

Clinical Policy: Enhanced External Counterpulsation

Reference Number: CA.CP.MP. 131

Effective Date: 2/16

Last Review Date: 2/21

[Coding Implications](#)

[Revision Log](#)

See [Important Reminder](#) at the end of this policy for important regulatory and legal information.

Note: For Medicaid members, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

Description

Enhanced external counterpulsation (EECP) is a nonpharmacologic technique used for the treatment of patients with chronic, disabling, stable angina refractory to medical treatment and/or surgical therapies. A full course of therapy usually consists of 35 one-hour treatments, which may be offered once or twice daily, usually 5 days per week.

Policy/Criteria

- I. It is the policy of California Health & Wellness that EECP is medically necessary for any of the following indications:
 - A. Patients with disabling, chronic, stable angina (New York Heart Association Class III or IV angina) who are not amenable to or tolerant of medical treatment;
 - B. Patients who, in the opinion of a cardiologist or cardiothoracic surgeon, are not appropriate candidates for surgical intervention due to one of the following:
 1. Patient's condition is inoperable, or at high risk of operative complications or post-operative failure;
 2. Patient's coronary anatomy is not readily amenable to such procedures; or
 3. Patient has co-morbid conditions that create excessive surgical risk.
- II. It is the policy of California Health & Wellness that a repeat course of EECP is medically necessary for patients who meet the criteria above and have relapsed after having previously demonstrated an objective response to EECP as evidenced by any of the following:
 - A. Early improvement in radionuclide stress perfusion imaging compared to a pre-EECP baseline;
 - B. Significant reduction or disappearance of angina symptoms;
 - C. Reduction in antianginal medication use;
 - D. Improvement in exercise tolerance.
- III. It is the policy of California Health & Wellness that EECP is not medically necessary for any other conditions than those specified above.

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Background

EECP involves sequential pneumatic compression of the legs coordinated with cardiac contractions. Cuffs are wrapped around the patient’s calves, thighs, and pelvis and, using compressed air, sequential pressure (up to 300 mmHg) is applied in early diastole to propel blood back to the heart. The goal of this procedure is to increase diastolic aortic blood pressure, improve venous blood return, and decrease afterload on the left ventricle, in patients with chronic angina pectoris, relieving pain and reducing impairment. External counterpulsation is the best studied of possible mechanical therapies to improve angina.

There have been a number of studies that have shown that EECP offers an effective, durable therapeutic approach for refractory angina. Decreased angina and improvement in quality of life were maintained at 2 years, with modest repeat EECP and low major cardiovascular event rates. The findings provide evidence that EECP has a beneficial effect on peripheral artery flow-mediated dilation and endothelial-derived vasoactive agents in patients with symptomatic chronic angina.

American College of Cardiology, American Heart Association, American Association for Thoracic Surgery, Society for Cardiovascular Angiography (2014) states that EECP may be considered for relief of refractory angina in patients with stable ischemic heart disease. ECP has met with only limited acceptance in practice.

Coding Implications

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CPT® Codes	Description
92971	Cardioassist-method of circulatory assist; external

HCPCS Codes	Description
G0166	External Counterpulsation, per session

ICD-10-CM Diagnosis Codes that Support Coverage Criteria

ICD-10-CM Code	Description
I20.9	Angina pectoris, unspecified
I25.x	Atherosclerotic heart disease of native coronary artery with angina etc

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Reviews, Revisions, and Approvals	Date	Approval Date
Policy Adopted from Health Net NMP#131. Enhanced External Counterpulsation	2/17	2/17
Update, no changes	2/18	2/18
Update, minor wording changes and added references	2/19	2/19
Update: added reference	2/20	2/20
Update added codes, no changes	2/21	2/21

References

1. Braith RW, Conti CR, Nichols WW, et al. Enhanced external counterpulsation improves peripheral artery flow-mediated dilation in patients with chronic angina: a randomized sham-controlled study. *Circulation*. 2010;122(16):1612.
2. Fihn SD, Blankenship JC, Alexander KP, et al. 2014 ACC/AHA/AATS/PCNA/SCAI/STS focused update of the guideline for the diagnosis and management of patients with stable ischemic heart disease: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines, and the American Association for Thoracic Surgery, Preventive Cardiovascular Nurses Association, Society for Cardiovascular Angiography and Interventions, and Society of Thoracic Surgeons. *J Am Coll Cardiol*. 2014;64(18):1929.
3. Hayes. Medical Technology Directory. External Counterpulsation. June 25, 2012. Updated 2019
4. Simons M. New Therapies for Angina Pectoris. UpToDate. Updated June 28, 2016.
5. Soran O, Kennard ED, Kfoury AG, et al. Two-year clinical outcomes after enhanced external counterpulsation (EECP) therapy in patients with refractory angina pectoris and left ventricular dysfunction (report from The International EECP Patient Registry). *Am J Cardiol*. 2006;97(1):17.
6. Simons M. New Therapies for Angina Pectoris. UpToDate. Updated Dec, 2017
7. Buschmann EE, Hillmeister P, Bondke Persson A, et al. Short-term external counterpulsation augments cerebral blood flow and tissue oxygenation in chronic cerebrovascular occlusive disease. *Eur J Neurol*. 2018;25(11):1326-1332.
8. Zhang C, Liu X, Wang X, et al. Efficacy of enhanced external counterpulsation in patients with chronic refractory angina on Canadian Cardiovascular Society (CCS) angina class: An updated meta-analysis. *Medicine (Baltimore)*. 2015;94(47):e2002

Important Reminder

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and

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accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. “Health Plan” means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan’s affiliates, as applicable.

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Note: For Medicare members, to ensure consistency with the Medicare National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), all applicable NCDs and LCDs should be reviewed prior to applying the criteria set forth in this clinical policy. Refer to the CMS website at <http://www.cms.gov> for additional information.

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