

Colorado Medicaid Benefit Coverage Standard

ECHOCARDIOGRAMS

Brief Coverage Statement

Echocardiography is the application of ultrasounds in the diagnosis, evaluation, and management of cardiovascular disease. High-frequency sound waves are used to see all four chambers of the beating heart as well as the heart valves, the great blood vessels, and surrounding structures.

Echocardiography is approved for the assessment of the pumping function of the heart, valve structure, movement, abnormal blood flow, or fluid accumulations. Colorado Medicaid covers echocardiography when medically necessary as described in this standard.

Note: This standard is not intended to address coverage for inpatient hospital stays, hospital observation, or emergency department care. Inpatient Hospital stay policy is covered in Colorado State Rules and Regulations at 10 CCR 2505-10 8.300.

Routine screening or surveys are not allowed, nor are examinations to rule out other conditions unless a specific differential problem exists.

Services Addressed in Other Benefit Coverage Standards

- Angiography
- Bone Mass Measurement
- Cardiac Stress Testing
- CT Scans
- Low Back Pain Imaging
- MRI
- PET Scans
- Radiography
- Ultrasounds

Eligible Providers

Rendering Providers

- Cardiologists
- Physicians certified by the American Society of Echocardiography

Prescribing Providers:

- Physicians

- Physician Nurse Practitioners
- Physician Assistants

Note: for the purposes of this benefit, a rendering provider is defined as the professional administering the service. All of the above providers must be enrolled with Colorado Medicaid.

Eligible Places of Service

- Office Clinics
- Federally Qualified Health Centers
- Rural Health Centers
- Hospital – Outpatient Departments
- Ambulatory Surgery Centers

Eligible Clients

All Medicaid-enrolled clients who have documented medical indications listed within the *Covered Services* section of this standard.

Covered Services

Colorado Medicaid will reimburse participating providers for no more than one echocardiographic examination per client and two test readings in a 12-month period, unless stated otherwise in the *Criteria for Repeat Echocardiograms* section below.

The following lists are not all-inclusive. Unless stated otherwise, the following tests have a limit of one per year.

Transthoracic Echocardiography (TTE)

Medicaid covers TTE for:

- Assessment of cardiac chambers
- Evaluation of left ventricular hypertrophy
- Evaluation of stenotic or insufficient valves
- Evaluation of suspected bacterial endocarditis
- Evaluation of suspected pulmonary hypertension
- Evaluation prior to cardiac resynchronization therapy
- Evaluation of left and right ventricular systolic function and left ventricular segmental function
- Identification of atrial or ventricular masses or thrombi
- Identification of pericardial disorders
- Identification and assessment of congenital heart defects
- Guidance of percutaneous interventions directly affecting the heart



Transesophageal Echocardiography (TEE)

TEE may be useful for any of the indications for which TTE would be used when TTE is uninformative due to technical limitations.

Medicaid covers TEE for:

- Evaluation of bacterial endocarditis
- Identification of left atrial pathology
- Evaluation of mitral valvular prosthesis
- Evaluation of the aortic arch and descending thoracic aorta for dissection, thrombi, or friable plaques
- Identification and assessment of congenital defects
- Assessment of cardiac anatomy and function before and after cardiac surgery
- Guidance of percutaneous interventions directly affecting the heart
- Evaluation of cardiac sources for emboli

Doppler or Color Doppler Echocardiography

Medicaid covers Doppler or color Doppler echocardiography for:

- Evaluation of septal defects
- Evaluation of the severity of valve stenosis or regurgitation
- Evaluation of site of left-to-right or right-to-left shunts
- Assessment of diseases of the aorta
- Evaluation of prosthetic valves
- Assessment of congenital heart defect

Stress Echocardiograms

Medicaid covers cardiovascular stress testing in the:

- Screening for coronary atherosclerosis and myocardial ischemia
- Follow-up of post-myocardial infarction (MI), post-percutaneous transluminal coronary angioplasty (PTCA), or post-coronary artery bypass graft (CABG) to assess functional improvement during cardiac rehabilitation
- Follow-up of patients with palliated or unpalliated congenital heart disease
- Follow-up of pediatric and adult patients with dilated cardiomyopathy, regardless of etiology
- Follow-up of pediatric and adult patients with hypertrophic cardiomyopathy
- Pre-operative assessment of patients considered for valve replacement
- Follow-up of patients after valve replacement

Fetal Surveillance

Fetal echocardiography is covered as a diagnostic tool for a fetus at risk for congenital heart disease. Fetal echocardiography is allowed twice per pregnancy.

Fetal Risk Factors include:

- Extracardiac abnormality
- Chromosomal abnormality
- Fetal cardiac arrhythmia
- Non-immune hydrops
- Question of cardiac anomaly on prior sonogram
- Intrauterine growth retardation
- Family history of congenital heart disease (parent or sibling)

Maternal Risk Factors include:

- Family history of congenital heart disease (parent or sibling, or prior child)
- Teratogenic exposure (e.g. alcohol, amphetamines, anticonvulsives, lithium)
- Maternal disorders (e.g diabetes mellitus, collagen vascular disease, maternal infection, phenylketonuria)
- Inherited familial syndromes
- Suspected genetic abnormality due to abnormal maternal serum screening

Criteria for Repeat Echocardiograms

Unless stated otherwise, a repeat **complete echocardiogram** will be reimbursed when performed within a 12-month period only under one of the following conditions:

- All TTE exams (complete or limited) performed on children by Pediatric Echocardiologists will be reimbursed due to the rapidly changing cardiac physiology, and high incidence of congenital heart disease in this age group
- Clinical diagnosis of severe regurgitant or stenotic lesions
- Congenital heart disease in clients aged 20 and under with more than one cardiac lesion or abnormality
- Following heart or lung transplant, to monitor for rejection
- Subacute bacterial endocarditis
- Pericardial effusion with tamponade
- One of the following cardiac events has occurred within the 12-month period subsequent to the last complete echocardiogram:
 - Myocardial infarction
 - A coronary artery bypass graft surgery or placement of coronary stent(s), only with development of new symptoms
 - Valve replacement or surgery for structural heart disease or interventional procedure
- When clients present cardio-vascular diagnoses, including:
 - Pulmonary hypertension
 - Arterial hypertension



- Left ventricular hypertrophy
- Pericardial effusion
- Thoracic aortic aneurysms
- Congestive heart failure (CHF), symptoms include:
 - Increased shortness of breath
 - New nocturnal dyspnea
 - New or increased orthopnea
 - Decreased exercise tolerance
 - Fluid retention
 - Rapid weight gain due to fluid retention
 - New or increased rales
 - Confusion
- Mitral regurgitation
- Other valvular abnormalities exist, other than aortic insufficiency

Note: A repeat complete echocardiogram within a 12 month period will be reimbursed only if there has been a clinically significant change in cardiac symptoms. Cardiac symptoms include shortness of breath, fluid retention, chest pain and palpitations.

Non-Covered Services and General Limitations

- Mobile echocardiograms are not the standard of care for evaluating cardiac function and will not be reimbursed.
- Echocardiograms are not covered when the procedure:
 - Is performed as part of treatment that is considered experimental, investigation, or part of a clinical trial; or
 - Unnecessarily duplicates another provider's procedure

Early and Periodic Screening, Diagnostic, and Treatment (EPSDT)

EPSDT is a federal Medicaid regulation that requires the state Medicaid agency to cover services, products, or procedures for Medicaid clients ages 20 and younger if the service is medically necessary to correct or ameliorate the physical, mental, cognitive or developmental effects of an illness, injury or disability.

Services must be deemed medically necessary, as defined in the EPSDT rule at *10.C.C.R 2505-10, § 8.280*, and must be appropriate to the needs of the client.

Prior Authorization Requirements

Transthoracic echocardiography (TTE) required for follow-up for congenital cardiac anomalies will be reimbursed without prior authorization within a 12-month period from the initial TTE if the criteria in the *Criteria for Repeat Echocardiograms* section of this policy are met. Appropriate documentation of medical necessity must be kept in patient's medical record.



Billing Guidelines

- Echocardiogram codes are payable when billed by a provider once in a 12-month period and submitted with the appropriate diagnosis code.
- Professional services must be billed by the practitioner. Technical personnel services (Radiologic Technician) are reimbursed in the technical component.
- Refer to Radiology Services Billing Manual for additional billing details, which can be accessed at: www.colorado.gov/hcpf >>For Our Providers >> Provider Services >> Billing Manuals.

Definitions

Term	Definition
Aortic insufficiency	The leaking of the aortic valve of the heart that causes blood to flow in the reverse direction.
Atherosclerosis	Condition in which an artery wall thickens as the result of a build-up of fatty materials such as cholesterol.
Atherectomy	Procedure to remove plaque from arteries.
Bacterial endocarditis	Microbial infection of the inner layer of the heart.
Hydrops	Characterized by an accumulation of fluid, or edema, in at least two fetal compartments. It is a prenatal form of heart failure, in which the heart is unable to satisfy its demand for a high amount of blood flow.
Mitral regurgitation	Abnormal leaking of blood through the mitral valve, from the left ventricle into the left atrium of the heart.



Term	Definition
Nocturnal dyspnea	Sudden, severe shortness of breath at night that awakens a person from sleep, often with coughing and wheezing.
Orthopnea	Shortness of breath (or dyspnea) which occurs when lying flat, causing the person to have to sleep propped up in bed or sitting in a chair.
Pericardial effusion	Abnormal fluid accumulation around the heart.
Percutaneous	Pertains to any medical procedure where access to inner organs or other tissue is done via needle-puncture of the skin, rather than by using an "open" approach where inner organs or tissue are exposed.
Rales	Clicking, rattling, or crackling noises heard on auscultation of (listening to) the lung with a stethoscope.
Subacute bacterial endocarditis	Bacterial infection that produces growths on the endocardium (the cells lining the inside of the heart).
Stenotic	Abnormal narrowing in a blood vessel or other tubular organ or structure.
Stent restenosis	Re-narrowing of a coronary artery - occurs within 3-6 months in 40-50% of patients who have angioplasty.

Term	Definition
Tamponade	Emergency condition in which fluid accumulates in the pericardium.
Thoracic aortic aneurysm	Widening (bulging) of part of the wall of the aorta, the body's largest artery.
Thrombus (pl. thrombi)	Blood clot; is the final product of the blood coagulation process.
Teratogenic	Agent that can disturb the development of the embryo or fetus.
Ventricular hypertrophy	Enlargement of ventricles (lower chambers) in the heart.

Legal References

Regulation	Reference
10.C.C.R 2505-10, § 8.280	EPSDT Rule
10 CCR 2505-10 8.300	Hospital Services Rule

References

Transthoracic Echocardiography for Medicare Plans; United Healthcare- Oxford

Electrocardiography, Echocardiography and Intravascular Ultrasound Clinical Coverage Policy JR-4, North Carolina Division of Medical Assistance; January 1, 2009.

ACC/AHA/ASE 2003 Guideline Update for the Clinical Application of Echocardiography; Cheitlin *et al.* 2003



Policy Implementation/Revision Information

Original Effective Date: 2/3/2010

Revision Information:

Date	Section Revised	Change
12/16/2014	Brief Coverage Statement	Added Hospital Rule reference
12/16/2014	Services Addressed in Other Standards	Added complete list of imaging Benefit Coverage Standards
12/16/2014	Eligible Providers	Clarified the meaning of rendering provider
12/16/2014	Eligible Clients	Clarified the requirements and removed mention of Primary Care Physician Program requirement, as it no longer exists Added EPSDT definition and rule reference
12/16/2014	Prior Authorization Requirements	Clarified requirements for prior authorization
12/16/2014	Billing Guidelines	Added path to the Billing Manual
12/16/2014	Legal References	Added Hospital Rule reference Added EPSDT Rule reference
12/16/2014	General	Reformatted Standard

 Acting
Medicaid Director Signature

12/22/14
Date