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2025 Cardiac Mobile Outpatient Telemetry (CMOT)

Cardiology

CARD-CMOT-HH

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Cardiac Mobile Outpatient Telemetry (CMOT)

NCD 20.15
See also, **NCD 20.15**: Electrocardiographic Services at https://www.cms.gov/medicare-coverage-database/search.aspx *if applicable to individual's healthplan membership*.

Preamble: Pediatric Cardiology Preamble

HealthHelp's clinical guidelines for the Cardiology program, are intended to apply to both adults and pediatrics (21 years of age or younger), unless otherwise specified within the criteria.

CMOT Guideline

Cardiac mobile outpatient telemetry (CMOT) (eg, MCOT™) is considered medically appropriate when the documentation demonstrates **ALL** of the following:

1. **ALL** of the following:
    a. Duration of monitoring is 30 days or less.
    b. Indication for monitoring is non-life threatening.
    c. **NO** additional monitoring is already in place.

    References: [9] [10] [4] [13] [8] [1]
2. Clinical condition includes **ANY** of the following:
    a. Arrhythmia is known and **ANY** of the following:
        i. Age is over 2 years and up to 21 years old and requires long-term monitoring **OR** prior to placement of insertable cardiac monitors.
        ii. Arrhythmia risk is high, with unexplained chest pain, dizziness, near syncope, palpitations or syncope and **ALL** of the following:[1]
            A. Arrhythmic etiology is suspected and initial evaluation (comprehensive history, electrocardiogram [ECG], physical exam) is non-diagnostic or indeterminate.

[1]Conditions associated with a high-risk of developing an arrhythmia include coronary artery disease (CAD), dilated or hypertrophic cardiomyopathy, right ventricular dysplasia, long QT syndrome, electrolyte abnormalities, use of antiarrhythmic drugs and valvular heart disease.

B. **ANY** of the following:

I. Short-term cardiac monitoring is completed and is non-diagnostic.

II. Symptoms are intermittent or infrequent (weekly) such that short-term monitoring would be unlikely to capture arrhythmia.

iii. Inherited arrhythmia (eg, Brugada syndrome, catecholaminergic polymorphic ventricular tachycardia [CPVT]. long or short QT syndrome) is known, in a pediatric individual, symptomatic and **NO** etiology is known.

iv. Subclinical arrhythmia is suspected in a pediatric individual **AND** diseases with significant rhythm abnormalities (eg, cardiac channelopathies, inherited arrhythmias) are known.

b. Atrial fibrillation is known and **ANY** of the following:

i. Ablation, post-procedure monitoring for dysrhythmia

ii. Anti-arrhythmic drug therapeutic response monitoring (eg, amiodarone, dronedarone, flecanide, propafenone) [9]

iii. Anticoagulation therapy discontinuation planning (to ensure absence of atrial fibrillation prior).

c. Congenital heart disease, in a pediatric individual, is known **AND** asymptomatic, for treatment planning

d. Cryptogenic stroke with atrial fibrillation as suspected cause and **ALL** of the following:

i. Ambulatory cardiac monitoring to guide treatment plan when Inpatient telemetry and short-term outpatient telemetry monitoring is non-diagnostic.

ii. Stroke etiology is unknown after ECG, echocardiography (ECHO) and neurological workup is non-diagnostic or indeterminate.

References: [12] [2] [13] [4] [8] [9] [10] [3] [6] [11] [7]

3. Cardiomyopathy is known, in a pediatric individual, symptomatic (eg, dyspnea, exercise intolerance, fatigue) and **NO** etiology is known.
References: [3]

4. Syncope, in a pediatric individual, and **EITHER** of the following:

a. High risk of SCD (eg, hypertrophic cardiomyopathy, inherited cardiac arrhythmias, long QT syndrome), etiology is unknown, comprehensive evaluation (medical

history, physical exam, family history and ECG) is completed **AND** does **NOT** have indications necessary for a pacemaker or ICD.

b. Recurrent, etiology is unknown **AND** is **NOT** a high risk of SCD (eg, hypertrophic cardiomyopathy, inherited cardiac arrhythmias, long QT syndrome) .

References: [12]

LCD 33952
See also, **LCD 33952**: Cardiac Event Detection at https://www.cms.gov/medicare-coverage-database/search.aspx *if applicable to individual's healthplan membership*.

LCD 34573
See also, **LCD 34573**: Cardiac Event Detection at https://www.cms.gov/medicare-coverage-database/search.aspx *if applicable to individual's healthplan membership*.

LCD 34636
See also, **LCD 34636**: Electrocardiographic (EKG or ECG) Monitoring (Holter or Real-Time Monitoring) at https://www.cms.gov/medicare-coverage-database/search.aspx *if applicable to individual's healthplan membership*.

LCD 39492
See also, **LCD 39492**: Ambulatory Electrocardiography (AECG) Monitoring at https://www.cms.gov/medicare-coverage-database/search.aspx*if applicable to individual's healthplan membership*.

LCD 39490
See also, **LCD 39490**: **Ambulatory Electrocardiograph (AECG) Monitoring** at https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=39490&ver=7&bc=0 *if applicable to individual's healthplan membership*.

CMOT Procedure Codes

Table 1. Cardiac Mobile Outpatient Telemetry (CMOT) Associated Procedure Codes

CODE	DESCRIPTION
93228	External mobile cardiovascular telemetry with electrocardiographic recording, concurrent computerized real time data analysis and greater than 24 hours of accessible ECG data storage (retrievable with query) with ECG triggered and patient selected events transmitted to a remote attended surveillance center for up to 30 days; review and interpretation with report by a physician or other qualified health care professional
93229	External mobile cardiovascular telemetry with electrocardiographic recording, concurrent computerized real time data analysis and greater than 24 hours of accessible ECG data storage (retrievable with query) with ECG triggered and patient selected events transmitted to a remote attended surveillance center for up to 30 days; technical support for connection and patient instructions for use, attended surveillance, analysis and transmission of daily and emergent data reports as prescribed by a physician or other qualified health care professional

CMOT Summary of Changes

Cardiac Mobile Outpatient Telemetry (CMOT) guideline from 2023 to 2024 had the following changes:

- Citations were updated, evidence review was completed.
- Mid-cycle update (11/21/2024): Added Pediatric indications

CMOT Definitions

Ablation is a procedure performed in a cardiac catheterization laboratory during an electrophysiology study (EPS) for the purpose of destroying myocardial tissue by delivery of radio-frequency energy, electrical or cryo-energy. The procedure is used to correct heart arrhythmias.
Anticoagulation is a substance that is used to prevent and treat blood clots in blood vessels and the heart.
Arrhythmia is an irregular or abnormal heart rhythm. Arrhythmia refers to any change from the normal sequence of electrical impulses of the heart, causing abnormal heart rhythms. The electrical impulses may happen too fast, too slowly or erratically – causing the heart to beat too fast, too slowly or erratically.
Arrhythmogenic right ventricular dysplasia (ARVD) (also called arrhythmogenic right ventricular cardiomyopathy, right ventricular cardiomyopathy or right ventricular dysplasia) is a rare type of cardiomyopathy that occurs when the muscle tissue in the right ventricle dies and is replaced with scar tissue. This disrupts the heart's electrical signals and causes arrhythmias. Symptoms include palpitations and fainting after physical activity. ARVD usually affects teens or young adults and can cause sudden cardiac arrest (SCA) in young athletes. Researchers believe that arrhythmogenic right ventricular dysplasia is an inherited disease.

Atrial fibrillation (AF) is a cardiac rhythm disorder characterized by uncontrolled atrial activation without effective atrial contraction. On the electrocardiogram (ECG), P waves are absent. AF is characterized by rapid oscillations or fibrillatory waves that vary in amplitude, shape and timing associated with an irregular ventricular response.

- **Paroxysmal AF** terminates spontaneously or with intervention within 7 days of onset. Episodes typically convert back to sinus rhythm within 48 hours.
- **Persistent AF** is continuous AF sustained beyond 7 days.

Brugada syndrome is a rare inherited cardiovascular disorder characterized by disturbances affecting the electrical system of the heart. The main symptom is irregular heartbeat and, without treatment, may result in sudden death.

Cardiomyopathy is a disease of the heart muscle that makes it harder for the heart to pump blood to the rest of the body. Cardiomyopathy can lead to heart failure. The main types of cardiomyopathy include dilated, hypertrophic and restrictive cardiomyopathy.

Catecholamenergic polymorphic ventricular tachycardia (CPVT) is a rare, inherited arrhythmia syndrome characterized by exercise or emotion-induced ventricular arrhythmias in individuals with structurally normal hearts and a normal resting electrocardiogram (ECG).

Channelopathies are genetically determined disorders characterized by abnormal function of ion channels, leading to various clinical manifestations including muscle, cardiac, and neurological disorders.

Congenital heart disease (CHD) is a term for a variety of birth defects that affect heart anatomy and function. Congenital is defined as present since birth. CHD occurs when the heart, or blood vessels near the heart, do not develop normally. Common heart defects include: atrial septal defect, coarctation of the aorta, d-transposition of the great arteries, Ebstein's anomaly, patent ductus arteriosus, tetralogy of fallot, total anomalous pulmonary venous connection and ventricular septal defect.

Table 1. Adult Congenital Heart Disease Classifications

Classifi-cation	CHD Anatomy
Simple	• Native Anatomy ▪ Isolated, small ASD ▪ Isolated, small VSD ▪ Mild, isolated pulmonic stenosis • Repaired Conditions ▪ Previously ligated or occluded ductus arteriosus ▪ Repaired secundum ASD or sinus venosus defect without significantresidual shunt or chamber enlargement ▪ Repaired VSD without significant residual shunt or chamberenlargement

Classification	CHD Anatomy
Moderate Complexity	• Repaired or unrepaired conditions ▪ Aorto-left ventricular fistula ▪ Anomalous pulmonary venous connection, partial or total ▪ Anomalous coronary artery arising from the pulmonary artery ▪ Anomalous aortic origin of a coronary artery from the opposite sinus ▪ AVSD (partial or complete, including primum ASD) ▪ Congenital aortic valve disease ▪ Congenital mitral valve disease ▪ Coarctation of the aortan Ebstein anomaly (disease spectrum includes mild, moderate, and severevariations) ▪ Infundibular right ventricular outflow obstruction ▪ Ostium primum ASD ▪ Moderate and large unrepaired secundum ASD ▪ Moderate and large persistently patent ductus arteriosus ▪ Pulmonary valve regurgitation (moderate or greater) ▪ Pulmonary valve stenosis (moderate or greater) ▪ Peripheral pulmonary stenosis ▪ Sinus of Valsalva fistula/aneurysm ▪ Sinus venosus defect ▪ Subvalvar aortic stenosis (excluding HCM ▪ Supravalvar aortic stenosis ▪ Straddling atrioventricular valve ▪ Repaired tetralogy of Fallot ▪ VSD with associated abnormality and/or moderate or greater shunt

Classification	CHD Anatomy
Great Complexity (or complex)	• Cyanotic congenital heart defect (unrepaired or palliated, all forms) • Double-outlet ventricle • Fontan procedure • Interrupted aortic arch • Mitral atresia • Single ventricle (including double inlet left ventricle, tricuspid atresia,hypoplastic left heart, any other anatomic abnormality with a functionally single ventricle) • Pulmonary atresia (all forms) • TGA (classic or d-TGA; CCTGA or l-TGA) • Truncus arteriosus • Other abnormalities of atrioventricular and ventriculoarterial connection (i.e.,crisscross heart, isomerism, heterotaxy syndromes, ventricular inversion)

Coronary artery disease (CAD) is caused by plaque buildup in the walls of the arteries that supply blood to the heart (called coronary arteries) and other parts of the body.

Cryptogenic stroke is a brain infarction not clearly attributable to a definite cardioembolism, large artery atherosclerosis or small artery disease despite extensive investigation.

Dilated cardiomyopathy is a condition in which the left ventricle, the heart's main pumping chamber, is enlarged (dilated). As the chamber gets bigger, its thick muscular wall stretches, becoming thinner and weaker. This affects the heart's ability to pump enough oxygen-rich blood to the rest of the body.

Echocardiogram (ECHO) is a test that uses high frequency sound waves (ultrasound) to make pictures of the heart. The test is also called echocardiography or diagnostic cardiac ultrasound. An echo uses sound waves to create pictures of the heart’s chambers, valves, walls and the blood vessels (aorta, arteries, veins). A probe called a transducer is passed over the chest. The probe produces sound waves that bounce off the heart and “echo” back to the probe. These waves are changed into pictures viewed on a video monitor.

Electrocardiogram (ECG or EKG) is a test that measures and records the electrical activity of the heart. The ECG electrical activity is divided into the P wave, PR interval, QRS complex, QT interval, ST segment, T wave and U wave. An ECG is useful in establishing many cardiac diagnoses.

Holter monitor, also called an ambulatory ECG device, is a portable external monitoring device that records heart rhythms continuously for up to 72 hours.

Hypertrophic cardiomyopathy (HCM) is a congenital or acquired disorder, characterized by marked ventricular hypertrophy with diastolic dysfunction but without increased afterload (eg, due to valvular aortic stenosis, coarctation of the aorta, systemic hypertension). In obstructive HCM, the wall (septum) between the two bottom chambers of the heart thickens. The walls of

the pumping chamber can also become stiff. It may block or reduce the blood flow from the left ventricle to the aorta. **Left ventricular outflow tract (LVOT)** obstruction is a common feature of HCM and a cause of symptoms and exercise limitation. LVOT obstruction is defined as a peak LVOT gradient of more than 30 mmHg at rest or more than 50 mmHg with provocation. Most people with HCM have LVOT. In non-obstructive HCM, the heart's main pumping chamber still becomes stiff. This limits how much blood the ventricle can take in and pump out, but blood flow is not blocked. [2,3]

Indeterminate findings are inconclusive or insufficient for treatment planning.

Long QT syndrome (LQTS) is an abnormal feature of the heart's electrical system that can lead to a potentially life-threatening arrhythmia called torsades de pointes. Torsades de pointes may result in syncope or sudden cardiac death.

Mobile cardiac telemetry (MCT) - Real-time outpatient ECG monitoring is known as mobile cardiac telemetry (MCT or MCOT™). Mobile cardiac telemetry builds on other ECG monitoring systems by adding real-time data surveillance and technician evaluation. A portable telemetry device is worn and records the heart's rhythm. The data is transmitted to a remote surveillance receiving center. This service provides real-time, continuous, long-term cardiac rhythm surveillance in order to identify and document a suspected and/or paroxysmal dysrhythmia. The outpatient cardiac telemetry involves use of an automatically activated system and requires no patient intervention to capture or transmit dysrhythmia's when they occur. Qualified personnel at the receiving centers provide telemetry surveillance 24 hours a day, 7 days a week. The physician is notified of ECG abnormalities.

Near syncope is a feeling like one is going to pass out but without actual loss of consciousness.

Palpitations are rapid or irregular heartbeats that a person can feel.

Short QT syndrome (SQTS) is a genetically inherited disorder characterized by a shortened QT interval on the ECG, leading to an increased risk of atrial and ventricular arrhythmias and sudden cardiac death.

Subclinical is a condition, disease or injury without signs and symptoms that are detectable by physical examination or other medical testing and are usually incidentally found.

Syncope is a transient loss of consciousness and postural tone (ability to maintain or change position intentionally) due to insufficient cerebral perfusion. The loss of consciousness is associated with prompt recovery, not needing resuscitation.

Valvular heart disease is a condition when any valve in the heart has damage or is diseased. When heart valves are diseased, the heart cannot effectively pump blood throughout the body and has to work harder to pump, either while the blood is leaking back into the chamber or against a narrowed opening. This can lead to heart failure, sudden cardiac arrest and death.

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Disclaimer section

Purpose

The purpose of the HealthHelp's clinical guidelines is to assist healthcare professionals in selecting the medical service that may be appropriate and supported by evidence to safely improve outcomes. Medical information is constantly evolving, and HealthHelp reserves the right to review and update these clinical guidelines periodically. HealthHelp reserves the right to include in these guidelines the clinical indications as appropriate for the organization's program objectives. Therefore the guidelines are not a list of all the clinical indications for a stated procedure, and associated Procedure Code Tables may not represent all codes available for that state procedure or that are managed by a specific client-organization.

Clinician Review

These clinical guidelines neither preempt clinical judgment of trained professionals nor advise anyone on how to practice medicine. Healthcare professionals using these clinical guidelines are responsible for all clinical decisions based on their assessment. All Clinical Reviewers are instructed to apply clinical indications based on individual patient assessment and documentation, within the scope of their clinical license.

Payment

The use of these clinical guidelines does not provide authorization, certification, explanation of benefits, or guarantee of payment; nor do the guidelines substitute for, or constitute, medical advice. Federal and State law, as well as member benefit contract language (including definitions and specific contract provisions/exclusions) take precedence over clinical guidelines and must be considered first when determining eligibility for coverage. All final determinations on coverage and payment are the responsibility of the health plan. Nothing contained within this document can be interpreted to mean otherwise.

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National and Local Coverage Determination (NCD and LCD)

NOTICE
To ensure appropriate review occurs to the most current NCD and/or LCD, always defer to https://www.cms.gov/medicare-coverage-database/search.aspx.

Background

National Coverage Determinations (NCD) and Local Coverage Determinations (LCD) are payment policy documents outlined by the Centers for Medicare and Medicaid Services (CMS) and the government's delegated Medicare Audit Contractors (MACs) that operate regionally in jurisdictions.
CMS introduced variation between different jurisdictions/Medicare Audit Contractors (MACs) and their associated covered code lists with the transition to ICD 10. The variation resulted in jurisdictions independently defining how codes are applied for exclusions, limitations, groupings, ranges, etc. for the medical necessity indications outlined in the NCD and LCD. Due to this variation, there is an inconsistent use/application of codes and coverage determinations across the United States between the different MACs.
In addition, **WITHOUT** notice, CMS can change the codes that indicate medical necessity and the format of the coverage determinations/associated documents (eg, Articles). This is an additional challenge for organizations to keep up with ongoing, unplanned changes in covered codes and medical necessity indications.

Medical Necessity Codes

Due to the variation in code application between jurisdictions/MACs and that updates can happen without notification, HealthHelp is not able to guarantee full accuracy of the codes listed for any Coverage Determination, and advises that prior to use, the associated Coverage Determination Articles are reviewed to ensure applicability to HealthHelp's programs and any associated NCDs and LCDs.

For Internal Use Only:

11248 11249 11253 11282 11325 11328 11333 11349 11350 11351 11352 11354 11355 11356 11358 11359 11360 11361 11362 11365 11366 11367 11368 11369 11370 11374 11375 11394 11395 11396 11565