancement.
- Documentation must be available to Medicare upon request.

### **Utilization Guidelines**

#### **Other Comments**

- For services that exceed the accepted standard of medical practice and may be deemed not medically necessary, the provider/supplier must provide the patient with an acceptable advance notice of Medicare's possible denial of payment. An advance beneficiary notice (ABN) should be signed when a provider/supplier does not want to accept financial responsibility for the service.
- The policy is revised to further specify limitations for echocardiography, to expand coding guidelines for contrast echocardiography procedures and payable places of service and to include CPT codes 93303 and 93304.

#### **Sources of Information and Basis for Decision**

- American College of Cardiology, Guidelines for the Clinical Application of Echocardiography, [www.acc.org](http://www.acc.org).
- *CPT Assistant*, Volume 7, issue 12, December 1997: 5-6

- Quinones, Miguel A., MD, et al. “ACC/AHA Clinical Competence Statement on Echocardiography.” *Journal of the American College of Cardiology*. 41.4 (2003): 687-708.
- Otto, Catherine M., MD. *The Practice of Clinical Echocardiography*. 2<sup>nd</sup> ed. Philadelphia, PA: W.B. Saunders Company, 2002.
- Braunwald, Eugene, MD. *Heart Disease: A Textbook of Cardiovascular Medicine*. 6<sup>th</sup> ed. Philadelphia, PA: W.B. Saunders Company, 2001.

**Advisory Committee Notes**

This policy does not reflect the sole opinion of the contractor or Contractor Medical Director. Although the final decision rests with the carrier, this policy was developed in cooperation with advisory groups, which includes representatives from the American College of Cardiology.

**Advisory Committee Meeting Date**

**Start Date of Comment Period**

**End Date of Comment Period**

**Start Date of Notice Period**

**Revision History**

<b>Revision Number</b>	<b>Effective Date of the Revision</b>	<b>Changes</b>