TITLE: REAL-TIME MOBILE CARDIAC OUTPATIENT TELEMETRY (RT-MCOT) MP9621

EFFECTIVE DATE: 05/01/2024

This policy was developed with input from specialists in cardiology and endorsed by the Medical Policy Committee.

IMPORTANT INFORMATION – PLEASE READ BEFORE USING THIS POLICY

These services may or may not be covered by Medica. Coverage is subject to requirements in applicable federal or state laws. Please refer to the member's plan document for other specific coverage information. If there is a difference between this general information and the member's plan document, the member's plan document will be used to determine coverage. With respect to Medicare, Medicaid, and other government programs, this policy will apply unless these programs require different coverage. Members may contact Medica Customer Service at the phone number listed on their member identification card to discuss their benefits more specifically. Providers with questions may call the Provider Service Center. Please use the Quick Reference Guide on the Provider Communications page for the appropriate phone number. https://mo-central.medica.com/Providers/SSM-employee-health-plan-for-IL-MO-OK-providers

Medica medical policies are not medical advice. Members should consult with appropriate health care providers to obtain needed medical advice, care, and treatment.

PURPOSETo promote consistency between utilization management reviewers by providing the criteria that determines the medical necessity.

BACKGROUND

I. Definitions
   A. **Real-time mobile cardiac outpatient telemetry (RT-MCOT)**, also known as continuous mobile cardiac outpatient telemetry (MCOT), allows clinicians to conduct *real-time* outpatient monitoring of patients' cardiac rhythms via electrocardiographic recordings. The patient wears a portable electrocardiogram (ECG) sensor with leads attached to the skin for continuous monitoring of cardiac rhythms during daily activities. No patient intervention to either record or transmit an arrhythmia when it occurs is required. If the algorithm of the monitoring system detects an arrhythmic event, the system will automatically transmit the ECG data wirelessly or through a telephone line to a service center. Monitoring specialists analyze the data, respond to events, and report results in the manner prescribed by the physician. The patient can also manually send the ECG data by pressing a button when experiencing a symptom. The device may be worn for weeks at a time in order to evaluate infrequent or unpredictable symptoms suggestive of cardiac arrhythmias (e.g. palpitation, dizziness, or syncope) when non real-time cardiac monitoring is likely to have low diagnostic yield. Examples of FDA-approved RT-MCOT devices include, but are not limited to:

1. CardioNet MCTO™ System (CardioNet)
2. HEARTLink II™ System (Cardiac Telecom Corp.)
3. Heartrak Smart External Cardiac Ambulatory Telemetry System (Mednet Healthcare Technologies, Inc.)
4. LifeStar™ ACT System (LifeWatch)
5. NUVANT Mobile Cardiac Telemetry System (Corventis)
6. TruVue® Wireless Ambulatory Monitoring Systems (BioMedical Systems)
7. VST™ Vital Signs Transmitter (Biowatch Medical)

B. **Cardiac ablation** is a procedure used to correct abnormal heart rhythms (i.e., arrhythmias). Catheters are typically employed to scar or destroy heart tissue where the abnormal heart rhythm is being generated. This is intended to correct the arrhythmia by preventing further abnormal electrical signals from traveling through the heart. Cardiac ablation can be performed either through open-heart surgery or by minimally invasive techniques.

C. **Cryptogenic stroke or transient ischemic attack** (TIA) is a diagnosis made when the cause of an individual's stroke or TIA cannot be found. The word cryptogenic means "of obscure or unknown origin".

D. **Occult atrial fibrillation** refers to atrial fibrillation occurring without any readily discernible signs or symptoms. Occult is used in this context to mean "hidden."

E. **Syncope**: A transient loss of consciousness and postural tone caused by diminished blood flow to the brain.

F. **Pre-syncope:** Presyncope refers to the sensation of lightheadedness and loss of strength that precedes a syncopal event or accompanies an incomplete syncope.

G. **Palpitation:** Forcible or irregular pulsation of the heart, perceptible to the patient, usually with an increase in frequency or force, with or without irregularity in rhythm. Palpitation can be a sign of underlying tachycardia.

H. **Tachyarrhythmia/tachycardia** is any irregularity of the heart rhythm in which the heart rate is abnormally increased (e.g., resting heart rate over 100 beats per minute).

BENEFIT CONSIDERATIONS

1. Prior authorization **is required** for real-time mobile cardiac outpatient telemetry (RT-MCOT) ordered outside the emergency room setting. Please see the prior authorization list for product specific prior authorization requirements.
2. Prior authorization is **not required** for RT-MCOT ordered in the emergency room setting. While prior authorization is not required, Medica reserves the right to conduct a medical necessity review following receipt of a claim submission for RT-MCOT.
3. Conditions other than those outlined in the medical necessity criteria *are investigative and therefore not covered*.
4. Coverage may vary according to the terms of the member's plan document.
5. If the Medical Necessity Criteria and Benefit Considerations are met, Medica will authorize benefits within the limits in the member's plan document.
6. If it appears that the Medical Necessity Criteria and Benefit Considerations are not met, the individual's case will be reviewed by the medical director or an external reviewer. Practitioners are reminded of the appeals process in their Provider Administrative Manual.

MEDICAL NECESSITY CRITERIA

I. Indications

Real-time mobile cardiac outpatient telemetry (RT-MCOT) is considered medically necessary when documentation in the medical record indicates that **all of the following** criteria are met:

A. The RT-MCOT test is ordered by a cardiologist, electrophysiologist, neurologist, or a nurse practitioner or physician assistant practicing within one of these specialties.

B. The individual has **one of the following** indications suggestive of a potentially significant cardiac event or condition:

1. Unexplained syncope/pre-syncope or palpitation.
   NOTE: Potential origins of syncope/pre-syncope and palpitation include, but are not limited to, nonischemic dilated cardiomyopathy, hypertrophic cardiomyopathy, polypharmacy (e.g., ACE inhibitors and beta blockers), orthostatic intolerance, autonomic dysfunction, cerebrovascular disease.
2. Medical monitoring/management required following cardiac ablation (e.g., antiarrhythmic or anticoagulant drug therapy).
3. History of cryptogenic stroke or transient ischemic attack (TIA) indicating suspected unconfirmed occult atrial fibrillation
4. Nocturnal arrhythmia (e.g., associated with sleep apnea)
5. Patients in whom accurate information on arrhythmia burden is desired (e.g., atrial fibrillation burden).

CENTERS FOR MEDICARE & MEDICAID SERVICES (CMS)

- For Medicare members, refer to the following, as applicable at: https://www.cms.gov/medicare-coverage-database/new-search/search.aspx

DOCUMENT HISTORY

Original Effective Date	Created 01/18/2023
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Administrative Updates	04/17/2024

References:

Pre-04/2016 Medical Policy Committee (MPC):

1. Agency for Healthcare Research and Quality (AHRQ). *Technology Assessment: Remote Cardiac Monitoring*. December 2007. Washington, DC.
2. Aliot EM, Stevenson WG, Almendral-Garrote JM, et al. EHRA/HRS Expert Consensus on Catheter Ablation of Ventricular Arrhythmias: developed in a partnership with the European Heart Rhythm Association (EHRA), a Registered Branch of the European Society of Cardiology (ESC), and the Heart Rhythm Society (HRS); in collaboration with the American College of Cardiology (ACC) and the American Heart Association

(AHA). *Heart Rhythm*. 2009;6(6):886-933. http://europace.oxfordjournals.org/content/11/6/771.full.pdf+html. Accessed February 11, 2016.

3. Brunetti ND, De GL, Pellegrino PL, Dellegrottaglie G, Antonelli G, Di BM. Atrial fibrillation with symptoms other than palpitations: incremental diagnostic sensitivity with at-home tele-cardiology assessment for emergency medical service. *Eur J Prev Cardiol*. 2012;19(3):306-313.
4. Calkins H, Brugada J, Packer DL, et al. HRS/EHRA/ECAS expert consensus statement on catheter and surgical ablation of atrial fibrillation: recommendations for personnel, policy, procedures and follow-up. A report of the Heart Rhythm Society (HRS) Task Force on Catheter and Surgical Ablation of Atrial Fibrillation developed in partnership with the European Heart Rhythm Association (EHRA) and the European Cardiac Arrhythmia Society (ECAS); in collaboration with the American College of Cardiology (ACC), American Heart Association (AHA), and the Society of Thoracic Surgeons (STS). Endorsed and approved by the governing bodies of the American College of Cardiology, the American Heart Association, the European Cardiac Arrhythmia Society, the European Heart Rhythm Association, the Society of Thoracic Surgeons, and the Heart Rhythm Society. *Europace*. 2007;9(6):335-379.
5. Canadian Agency for Drugs and Technologies in Health (CADTH). *Telemetry and Holter Monitoring: Guidelines and Comparative Effectiveness.* 2008. Ottawa, Ontario, Canada.
6. Crawford MH, Bernstein SJ, Deedwania PC, et al. ACC/AHA guidelines for ambulatory electrocardiography: executive summary and recommendations. A report of the American College of Cardiology/American Heart Association task force on practice guidelines (committee to revise the guidelines for ambulatory electrocardiography). *Circulation*. 1999;100(8):886-893.
7. ECRI Institute. *ECRI Hotline Response: Mobile Cardiac Outpatient Telemetry for Detecting Arrhythmias.* November 2014. Plymouth Meeting, PA.
8. Engel JM, Mehta V, Fogoros R, Chavan A. Study of arrhythmia prevalence in NUVANT mobile cardiac telemetry system patients. *Conf Proc IEEE Eng Med Biol Soc*. 2012;2012:2440-2443.
9. Finsterer J. Management of cryptogenic stroke. *Acta Neurol Belg*. 2010;110(2):135-147.
10. Hayes, Inc. *Hayes Search & Summary: LifeStar ACT Ambulatory Cardiac Telemetry (LifeWatch Corp.) for Home Monitoring of Cardiac Patients.* December 2010. [Archived]. Lansdale, PA.
11. Hayes Inc. *Hayes Brief: Mobile Cardiac Outpatient Telemetry (MCOT) for Home Monitoring of Cardiac Patients*. April 2008. Annual Review last updated: March 2010. Lansdale, PA.
12. Hayes Inc. *Hayes Brief: Mobile Cardiac Outpatient Telemetry (MCOT) (CardioNet Ambulatory ECG Monitor; CardioNet Inc.) for Home Monitoring of Cardiac Patients*. September 2011. Last Annual Review October 2013. [Archived October 2014]. Lansdale, PA.
13. Hayes Inc. *Hayes Search & Summary: Heartrak ECAT Wireless External Cardiac Ambulatory Telemetry (Mednet Healthcare Technologies, Inc.)*. March 2013. [Archived]. Lansdale, PA.
14. Hoefman E, Bindles PJE, van Weert HCPM. Efficacy of diagnostic tools for detecting cardiac arrhythmias: systematic literature Search. *Neth Heart J.* 2010;18:542-551.
15. Kalani R, Bernstein R, Passman R, Curran Y, Ruff I, Prabhakaran S. Low Yield of Mobile Cardiac Outpatient Telemetry after Cryptogenic Stroke in Patients with

Extensive Cardiac Imaging. J Stroke Cerebrovasc Dis. 2015 Sep;24(9):2069-73. doi: 10.1016/j.jstrokecerebrovasdis.2015.05.031.
16. Miller DJ, Khan MA, Schultz LR, et al. Outpatient cardiac telemetry detects a high rate of atrial fibrillation in cryptogenic stroke. *J Neurol Sci*. 2013;324(1-2):57-61.
17. Mittal S, Movsowitz C, Steinberg JS. Ambulatory external electrocardiographic monitoring: focus on atrial fibrillation. *J Am Coll Cardiol*. 2011;58(17):1741-1749.
18. Podrid PJ. Ambulatory monitoring in the assessment of cardiac arrhythmias. In: *UpToDate*, Basow, DS (Ed), UpToDate, Waltham, MA, 2014.
19. Prabhakaran S, Elkind MSV. Crytogenic stroke. In: *UpToDate*, Basow, DS (Ed), UpToDate, Waltham, MA, 2014.
20. Rosero SZ, Kutyifa V, Olshansky B, Zareba W. Ambulatory ECG monitoring in atrial fibrillation management. *Prog Cardiovasc Dis*. 2013;56(2):143-152.
21. Rothman SA, Laughlin JD, Seltzer J, et al. The diagnosis of cardiac arrhythmias: a prospective multi-center randomized study comparing mobile cardiac outpatient telemetry versus standard loop event monitoring. *J Cardiovasc Electrophysiol.* 2007;18:241-247.
22. Sharma R. New trends in ECG Monitoring. *Diagnostic & Interventional Cardiology*. http://www.dicardiology.com/article/new-trends-ecg-monitoring. September 17, 2009. Accessed February 11, 2016.
23. Tan BY, Ho KL, Ching CK, Teo WS. Novel electrogram device with web-based service centre for ambulatory ECG monitoring. *Singapore Med J*. 2010;51(7):565-569.
24. Tayal AH, Tian M, Kelly KM, et al. Atrial fibrillation detected by mobile cardiac outpatient telemetry in cryptogenic TIA or stroke. *Neurology*. 2008;71(21):1696-1701.
25. Tsang JP, Mohan S. Benefits of monitoring patients with mobile cardiac telemetry (MCT) compared with the event or Holter monitors. *Med Devices (Auckl).* 2013;7:1-5.

04/2016 MPC:

26. Favilla CG, Ingala E, Jara J, et al. Predictors of finding occult atrial fibrillation after cryptogenic stroke. *Stroke.* 2015;46(5):1210-1215. doi: 10.1161/STROKEAHA.114.007763.
27. Kamel H, Navi BB, Elijovich L, et al. Pilot randomized trial of outpatient cardiac monitoring after cryptogenic stroke. *Stroke*. 2013;44(2):528-530.
28. Sposato LA, Cipriano LE, Saposnik G, Ruíz Vargas E, Riccio PM, Hachinski V. Diagnosis of atrial fibrillation after stroke and transient ischaemic attack: a systematic review and meta-analysis. *Lancet Neurol*. 2015;14(4):377387. doi: 10.1016/S1474-4422(15)70027-X.

04/2017 MPC:

29. ECRI Institute. ECRI Hotline Response: Mobile Cardiac Outpatient Telemetry for Detecting Arrhythmias. November 2014. Plymouth Meeting, PA.
30. Podrid PJ. Ambulatory ECG monitoring. Last updated January 22, 2016. In: *UpToDate*, Basow, DS (Ed), UpToDate, Waltham, MA, 2016.
31. Sposato LA, Cipriano LE, Saposnik G, Ruíz Vargas E, Riccio PM, Hachinski V. Diagnosis of atrial fibrillation after stroke and transient ischaemic attack: a systematic review and meta-analysis. Lancet Neurol. 2015;14(4):377-387. doi: 10.1016/S1474-4422(15)70027-X.

04/2018 MPC:

32. Derkac WM, Finkelmeier JR, Horgan DJ, Hutchinson MD. Diagnostic yield of asymptomatic arrhythmias detected by mobile cardiac outpatient telemetry and autotrigger looping event cardiac monitors. *J Cardiovasc Electrophysiol*. 2017;28(12):1475-1478. doi: 10.1111/jce.13342.
33. Derkac WM. Factual Inaccuracies Contained in the Article Entitled, "Low Yield of Mobile Cardiac Outpatient Telemetry after Cryptogenic Stroke in Patients with Extensive Cardiac Imaging". *J Stroke Cerebrovasc Dis*. 2017;26(12):3034. doi: 10.1016/j.jstrokecerebrovasdis.2017.09.015.
34. Kalani R, Bernstein R, Passman R, Curran Y, Ruff I, Prabhakaran S. Factual Inaccuracies Contained in the Article Entitled "Low Yield of Mobile Cardiac Outpatient Telemetry after Cryptogenic Stroke in Patients with Extensive Cardiac Imaging". *J Stroke Cerebrovasc Dis*. 2017;26(12):3035. doi: 10.1016/j.jstrokecerebrovasdis.2017.09.018.
35. Kalani R, Bernstein R, Passman R, Curran Y, Ruff I, Prabhakaran S. Low Yield of Mobile Cardiac Outpatient Telemetry after Cryptogenic Stroke in Patients with Extensive Cardiac Imaging. *J Stroke Cerebrovasc Dis*. 2015;24(9):2069-2073. doi: 10.1016/j.jstrokecerebrovasdis.2015.05.031.
36. Kass-Hout O, Kass-Hout T, Parikh A, et al. Atrial Fibrillation Predictors on Mobile Cardiac Telemetry in Cryptogenic Ischemic Stroke. *Neurohospitalist*. 2018;8(1):7-11. doi: 10.1177/1941874417711761.
37. Podrid PJ. Ambulatory ECG monitoring. Last updated March 15, 2017. In: *UpToDate*, Basow, DS (Ed), UpToDate, Waltham, MA, 2018.
38. Sebasigari D, Merkler A, Guo Y, et al. Biomarkers of Atrial Cardiopathy and Atrial Fibrillation Detection on Mobile Outpatient Continuous Telemetry After Embolic Stroke of Undetermined Source. *J Stroke Cerebrovasc Dis*. 2017;26(6):1249-1253. doi: 10.1016/j.jstrokecerebrovasdis.2017.01.016.

04/2019 MPC:

39. Benditt DG, Adkisson WO, Sutton R, Mears RK, Sakaguchi S. Ambulatory diagnostic ECG monitoring for syncope and collapse: An assessment of clinical practice in the United States. *Pacing Clin Electrophysiol*. 2018;41(2):203-209. doi: 10.1111/pace.13265.
40. Haeusler, Gröschel K, Köhrmann M, et al. Expert opinion paper on atrial fibrillation detection after ischemic stroke. *Clin Res Cardiol*. 2018;107(10):871-880. doi: 10.1007/s00392-018-1256-9.
41. Podrid PJ. Ambulatory ECG monitoring. Last updated May 23, 2018. In: *UpToDate*, Basow, DS (Ed), UpToDate, Waltham, MA, 2018.
42. Singh N1, Cun S, Hadley D, Froelicher V. Clinical Implications of Technological Advances in Screening for Atrial Fibrillation. *Prog Cardiovasc Dis*. 2018;60(4-5):550-559. doi: 10.1016/j.pcad.2018.01.007.

02/2020 MTAC and 04/2020 MPC:

43. Benditt D. Syncope in adults: Clinical manifestations and diagnostic evaluation. Last updated August 21, 2019. In: *UpToDate*, Basow, DS (Ed), UpToDate, Waltham, MA, 2019.

44. Brignole M, Moya A, de Lange FJ, et al. 2018 ESC Guidelines for the diagnosis and management of syncope. *Eur Heart J.* 2018;39(21):1883-1948. doi: 10.1093/eurheartj/ehy037.
45. Derkac WM, Finkelmeier JR, Horgan DJ, Hutchinson MD. Diagnostic yield of asymptomatic arrhythmias detected by mobile cardiac outpatient telemetry and autotrigger looping event cardiac monitors. *J Cardiovasc Electrophysiol*. 2017;28(12):1475-1478. doi: 10.1111/jce.13342.
46. ECRI Institute. *ECRI Hotline Response: Outpatient Cardiac Telemetry Monitors for Diagnosing and Managing Cardiac Arrhythmias*. March 2019. Plymouth Meeting, PA.
47. ECRI Institute. *ECRI Product Brief: Outpatient Cardiac CardioNet Ambulatory ECG Monitor (BioTelemetry, Inc.) for Diagnosing and Managing Cardiac Arrhythmias*. March 2019. Plymouth Meeting, PA.
48. Madias C. Ambulatory ECG monitoring. Last updated May 30, 2019. In: UpToDate, Basow, DS (Ed), UpToDate, Waltham, MA, 2019.
49. Shen WK, Sheldon RS, Benditt DG, et al. 2017 ACC/AHA/HRS Guideline for the Evaluation and Management of Patients With Syncope: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Rhythm Society. *J Am Coll Cardiol*. 2017;70(5):620-663. doi: 10.1016/j.jacc.2017.03.002.

04/2021 MPC:

No new references.

04/2022 MPC:

No new references.

04/2023 MPC:

50. ECRI Institute. ECRI Clinical Evidence Assessment: Outpatient Cardiac Telemetry Monitors for Diagnosing and Managing Cardiac Arrhythmias. February 2022. Plymouth Meeting, PA.52.Madias C. Ambulatory ECG monitoring. Last updated November 29, 2022. In: UpToDate, Basow, DS (Ed), UpToDate, Waltham, MA, 2022.

04/2024 MPC:

No new references