



Medica Central Coverage Policy

Policy Name: Thoracic Electrical Bioimpedance (TEB) for Cardiac Output Measurement MP9737

Effective Date: 06/01/2024

Important Information – Please Read Before Using This Policy

These services may or may not be covered by all Medica Central plans. 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 Central coverage policies are not medical advice. Members should consult with appropriate health care providers to obtain needed medical advice, care, and treatment.

Coverage Policy

Note: This policy is no longer scheduled for routine review of the scientific literature.

Thoracic electrical bioimpedance (TEB) for cardiac output measurement is investigative and unproven and therefore **NOT COVERED**. There is insufficient reliable evidence in the form of high quality peer-reviewed medical literature to establish the efficacy or effects on health care outcomes.

Description

Cardiac output measurement is defined as the volume of blood pumped by the left ventricle in one minute. It evaluates cardiac function and monitors changes in hemodynamic status. This assumes a linear relationship between output and cardiac workload. There is no totally accurate method of measuring cardiac output, but the gold standard is an invasive procedure that uses a thermodilution catheter (TDC).

Thoracic electrical bioimpedance (TEB), also called bioimpedance cardiography, or impedance cardiography (ICG), is intended as a noninvasive alternative to measure cardiac output. A weak electrical current is applied to the chest through electrodes placed on the neck and sides of the chest. Resistance to the current (impedance) is measured through a second set of sensors placed next to the electrodes. The pulsatile flow of blood causes fluctuations in the current. The device calculates cardiac output from the impedance waveform. Computer software generates a display of the cardiac data collected, allowing continuous monitoring of heart rate, cardiac output,



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and other indicators of cardiovascular function. Other methods of measuring cardiac output include echocardiography, transesophageal Doppler, and radionuclide ventriculography.

FDA Approval

A number of TEB devices have been FDA-approved as Class II devices under the 510k approval process. These include but are not limited to:

- A. Bioimpedance Cardiac Analyzing Measuring System, Model NICAS CS (N. I. Medical, Ltd.).
- B. Bio Z® Cardio Profile (Cardio Dynamics, Inc.)
- C. Cheetah Reliant (Cheetah Medical, Inc.)
- D. ICG Module (General Electric Medical Systems Information Technologies)
- E. IQ System® Cardiac Output Monitor (Renaissance Technologies Inc.)
- F. Physioflow Enduro (Vasocom, Inc., now NeuMeDx)
- G. Task Force® Monitor (CNSystems)

Prior Authorization

Prior authorization is not applicable. Claims for this service are subject to retrospective review and denial of coverage, as investigative services are not eligible for reimbursement.

Coding Considerations

Use the current applicable CPT/HCPCS code(s). The following codes are included below for informational purposes only, and are subject to change without notice. Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement.

CPT Codes

- **93701** – Bioimpedance-derived physiologic cardiovascular analysis

	Committee/Source	Date(s)
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