



## MEDICAL POLICY

Date Reviewed: 03/28/03, 08/26/05, 08/25/06, 04/20/07, 01/23/09, 02/05/10, 01/14/11

Subject: External Counterpulsation

Description: External counterpulsation is a type of treatment for individuals with ischemic cardiovascular disease who are not candidates for or have failed medical and surgical management. The treatment uses an external non-invasive pneumatic device placed on the legs of the individual that are sequentially inflated and deflated. This process leads to increased coronary artery blood flow and/or revascularization.

### Indications of Coverage:

Up to 35 treatments (treatments are usually once or twice a day five days a week) are considered medically necessary when all of the following criteria are met:

The individual has stable disabling angina (for example, angina that does not respond to medical therapy) or a limitation of physical activity due to Class III (unable to walk more than two blocks) or Class IV (with minimal exertion or at rest) angina

Angioplasty and/or surgery are contraindicated.

### Limitations of Coverage:

Review contract and endorsements for exclusions and prior authorization or benefit requirements.

If used for a condition/diagnosis other than is listed in the Indications of Coverage, deny as experimental or investigative.

If used for a condition/diagnosis that is listed in the Indications of Coverage, but the criteria are not met, deny as not medically necessary.

The following services are considered to be an inclusive component of external counterpulsation treatments and are not reimbursed separately:

Evaluation and management services (office visits) performed on the same day as a external counterpulsation treatment

EKG monitoring and/or report

Pulse oximetry

More than 35 treatments of external counterpulsation are considered not medically necessary.

The use of hydraulic external counterpulsation devices is considered not medically necessary.

Repeat counterpulsation program after completion of an initial program is considered investigational as there is insufficient peer-reviewed scientific literature documenting the effectiveness of a second program.

Enhanced counterpulsation is considered investigational for the following conditions as there is insufficient peer-reviewed scientific literature documenting its effectiveness:

Unstable angina

Arrhythmia

Congestive heart failure

Aortic insufficiency

Peripheral vascular disease or phlebitis

Hypertension

Acute retinal artery occlusion

Documentation required:

Office notes

Treatment record

**Rationale:** Studies have demonstrated the effectiveness of external counterpulsation for the treatment of chronic stable angina in individuals who cannot be managed adequately by medical therapy and who are not candidates for interventional or surgical revascularization. External counterpulsation may increase the time it takes for the onset of angina and reduce the number of episodes. The American Heart Association noted that the evidence regarding the use of external counterpulsation is limited and further studies are needed. At this time, there is insufficient evidence that external counterpulsation is effective for other conditions, such as heart failure.

**References:** Amin F, Al Hajeri A, Civelek B, Fedorowicz Z, Manzer BM. Enhanced external counterpulsation for chronic angina pectoris. *Cochrane Database Syst Rev.* 2010 Feb 17;(2):CD007219.

BlueCross BlueShield Association, Technology Evaluation Center (TEC). External counterpulsation for the treatment of chronic stable angina pectoris and chronic heart failure. TEC Assessment Program. Chicago, IL: BCBSA; January 2006; 10(12).

Centers for Medicare and Medicaid Services (CMS). National Coverage Determination (NCD) for External Counterpulsation (ECP) for Severe Angina. NCD 20.20. Baltimore, MD. Effective date: 03/20/2006. Available at: [www.cms.hhs.gov/mcd/index\\_list.asp?list\\_type=ncd](http://www.cms.hhs.gov/mcd/index_list.asp?list_type=ncd). Accessed: 5 Jan 11.

McKenna C, McDaid C, Suekarran S, Hawkins N, Claxton K, Light K, Chester M, Cleland J, Woolacott N, Sculpher M. Enhanced external counterpulsation for the treatment of stable angina and heart failure: a systematic review and economic analysis. *Health Technol Assess.* 2009 Apr;13(24):iii-iv, ix-xi, 1-90.

*These guidelines are designed for reference purposes only, do not guarantee coverage, and should not be construed as medical advice. See full Medical Policy Disclaimer.*

*Approved by the Medical Director*