Cohere Medicare Advantage Policy - Stress Echocardiogram

Clinical Policy for Medical Necessity Review

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Important Notices

Notices & Disclaimers:

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Other Notices:

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Policy Information:

Specialty Area: Cardiovascular Disease
Policy Name: Cohere Medicare Advantage Policy - Stress Echocardiogram
Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17 yo)

Table of Contents

Medical Necessity Criteria

Service: Stress Echocardiogram

Related CMS Documents

Please refer to the CMS Medicare Coverage Database for the most current applicable CMS National Coverage.[1-16]

- National Coverage Determination. Ultrasound Diagnostic Procedures (220.5).
- Local Coverage Determination (LCD). Transthoracic Echocardiography (TTE). (L33577).
  - Billing and Coding: Transthoracic Echocardiography (TTE) (A56781).
- Local Coverage Determination (LCD). Cardiovascular Stress Testing, Including Exercise and/or Pharmacological Stress and Stress Echocardiography (L34324).
  - Billing and Coding: Cardiovascular Stress Testing, Including Exercise and/or Pharmacological Stress and Stress Echocardiography (A57183).
- Local Coverage Determination (LCD). Transthoracic Echocardiography (L34338).
  - Billing and Coding: Transthoracic Echocardiography (TTE) (A57306).
- Local Coverage Determination (LCD). Cardiology Non-Emergent Outpatient Stress Testing (L35083).
  - Billing and Coding: Cardiology Non-Emergent Outpatient Stress Testing (A46423).
  - Billing and Coding: Cardiology Non-Emergent Outpatient Stress Testing (A56423).
- Local Coverage Determination (LCD). Echocardiography (L37379).
  - Billing and Coding: Echocardiography (A56625).
- Local Coverage Determination (LCD). Cardiology Non-Emergent Outpatient Stress Testing (L38396).
  - Billing and Coding: Cardiology Non-Emergent Outpatient Stress Testing (A56952).
- Local Coverage Determination (LCD). Echocardiography for Myocardial Perfusion (L38786).
  - Billing and Coding: Echocardiography for Myocardial Perfusion (A58503).

Description

Stress echocardiography is a noninvasive diagnostic tool that uses ultrasound to provide an overview of cardiac structure and function at rest and under stress. It is used to evaluate a variety of clinical presentations, including chest pain (or ischemic equivalent) and intermediate (16%-50%) or high (>50%) pretest probability of coronary artery disease (CAD).[17-21] During stress echocardiography, the patient is first fitted with a transducer and baseline images at rest are generated. The patient is then put under stress, either physical exercise (treadmill or stationary bicycle), pharmacologic agents (e.g., dobutamine), or stress pacing in a patient with a permanent pacemaker and images are generated when the patient's heart rate is increased. These images are used to determine cardiac function under stress including coronary heart disease and valvular defects.[22] Stress echo results in no radiation exposure, is typically lower cost, requires a shorter patient time commitment, and provides additional information on cardiac structures (e.g., valves, ascending aorta, pericardial space) compared to myocardial perfusion imaging (MPI-SPECT). Stress echocardiography has lower diagnostic accuracy in patients with limited acoustic windows.[20,23-24]

In patients with valvular heart disease, stress echocardiography is a useful modality to assess a patient's functional capacity, ventricular function, and severity of valve dysfunction during exercise. This information may help determine the need for, and timing of, surgical or interventional treatments. Stress echocardiography is well-tolerated in the pediatric population and is often a preferred modality, as it requires no sedation, needle sticks, or radiation exposure and has been completed in children as young as 6 years.[25] The absence of radiation is of particular importance among groups that require serial screening, including transplant recipients, patients with a history of radiation to the chest, and patients with a history of Kawasaki disease.[25]

Medical Necessity Criteria

Indications

Stress echocardiogram is considered appropriate if **ANY** of the following is **TRUE**[1,4,26]:

- The echocardiogram is conducted in addition to an electrical stress test and **ALL** of the following:
  - **ANY** of the following;
    - The patient has signs or symptoms consistent with coronary artery disease (CAD) including **ANY** of the following[25,27-28]:
      - Angina pectoris or anginal equivalent symptoms; **OR**
      - Cardiac rhythm disturbances; **OR**
      - Unexplained syncope; **OR**
      - Heart failure; **OR**
      - Significant atherosclerotic vascular disease elsewhere in the body (e.g., carotid obstructive disease, peripheral vascular disease involving the lower extremities, abdominal aortic aneurysm); **OR**
    - The patient has a metabolic disorder known to cause CAD including **ANY** of the following:
      - Diabetes mellitus; **OR**
      - Syndrome X; **OR**
      - Atherogenic hypercholesterolemia; **OR**
    - Abnormal electrocardiogram (ECG) consistent with CAD including **ANY** of the following:
      - The patient needs an evaluation for progression of CAD with the potential for a change in treatment; **OR**
      - Following coronary artery bypass graft (CABG) surgery; **OR**
      - Following a myocardial infarction (MI); **OR**
      - Following a coronary revascularization procedure (e.g., percutaneous transluminal coronary angioplasty, PTCA); atherectomy; intracoronary thrombolysis); **OR**
      - Following medical treatment to reverse or stabilize CAD; **OR**
      - A history of coronary artery ischemic event(s) without symptoms (e.g., silent MI); **OR**
    - As part of a preoperative assessment when intermediate or high risk for CAD is present and surgery is likely to induce significant stress[29,30]; **OR**

        - Information from the clinical assessment does not adequately assess functional capacity and such information is needed to manage the patient; **AND**
    - **ANY** of the following:
        - Electrical stress test alone is not useful or effective due to **ANY** of the following circumstances[25,31]:
            - Abnormal resting ECG due to **ANY** of the following:
                - Digitalis; **OR**
                - Left ventricular hypertrophy; **OR**
                - Bundle branch block; **OR**
                - Preexcitation syndrome (Wolff-Parkinson-White); **OR**
                - Electronically paced ventricular rhythm; **OR**
                - Greater than 1 mm of resting ST depression; **OR**
            - Prior equivocal stress ECG; **OR**
            - A history of wall MI; **OR**
        - The patient has significant valvular heart disease and measuring the physiologic changes with exercise is necessary to determine the need for a valve intervention; **OR**
        - To determine the significance or extent of myocardial ischemia (or scar); **OR**
        - To assess myocardial viability (e.g., risk stratification following acute myocardial infarction); **OR**
        - When information from the clinical assessment and electrical stress test does not adequately assess functional capacity and such information is needed to manage the patient; **OR**
        - To aid in diagnosis of hypertrophic or dilated cardiomyopathy; **OR**
        - To differentiate ischemic from non-ischemic cardiomyopathy; **OR**
        - As part of pre-operative evaluation in a patient at intermediate or high risk of CAD when the surgery is likely to induce significant cardiac stress[29-30]; **OR**
- Repeat imaging (defined as repeat request following recent imaging of the same anatomic region with the same modality), in the absence of established guidelines, will be considered reasonable and necessary if **ANY** of the following:
    - New or worsening symptoms, such that repeat imaging would influence treatment; **OR**
    - One-time clarifying follow-up of a prior indeterminate finding; **OR**

- In the absence of change in symptoms, there is an established need for monitoring which would influence management.

Non-Indications

Stress Echocardiogram is not considered appropriate if **ANY** of the following is **TRUE**[1,4,27,32-37]:

- The incremental information obtained from the addition of an echocardiogram to an electrical stress test is of no clinical relevance; **OR**
- The results of the test have no potential to affect the treatment of the patient (e.g., the patient has a severe comorbidity likely to limit life expectancy and/or likely to limit candidacy for revascularization); **OR**
- Secondary conditions will potentially decrease both the sensitivity and specificity of testing (e.g., immediate postoperative period, anemia, or infection); **OR**
- A stress test is performed too frequently; **OR**
- For screening CAD (e.g., in a patient without signs or symptoms of CAD) such as for the presence of risk factors (e.g., smoking, obesity, family history of CAD) but no personal history of vascular disease or related metabolic disorder; **OR**
- When used solely to motivate changes in lifestyle; **OR**
- To qualify a patient for a non-covered service (e.g., fitness training, weight loss program, occupational fitness evaluation); **OR**
- For preoperative assessment prior to either a non-covered surgery or a covered surgery if the reasonable and necessary criteria for the testing are not documented; **OR**
- A stress echocardiogram is not reasonable or necessary if performed simultaneously with **ANY** of the following additional tests:
  - Radionuclide ventriculography; **OR**
  - A myocardial perfusion imaging stress test with or without pharmacological stress; **OR**
  - A stress nuclear test for the same clinical problem.

Level of Care Criteria

Outpatient

Table 1. Definitions of Low, Intermediate, and High-Risk Surgery[28]			
	Surgical Risk Level		
Specialty	**Low**	**Intermediate**	**High**
Vascular	1. Carotid stenting (monitored anesthesia care) 2. Renal artery stenosis angioplasty or stent 3. Vein stripping	1. Infra-inguinal peripheral angioplasty/stent 2. Carotid stenting (carotid approach, general anesthesia) 3. Open carotid endarterectomy 4. Above or below knee amputation	1. Abdominal aortic aneurysm repair 2. Aorto-femoral bypass graft 3. Thoracic aortic aneurysm repair 4. Infra-inguinal open peripheral revascularization
General	1. Laparoscopic appendectomy 2. Hemorrhoidectomy	1. Open appendectomy 2. Ostomy procedures 3. Inguinal/umbilical hernia repair 4. Laparoscopic lysis of adhesions/obstruction 5. Laparoscopic cholecystectomy 6. Laparoscopic colon resection, segmental, for tumor	1. Laparoscopic bariatric surgery 2. Open cholecystectomy 3. Hepatic radiofrequency ablation tumor ablation 4. Splenectomy 5. Open colonic segmental resection tumor 6. Laparoscopic colonic abdominal perineal resection 7. Open lysis of adhesions/bowel obstruction 8. Esophageal Heller myotomy 9. Nissen fundoplication 10. Cancer resection (gastric pull-through) 11. Open bariatric surgery 12. Pancreatic/Whipple resection 13. Gastric resection (tumor/ulcer) 14. Hepatic segmental resection 15. Colonic open abdominal perineal resection

Endocrine	1. Thyroidectomy 2. Parathyroidectomy	1. Adrenalectomy 2. Pheochromocytoma resection	-
Ortho.	1. Shoulder arthroscopy 2. Knee arthroscopy 3. Ankle arthroscopy 4. Closed joint reduction	1. Shoulder arthroplasty 2. Hip fracture pinning	1. Hip/ankle/knee arthroplasty
Thoracic	-	1. Pleural procedures (decortication, pleurodesis) 2. VATS lung biopsy 3. VATS wedge/lobe resection 4. Thymectomy	1. Open wedge/lobe resection 2. Tracheal surgery 3. Lung reduction 4. Pneumonectomy
Neuro-functional	1. Deep brain stimulator placement 2. Seizure mapping procedures	-	-
Neuro-intracranial	-	1. Hydrocephalus shunt/repair 2. Subdural drainage 3. Transsphenoidal resection	1. Intracranial tumor resection 2. Open intracranial aneurysm resection 3. Acoustic neuroma/cranial nerve tumor resection
Neuro/ Ortho. Spine	-	1. Laminectomy	1. Spinal fusion 2. Extreme lateral interbody fusion procedures (abdominal)
Genito-urinary	1. Transurethral prostate resection 2. Transurethral bladder tumor resection 3. Ureteral stents 4. Nephrostomy 5. Extracorporeal shock wave lithotripsy	1. Bladder repair	1. Radical retropubic prostatectomy 2. Nephrectomy 3. Cystectomy
Gyn.	1. Vaginal hysterectomy	1. Total abdominal hysterectomy	-

	2. Diagnostic gynecologic procedures (laparoscopy)	2. Bilateral salpingo-oophorectomy	
Breast	1. Diagnostic breast surgery (lumpectomy, node dissection) 2. Simple mastectomy	1. Complex breast surgery	-
Plastic Surgery	1. Hand 2. Cosmetic procedures	1. Reconstructive flaps 2. Post-bariatric repair abdominoplasty	-
Ear, Nose, Throat	1. Diagnostic laryngoscopy 2. Diagnostic esophagoscopy	1. Nasal septal procedures 2. Functional endoscopic sinus surgery	1. Head/neck cancer dissection (with/without laryngectomy)
Oral & Maxillofacial Surgery	1. Jaw reduction	1. Temporomandibular procedures/osteotomy	-
Podiatry	1. Arthroplasty 2. Toe amputation 3. Bunion procedure	-	-
Eye	1. Cataract repair 2. Retinal surgery 3. Eye muscle surgery		
Organ Transplant	-	-	1. Renal Transplant 2. Pancreas Transplant 3. Kidney-Pancreas Combined Transplant 4. Liver 5. Lung 6. Intestinal

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
93350	Real time transthoracic echocardiography with 2-dimensional (2D) image documentation during rest and cardiovascular stress test using treadmill and pharmacologically induced stress, with interpretation and report
93351	Real time transthoracic echocardiography with 2-dimensional (2D) image documentation during rest and cardiovascular stress test using treadmill, bicycle exercise and pharmacologically induced stress, with interpretation and report, including performance of continuous electrocardiographic monitoring, with physician supervision
C8928	TTE w or w/o fol w/con,stress
C8930	TTE w or w/o contr, cont ecg

Disclaimer: S Codes are non-covered per CMS guidelines due to their experimental or investigational nature.

Evaluation of Clinical Harms and Benefits

Clinical determinations for Medicare Advantage beneficiaries are made in accordance with 42 CFR 422.101 guidance outlining CMS's required approach to decision hierarchy in the setting of NCDs/LCDs identified as being "not fully established". When clinical coverage criteria are "not fully established" Medicare Advantage organizations are instructed to create publicly accessible clinical coverage criteria based on widely-accepted clinical guidelines and/or scientific studies backed by a robust clinical evidence base. Clinical coverage criteria provided by Cohere Health in this manner include coverage rationale and risk/benefit analysis.

Clinical coverage criteria for stress echocardiogram were fully defined and established by NCDs and/or LCDs. Cohere Health did not supplement this policy with any additional criteria or interpretations.

Medical Evidence

Woodward et al. (2025) investigated long-term outcomes in over 5,000 patients who had received a stress echocardiogram at community hospitals.[44] Over a mean follow-up period of over 800 days, the authors found that patients with positive stress echocardiograms had a higher risk of myocardial infarction, all-cause mortality, and cardiac-related mortality. Furthermore, the authors reported that patients with no previous history of coronary artery disease who had a negative stress echocardiogram had a five-year event-free warranty period, during which they reported no major adverse cardiac events. These findings demonstrate the long-term utility of stress echocardiography in identifying patients at-risk for major cardiac events.

Ihekwaba et al. (2024) conducted a systematic review and meta-analysis of long-term outcomes in patients with suspected or known CAD who underwent stress echocardiography. Their final analysis included over 16,000 patients across 6 trials who underwent either treadmill or pharmacological stress testing and had followup between 21-101 months. They reported that patients with positive stress echocardiography results (test results showing evidence of ischemia) had higher rates of major adverse cardiovascular events (MACE) and all-cause mortality compared to patients with negative stress echocardiography results (test results showing no evidence of ischemia). They concluded that stress echocardiography results can be used to guide treatment, with positive results informing the need for interventions in patients with suspected coronary artery disease.[38]

Lee et al. (2023) reviewed the literature on the risks and contraindications of exercise and pharmacological stress echocardiography.[45] Across 3 exercise stress studies, including a total of over 50,000 patients, the probability of a patient experiencing a life-threatening event was extremely rare, between 0.015 - 0.04 across studies. Reported complications included arrhythmias, acute myocardial infarction (AMI), and cardiac and ventricular ruptures. The probability of a life-threatening event during a pharmacological stress test was somewhat higher, though still low overall, at 0.2 for dobutamine and 0.08 for vasodilatory agents. Reported life-threatening risks included AMI and

ventricular tachyarrhythmias for dobutamine, and AMI, asystole, and hypotension for vasodilators. The authors concluded that the overall risk of life-threatening adverse events as a result of stress testing is very low. However, they also caution that certain patients, notably those with valvular dysfunction, may be at higher risk for adverse events. These patients, along with pediatric patients, pregnant patients, and patients not able to communicate easily with medical personnel, may require increased monitoring during the procedure.

Moscatelli et al. (2023) reviewed the use of stress cardiovascular imaging in pediatric patients.[46] They note that while coronary artery disease (CAD), the most common indication for stress testing in adult patients, is rare in pediatric patients, pediatric patients may still experience chest pain and ischemia due to several causes, including Kawasaki disease, cardiac transplantation, or coronary artery reimplantation. Stress testing may also be used in the evaluation and assessment of valvular heart diseases, cardiomyopathies, and several congenital diseases. Specific conditions that may benefit from stress echocardiography in pediatric patients include post-transplant coronary vasculopathy, anomalous origin of coronary arteries, and after cardiotoxic chemotherapy. The authors note that children younger than 8 years old may be unable to cooperate with provider instructions during exercise stress testing and may therefore need to undergo pharmacological stress testing, with the further potential need for sedation.

Pellikka et al. (2020) and the American Society of Echocardiography published echocardiography guidelines for detection and risk assessment of stable ischemic heart disease, per the 2015 American College of Cardiology/American Heart Association clinical practice guidelines.[25] Stress echocardiography was rated as appropriate as a noninvasive diagnostic and surveillance modality for several pediatric and adult cardiac conditions. In follow-up testing for new or worsening symptoms, stress echocardiography testing was appropriate for patients with suspected stable CAD. Stress echocardiography is also the preferred imaging modality for unexplained dyspnea on exertion. Stress echocardiography is appropriate following revascularization with new cardiac symptoms, especially if refractory to guideline-directed medical therapy (GDMT). Stress echocardiography is less recommended for preoperative evaluation before noncardiac surgery and

before an exercise prescription for cardiac rehabilitation. The authors noted that the absence of radiation makes this imaging modality particularly attractive for pediatric patients, women with indications for noninvasive imaging, serial imaging scenarios, and patients with a history of radiation to the chest. Additionally, stress echocardiography is preferred to studies such as cardiovascular magnetic resonance, which involves gadolinium administration, for certain patient subsets (e.g., those with kidney disease).[25]

In 2021, Gulati and colleagues developed a multi-society guideline for the evaluation and diagnosis of chest pain. Stress echocardiography was recommended for determining the etiology of chest pain including pericardial effusion, stress cardiomyopathy, and hypertrophic cardiomyopathy. Stress echocardiography may also be used to define ischemia severity and for risk stratification after acute coronary syndrome has been ruled out.[21]

Stout et al. (2019), on behalf of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines, developed the 2018 AHA/ACC guideline for the management of adults with congenital heart disease (ACHD). Based on clinical evidence, a strong recommendation was made to limit and monitor radiation exposure during imaging of patients with ACHD due to the potential for multiple exposures in these patients. Exercise stress testing is considered reasonable for patients with subaortic stenosis to measure exercise capacity, stress-induced arrhythmias, and ischemia. Patients with transposition of the great arteries with arterial switch are recommended to have baseline serial imaging, and if the patient is symptomatic following arterial switch.[39]

In the 2020 ACC/AHA guideline for the management of patients with valvular heart disease, Otto et al. state that it is reasonable to use low-dose dobutamine stress echocardiography in patients with suspected low-flow, low gradient severe aortic stenosis with normal left ventricular ejection fraction (stage D3). Stress echocardiography is also recommended in the diagnosis of chronic secondary mitral regurgitation, as well as before and during pregnancy evaluation in women with native valvular heart disease.[40]

The 2024 European Society of Cardiology (ESC) guidelines for the management of chronic coronary syndromes (CCS) updated and expanded the guidelines initially issued five years prior.[47] The authors defined CCS as a range of clinical presentations of coronary artery disease (CAD) which can produce transient, reversible ischemia during exertion, emotion, or stress. Physical symptoms may include angina, other chest pain, or dyspnoea, or patients may be asymptomatic. The updated 2024 guidelines included a new recommendation for stress echocardiography to estimate the risk of MACEs or to diagnose myocardial ischemia in patients with suspected CCS and a moderate or high pre-test probability of obstructive coronary artery disease. The updated guidelines also recommended the use of ultrasound contrast agents to improve image quality and increase diagnostic accuracy, especially in obese patients and in patients with chronic obstructive pulmonary disease.

A number of recent articles provided recommendations for several common clinical scenarios. Gulati et al. (2021) provided insights into the evaluation and diagnosis of chest pain.[21] Winchester et al (2023) provided appropriate use criteria (AUC) for the detection and risk assessment of chronic coronary disease.[31] Doherty et al. (2024) updated a previous AUC document on cardiovascular evaluation for nonemergency, noncardiac surgery, focusing on ischemic heart disease, valvular heart disease and heart failure (rather than cardiovascular disease in general) and their relation to the risks associated with various types of surgery (solid organ transplant, vascular, non-vascular).[29,41-43]

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Policy Revision History/Information

Original Date: October 29, 2024		
Review History		
Version 2	10/23/2025	Annual review. Adjusted criteria to mirror LCD L34324. Updated links to LCDs and Billing and Coding Articles. Removed L36889- Retired by CMS 10/16/2025 Added link to NCD 220.5. Updated Medical Evidence (9 studies)
Version 2.1	11/14/2025	Updated link and reference for A57306 per CMS