

## MOBILE CARDIAC TELEMETRY

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### Overview

Mobile cardiac telemetry (MCT) is real-time continuously-attended ambulatory cardiac monitoring. Ambulatory cardiac monitoring refers to electrocardiogram (ECG) monitoring services provided while the patient is at home or performing daily activities, including sleep. The ECG rhythm(s) selected for transmission are automatically transmitted (without patient intervention) to a remote monitoring site. Continuously-attended means that there is, at the remote monitoring site or central data center, trained personnel, under the general supervision of a physician, receiving real-time ECG data 24 hours a day. Tape recording devices do not meet this requirement. Further, such technicians must have immediate, 24-hour access to a physician to review transmitted data and make clinical decisions regarding the patient. The technician should also be instructed as to when and how to activate emergency medical response to assist the patient in case of an emergency.

Four such systems are currently commercially marketed in the United States: The CardioNet System available as a service called mobile cardiac outpatient telemetry (CardioNet, Inc), the HEARTLink II System available as a service called Telemetry-at-Home (Cardiac Telecom Corp), the VST™ (Vital Signs Transmitter, Biowatch Medical), and the CG-6108 continuous ECG monitor, also known as the Lifestar Ambulatory Cardiac Telemetry (ACT) System (Card Guard Scientific Survival, Ltd.). These systems allow automatic wireless transmission of abnormal ECG waveforms at the time of event occurrence from the patient's home to an attended monitoring center. In addition, the CardioNet system has a built-in cellular telephone that automatically transmits arrhythmic signals to the monitoring center when the patient is away from home (the HEARTLink II system can only transmit signals from a base station in the patient's home; limitations of the VST™ and CG-6108 are unclear based on published information). Although many event recorders have automatic activation capability, and allow the patient to transmit data to a receiving station, they do not automatically transmit the event data at the time of occurrence to an attended monitoring station. The ability to respond immediately when clinically important events occur is the major advantage of real-time continuous attended monitoring systems.

Rothman et al. (2007) conducted the only randomized controlled trial comparing the usefulness of a MCT (the CardioNet System) to external loop recorders (ELR) in detecting arrhythmias. All patients had undergone prior conventional assessment without being diagnosed. Indications for cardiac monitoring included symptoms of syncope, pre-syncope, or severe palpitations occurring less than once per 24 hours in adults 18 years of age or older. This trial found that MCT was superior to ELR in confirming the diagnosis of clinically significant cardiac arrhythmias, detecting 55 events in the MCT group (41%, 55/134 patients) compared to 19 in the ELR group (15%, 19/132 patients), a difference that was statistically significant. This study does

have limitations. The study was not blinded; therefore a bias toward one of the monitoring modalities could occur. A total of 305 patients were randomized and only 266 were included in the final analysis. Of the 39 patients who went off-protocol, 23 were in the MCT group. The most common reason for not completing the study was patient noncompliance. This study was sponsored by CardioNet, Inc..

To date, published studies have focused on the ability of these systems to detect and transmit arrhythmias and have not addressed identification of appropriate patients for the added features of MCT, or how MCT may change patient management and improve outcomes. Further studies are needed to determine which patients will benefit from immediate intervention when a designated arrhythmia is detected and whether diagnostic information obtained from mobile cardiac monitoring improves patient outcomes as a result of changes in patient management.

## Definitions

**Arrhythmia** – a cardiac arrhythmia is a temporary or sustained abnormal heart rhythm that is caused by a disturbance in the electrical signals in the chambers of the heart. Proper transmission of electrical signals to the heart is necessary to ensure effective heart function. There are two main categories of arrhythmia: tachycardia, meaning too fast a heartbeat; and bradycardia, meaning too slow a heartbeat. Arrhythmias affect more than four million people in the United States. A number of factors can contribute to arrhythmias including cardiovascular disease, high blood pressure, diabetes, smoking, excessive consumption of alcohol or caffeine, illicit drug abuse or stress. An arrhythmia may be a symptom of serious cardiovascular disease and, if left undiagnosed and untreated, can lead to stroke, other serious complications or even death.

**Telemetry** – Telemetry is the continuous monitoring of data using remote technology. Cardiac telemetry is the continuous monitoring of a patient's echocardiograph (ECG) from a location some distance from the patient. Cardiac telemetry can be a valuable diagnostic tool and it can also be important for patient safety, ensuring that arrhythmias are caught quickly.

## Policy

Commercial (defined herein)

FCHP considers MCT experimental/investigational. MCT is not covered for commercial plan members.

Fallon Senior Plan and MassHealth

FCHP covers medically necessary MCT for Fallon Senior Plan™ and MassHealth members, in accordance with contractual obligations.

**Coverage for MCT requires prior authorization by FCHP.**

FCHP considers MCT medically necessary:

- To evaluate plan members with symptoms that may be due to non-life threatening cardiac arrhythmias to obtain correlation of rhythm with symptoms. These symptoms may include but are not limited to syncope, dizziness, chest pain, palpitations, or shortness of breath.
- To monitor plan members who have a need for cardiac monitoring for non-life-threatening arrhythmias in one of the following circumstances: (1) initiation, revision

or discontinuation of antiarrhythmic drug therapy, or (2) during recovery from surgical or ablative procedures for arrhythmias or myocardial infarction.

FCHP will authorize one session (i.e., one 30-day session<sup>1</sup>) of medically necessary MCT for a Fallon Senior Plan™ or MassHealth member who meets all of the following criteria:

1. The plan member is 18 years of age or older.
2. There is a low likelihood of a potentially life-threatening cardiac event.
3. Other testing and/or monitoring (i.e., Holter monitor, has been unrevealing or is inappropriate.

**Exclusions**

1. Mobile cardiac telemetry for a plan member with a potentially life-threatening arrhythmia.

**Codes**

MCT and the corresponding CPT codes have key distinguishing features:

1. Real-time data analysis by preprogrammed algorithms in the device
2. Greater than 24 hours of accessible ECG data storage, and
3. Events are transmitted to a remote attended surveillance center where a surveillance center technician reviews the arrhythmia and notifies the physician depending on prescribed criteria.

Cardiac monitoring systems that do not meet these specifications are not considered MCT systems and will not be covered or reimbursed as such.

MCT is a diagnostic service. No separate reimbursement is made for use of the monitoring equipment or related supplies.

Claims for MCT for commercial plan members will deny vendor liable.

Codes	Number	Description
CPT	93228	Wearable mobile cardiovascular telemetry with electrocardiographic recording, concurrent computerized real time data analysis and greater than 24 hours of accessible ECG storage (retrievable with query) with ECG triggered and patient selected events transmitted to a remote attended surveillance center for up to 30 days; physician review and interpretation with report (report once per 30 days)
	93229	Wearable mobile cardiovascular telemetry with electrocardiographic recording, concurrent computerized real time data analysis and greater than 24 hours of accessible ECG storage (retrievable with query) with ECG triggered and patient selected events

<sup>1</sup> One 30-day session of real-time continuous attended ambulatory cardiac monitoring equals one unit of service. The average duration of monitoring in a symptomatic patient is 10 to 14 days. Monitoring beyond 30 days is only rarely medically necessary and must be justified by the treating physician. Failure to document an arrhythmia during a 30-day session is not justification for a second or subsequent 30-day session of cardiac monitoring. It is unlikely to be medically necessary to repeat monitoring a second time within a year in the absence of new or recurrent undiagnosed symptoms.

Codes	Number	Description
		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 physician prescribed transmission of daily and emergent data reports (report once per 30 days)

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## Products to Which This Policy Applies

### Commercial

- ⊕ FCHP Direct & Select Care
- ⊕ Fallon Preferred Care (PPO)
- ⊕ Major Medical
- ⊕ Companion Care
- ⊕ Commonwealth Care

### Other

- ⊕ MassHealth
- ⊕ Fallon Senior Plan™

## References

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12. CMS Manual System, Publication 100-3 Chapter 1, Part 1, Section 20.15 – Electrocardiographic Services.

**Committee review dates:**

Technology Assessment Subcommittee: 04/27/10

Technology Assessment Committee: 04/26/05, 06/02/10

**IMPORTANT NOTE**

**Not all services are covered for all products or employer groups.** This medical policy expresses FCHP's determination of whether certain services or supplies are medically necessary, experimental or investigational or cosmetic. FCHP has reached these conclusions based upon the regulatory status of the technology and a review of clinical studies published in peer-reviewed medical literature. Even though this policy may indicate that a particular service or supply is considered covered, this conclusion is not based upon the terms of your particular benefit plan. Each benefit plan contains its own specific provisions for coverage and exclusions. Not all benefits that are determined to be medically necessary will be covered benefits under the terms of your benefit plan. Members and their providers need to consult the Evidence of Coverage to determine if there are any exclusions or other benefit limitations applicable to this service or supply. If there is a discrepancy between this policy and the plan of benefits, the provisions of the benefits plan will govern. However, applicable state mandates will take precedence with respect to fully insured plans and self-funded non-ERISA (e.g., government, school boards, church) plans. Unless otherwise specifically excluded, Federal mandates will apply to all plans. With respect to Medicare and Medicaid members, this policy will apply unless Medicare and Medicaid policies extend coverage beyond this medical policy.