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## 1.0 Description of the Procedure, Product, or Service

Enhanced external counterpulsation (EECP) is a noninvasive treatment that uses timed, sequential inflation of pressure cuffs on the calves, thighs, and buttocks to augment diastolic pressure, decrease left ventricular afterload, and increase venous return. Augmenting diastolic pressure displaces a volume of blood backward into the coronary arteries during diastole when the heart is in a state of relaxation and the resistance in the coronary arteries is at a minimum. The resulting increase in coronary artery perfusion pressure may enhance coronary collateral developmental or increase flow through existing collaterals. In addition, when the left ventricle contracts, it faces a reduced aortic pressure to work against since the counterpulsation has somewhat emptied the aorta. EECP has been primarily investigated as a treatment for chronic stable angina.

Intra-aortic balloon counterpulsation is a more familiar, invasive form of counterpulsation that is used as a method of temporary circulatory assistance for the ischemic heart, often after an acute myocardial infarction. In contrast, EECP is thought to provide a permanent effect on the heart by enhancing the development of coronary collateral development. A full course of therapy usually consists of 35 one-hour treatments, which may be offered once or twice daily, usually five (5) days per week. The multiple components of the procedure include use of the device itself, finger plethysmography to follow the blood flow, continuous EKGs to trigger inflation and deflation, and optimal use of pulse oximetry to measure oxygen saturation before and after treatment.

## 2.0 Eligible Recipients

### 2.1 General Provisions

To be eligible, NCHC recipients must be enrolled on the date of service.

## 3.0 When the Procedure, Product, or Service Is Covered

### 3.1 General Criteria

NCHC covers procedures, products, and services related to this policy when they are medically necessary and

- a. the procedure, product, or service is individualized, specific, and consistent with symptoms or confirmed diagnosis of the illness or injury under treatment, and not in excess of the recipient's needs;
- b. the procedure, product, or service can be safely furnished, and no equally effective and more conservative or less costly treatment is available; **AND**
- c. the procedure, product, or service is furnished in a manner not primarily intended for the convenience of the recipient, the recipient's caretaker, or the provider.

### 3.2 Specific Criteria

Enhanced external counterpulsation (EECP) is covered for recipients who have been diagnosed with disabling angina (New York Heart Association Class III or IV, or equivalent classification) who, in the opinion of a cardiologist or cardiothoracic surgeon, are refractory to maximum medical therapy and are not readily amenable to surgical intervention, such as PTCA or cardiac bypass because:

- a. Their condition is inoperable, or at high risk of operative complications or post-operative failure;
- b. Their coronary anatomy is not readily amenable to such procedures; or
- c. They have co-morbid states that create excessive risk.

## 4.0 When the Procedure, Product, or Service Is Not Covered

### 4.1 General Criteria

Procedures, products, and services related to this policy are not covered when

- a. the recipient does not meet the eligibility requirements listed in **Section 2.0**;
- b. the recipient does not meet the medical necessity criteria listed in **Section 3.0**;
- c. the procedure, product, or service unnecessarily duplicates another provider's procedure, product, or service; or
- d. the procedure, product, or service is experimental or investigational.

### 4.2 Specific Criteria

The use of EECP is considered investigational for all indications including the treatment of Class II angina, arrhythmia, aortic insufficiency, peripheral vascular disease or phlebitis, severe hypertension, acute retinal artery occlusion, acute myocardial infarction, cardiogenic shock or congestive heart failure.

### 4.3 Other Medical Policy Guidelines

The effectiveness of EECP for conditions other than stable disabling angina has not been established in the peer-reviewed medical literature. Clinical trials have demonstrated the beneficial effects of EECP, including increased time until onset of ischemia and a reduction in the number and severity of anginal episodes. These effects are not only sustained between treatments, but persist for some time after completion of treatment. Two-year data from the International EECP Patient Registry (IEPR) suggest that about 75% of treated patients experienced a reduction in angina severity by at least one classification. These patients also reported a decrease in both the number of weekly angina attacks and nitroglycerin use. Without a control group, however, it is not possible to assess the extent of reported improvement due to other interventions or to a placebo effect.

## 5.0 Requirements for and Limitations on Coverage

### 5.1 Prior Approval

Prior approval is not applicable. Refer to **Subsection 4.2**.

## 6.0 Providers Eligible to Bill for the Procedure, Product, or Service

To be eligible to bill for procedures, products, and services related to this policy, providers shall

- a. meet NCHC qualifications for participation;
- b. be currently enrolled with NCHC; **AND**
- c. bill only for procedures, products, and services that are within the scope of their clinical practice, as defined by the appropriate licensing entity.

## 7.0 Additional Requirements

### 7.1 Compliance

Providers must comply with all applicable federal, state, and local laws and regulations, including the Health Insurance Portability and Accountability Act (HIPAA) and record retention requirements.

## 8.0 Policy Implementation/Revision Information

**Original Effective Date:** July 1, 2010

**Revision Information:**

Date	Section Revised	Change
July 1, 2010		Policy Conversion: Implementation of Session Law 2009-451, <b>Section 10.32 “NC HEALTH CHOICE/PROCEDURES FOR CHANGING MEDICAL POLICY.”</b>
September 30, 2011	Throughout	Policy Date of Termination

## Attachment A: Claims-Related Information

Reimbursement requires compliance with all NCHC guidelines.

### A. Claim Type

Professional (CMS-1500/837P transaction)

Institutional (UB-04/837I transaction)

### B. Diagnosis Codes

Providers must bill the ICD-9-CM diagnosis codes(s) to the highest level of specificity that supports medical necessity.

### C. Procedure Code(s)

HCPCS Code
G0166

CPT Code
92971

### D. Modifiers

Providers are required to follow applicable modifier guidelines.

### E. Billing Units

The appropriate procedure code(s) used determines the billing unit(s).

### F. Place of Service

Outpatient Hospital and Office

### G. Co-payments

Co-payment(s) may apply to covered prescription drugs and services.

### H. Reimbursement

Providers must bill their usual and customary charges.