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2025 Implantable Hemodynamic Monitoring Device (CMEMS)

Cardiology

CARD-CMEMS-HH

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Table of Contents

Implantable Hemodynamic Monitoring Device (CMEMS) 3
CMEMS Guideline 3
Clinical Judgment 3
CMEMS Procedure Codes 3
CMEMS Summary of Changes 3
Definitions/Key Terms 3
CMEMS References 4
Disclaimer section 5
Purpose 5
Clinician Review 5
Payment 6
Registered Trademarks (®/™) and Copyright (©) 6
National and Local Coverage Determination (NCD and LCD) 6
Background 6
Medical Necessity Codes 7

Implantable Hemodynamic Monitoring Device (CMEMS)

CMEMS Guideline

For the use of an implantable hemodynamic monitoring device (eg, CardioMEMS™) for heart failure management: [1] [2] [3] [4] [5] [6] [7] [8]

1. The role of this therapy is uncertain/unclear in the current evidence. Requests for this therapy require review by a physician reviewer, medical director and/or the individual's healthplan.

Clinical Judgment

These medical policies are designed to provide clinical guidance and do not supplant a provider's independent professional judgment. Physicians retain full and independent authority to determine appropriate care based on each patient's individual clinical circumstances. Although services may be subject to documentation requirements, medical necessity review, or coverage limitations, nothing in this policy is intended to restrict or interfere with a physician's independent medical judgment.

CMEMS Procedure Codes

Table 1. Implantable Hemodynamic Monitoring Device Associated Procedure Codes

CODE	DESCRIPTION
33289	Transcatheter implantation of wireless pulmonary artery pressure sensor for long-term hemodynamic monitoring, including deployment and calibration of the sensor, right heart catheterization, selective pulmonary catheterization, radiological supervision and interpretation, and pulmonary artery angiography, when performed
93264	Remote monitoring of a wireless pulmonary artery pressure sensor for up to 30 days, including at least weekly downloads of pulmonary artery pressure recordings, interpretation(s), trend analysis, and report(s) by a physician or other qualified health care professional
C2624	Implantable wireless pulmonary artery pressure sensor with delivery catheter, including all system components

CMEMS Summary of Changes

Implantable Hemodynamic Monitoring Device (CMEMS) clinical guidelines from 2023 to 2024 had the following version changes:

- Citations were updated and evidence review was completed.

Definitions/Key Terms

The **CardioMEMS™** heart failure system remotely monitors changes in pulmonary artery (PA) pressure, an early indicator of the onset of worsening heart failure.

Guideline-directed medical therapy (GDMT) refers to the optimal course of treatment for each stage of a chronic cardiac condition (eg, angina, heart failure), including those at high risk of disease progression but without structural heart disease or symptoms. The goal is titration of medications to maximum tolerated doses.

Heart failure (HF) (also known as **congestive heart failure [CHF]**) is a condition that develops when the heart is unable to pump enough blood for the body's needs. HF occurs when the heart cannot fill with enough blood or is too weak to pump properly. Decompensated heart failure is sudden worsening (exacerbation) of heart failure symptoms (eg, difficulty breathing, lower extremity edema, fatigue) to where the heart can no longer continue to compensate for its full function.

Hemodynamic-guided management of heart failure (GUIDE-HF) involves using remote pulmonary artery pressure monitoring to guide treatment decisions in patients with heart failure, aiming to reduce hospitalizations and mortality.

An **implantable hemodynamic monitoring device** is a medical device that measures intracardiac pressures over time. It's used to monitor the heart's hemodynamic status, which can help clinicians diagnose and treat heart failure and other cardiovascular conditions.

Table 1. New York Heart Association (NYHA) Functional Classification for Heart Failure

CLASS	SYMPTOMS EXPERIENCED
Class I (Mild)	Cardiac disease, but no symptoms and no limitation in ordinary physical activity (eg, shortness of breath when walking, climbing stairs).
Class II (Mild)	Mild symptoms (eg, mild shortness of breath and/or angina) and slight limitation during ordinary activity.
Class III (Moder-ate)	Marked limitation in activity due to symptoms, even during less-than-ordinary activity, (eg, walking short distances [20–100 m]). Comfortable only at rest. Class IIIa: no dyspnea at rest. Class IIIb: recent dyspnea at rest.
Class IV (Severe)	Severe limitations. Experience symptoms while at rest. Unable to carry on any physical activity with-out discomfort.

CMEMS References

[1] (2022). CardioMEMS™ HF System Model CM3000 System Guide. *Abbott Medical*. Retrieved: January 2025. https://manuals.eifu.abbott/en/detail-screen.html

[2] (2023). CardioMEMS™ HF SystemPA Sensor and Delivery System Model CM2000 User's Manual. *Abbott Medical*. Retrieved: January 2025. https://manuals.eifu.abbott/en/detail-screen.html

[3] Dickinson, M.G., Allen, L.A., . . . Givertz, M.M. (2018). Remote Monitoring of Patients With Heart Failure: A White Paper From the Heart Failure Society of America Scientific Statements Committee. *Journal of Cardiac Failure, 24*(10), 682-694.

[4] Heidenreich, P.A., Bozkurt, B., . . . Yancy, C.W. (2022). AHA/ACC/HFSA Guideline for the Management of Heart Failure. *JACC (Journal of the American College of Cardiology), 79*(17), e263–e421.

[5] Lindenfeld, J., Zile, M.R., . . . Costanzo, M.R. (2021). Haemodynamic-guided management of heart failure (GUIDE-HF): a randomised controlled trial. *The Lancet, 398*(10304), 991-1001.

[6] Lindenfeld, J. & Zile, M.R. (2022). Devices for Monitoring and Managing Heart Failure. P. Libby & R.O. Bonow (Eds.). *Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine* (12), (pp. 1107-1118). Philadelphia, PA: Elsevier.

[7] Maddox, T.M., Januzzi, J.L., . . . Youmans, Q.R. (2021). 2021 Update to the 2017 ACC Expert Consensus Decision Pathway for Optimization of Heart Failure Treatment: Answers to 10 Pivotal Issues About Heart Failure With Reduced Ejection Fraction: A Report of the American College of Cardiology Solution Set Oversight Committee. *Journal of the American College of Cardiology, 77*(6), 772-810.

[8] Shavelle, D.M., Desai, A.S., . . . Stevenson, L.W. (2020). Lower Rates of Heart Failure and All-Cause Hospitalizations During Pulmonary Artery Pressure Guided Therapy for Ambulatory Heart Failure. *Circulation: Heart Failure, 13*(8), e006863.

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