Enhanced External Counterpulsation (EECP)

[For the list of services and procedures that need preauthorization, please refer to www.mcs.com.pr. Go to “Comunicados a Proveedores”, and click “Cartas Circulares”.]

Medical Policy: MP-ME-01-04
Original Effective Date: January 17, 2005
Revised: August 20, 2013
Reviewed:

This policy applies to products subscribed by the following corporations, MCS Life Insurance Company (Commercial), and MCS Advantage, Inc. (Classicare) and Medical Card System, Inc., provider’s contract; unless specific contract limitations, exclusions or exceptions apply. Please refer to the member’s benefit certification language for benefit availability. Managed care guidelines related to referral authorization, and precertification of inpatient hospitalization, home health, home infusion and hospice services apply subject to the aforementioned exceptions.

DESCRIPTION

Enhanced External Counterpulsation (EECP) is a non-invasive technique that provides augmentation of diastolic blood flow, using three air cuffs, which inflates and deflates in synchronization with the patient cardiac cycle. These cuffs are positioned in the legs:

- One at the calf level
- The second slightly above the knee; and
- The third one on the thigh

The cuffs are connected to an ECG. At the time that the heart is in diastole, (time of relaxation) the cuffs are inflated sequentially (distal to proximal) compressing the blood vessels in the lower limb. This action results in:

- The increase in diastolic pressure
- Generation of retrograde arterial blood flow; and
- An increase in venous return and consequently, cardiac output

It is thought that the pressure created recruits and enlarges collateral vessels. In summary, this technique delivers more oxygen to the ischemic myocardium by increasing coronary blood flow during diastole, while at the same time decrease the demand for oxygen by diminishing the work requirements of the heart. EECP technique is recommended for patients with severe chronic stable angina and do not qualify for invasive procedures. The recommended treatment is a full course of EECP usually consisting of thirty-five (35) one-hour sessions, offered once or twice daily, and covers a period of four to seven (7) weeks.

COVERAGE

Benefits may vary between groups and contracts. Please refer to the appropriate member certificate and subscriber agreement contract for applicable diagnostic imaging, laboratory, machine tests, benefits and coverage.
INDICATIONS

Medical Card System, Inc., (MCS) will consider Enhanced External Counterpulsation (EECP) medically necessary for patients with disabling angina that meet all of the following criteria:

1. Patients who have been diagnosed with disabling angina (Class III or Class IV, New York Heart Association Functional Classification or equivalent classification-see appendix) who in the opinion of a cardiologist or cardiothoracic surgeon, are NOT readily amenable to surgical intervention such as Percutaneous Transluminal Coronary Angioplasty (PTCA) or cardiac bypass, because:
   a. Their condition is inoperable, or at high risk of operative complications or postoperative failure;
   b. Their coronary anatomy is not readily amenable to such procedures; or
   c. They have co-morbid states that create excessive risk

2. Coverage beyond a full course of thirty-five (35) one-hour sessions should be rare. Patients are re-evaluated and if there is no angina class improvement after an initial thirty-five (35) hours of treatment, up to ten additional hours of treatment may be covered up until they improve by at least one angina class.

3. Re-treatment may be considered medically necessary by MCS after one year of completion of the initial full course of thirty five (35) hours of EECP, and the patient meets initial criteria and medical necessity for EECP.

CONTRAINDICATIONS

1. Cardiac catheterization within 2 weeks (may cause bleeding at the femoral puncture site); or

2. Arrhythmias such as atrial fibrillation, atrial flutter, ventricular tachycardia, and frequent premature ventricular beats (might interfere with the device’s triggering mechanism);

3. Severe peripheral vascular disease and/or phlebitis (increased risk of thromboembolus); or

4. Deep vein thrombosis, and stasis ulcers; or

5. Bleeding diatheses, Coumadin (warfarin) therapy with PT greater than 15 seconds and/or INR greater than 2.0 (cuffs could cause bleeding in legs); or

6. Pregnant women and women of childbearing potential who do not employ a reliable contraceptive method (possible danger to the fetus).

7. Significant aortic insufficiency where regurgitation would prevent diastolic augmentation
PRECAUTIONS

1. Severe hypertension, greater than 180/110 mmHg, (treatment could produce diastolic blood pressure above acceptable limits).

2. Heart rate more than 120 bpm should be controlled prior to treatment with enhanced external counterpulsation.

3. Patients at high risk of complications from increased venous return should be carefully chosen and monitored during treatment with enhanced external counterpulsation. Decreasing cardiac afterload by optimizing cuff inflation and deflation timing may help minimize increased cardiac filling pressures and the possibility of pulmonary congestion due to increased venous return.

4. Patients with clinically significant valvular disease should be carefully chosen and monitored during treatment with enhanced external counterpulsation. Certain valve conditions, such as significant aortic insufficiency or severe mitral or aortic stenosis, may prevent the patient from obtaining benefit from diastolic augmentation and reduced cardiac afterload in the presence of increased venous return.

LIMITATIONS

1. EECP is considered investigational for any condition not listed above, including, but not limited to congestive heart failure, acute myocardial infarction and cardiogenic shock because there is inadequate scientific evidence to permit conclusions about the efficacy of this treatment for conditions other than disabling angina as specified in the covered services section above.

2. Coverage beyond a full course of thirty-five (35) one-hour sessions should be rare. Members are re-evaluated and if there is no angina class improvement after an initial thirty-five (35) hours of treatment, up to ten additional hours of treatment may be covered up until they improve by a least one angina class.

3. Procedure must be performed under direct supervision of a physician. The physician must be present in the office suite and immediately available to provide assistance and direction throughout the time the personnel is performing the service.

4. The use of hydraulic versions of these treatment devices is NON-COVERED, and therefore will be denied.
CODING INFORMATION

HCPCS® CODES (LIST MAY NOT BE ALL INCLUSIVE)

<table>
<thead>
<tr>
<th>HCPCS CODES</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>G0166</td>
<td>External Counterpulsation, Per Treatment Session</td>
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ICD-9 CM® DIAGNOSIS CODES (LIST MAY NOT BE ALL INCLUSIVE)

<table>
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<tr>
<th>ICD-9 CM® CODES</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>413.9</td>
<td>Other and unspecified angina pectoris</td>
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REFERENCES


POLICY HISTORY

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<tr>
<th>DATE</th>
<th>ACTION</th>
<th>COMMENT</th>
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<tbody>
<tr>
<td>January 17, 2005</td>
<td>Origination of Policy</td>
<td></td>
</tr>
<tr>
<td>December 18, 2007</td>
<td>Revised</td>
<td>Added (Delivery of sessions within four to seven weeks for a total of 35 hours of treatment versus 5 weeks.)</td>
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<tr>
<td>August 11, 2009</td>
<td>Revised</td>
<td>Policy revised to add a new coverage: re-treatment of EECP after one year of completion of the initial full course of 35 hours of EECP. HCPC code (G0166) and ICD-9 Codes (413.0, 413.1, and 413.9) added to the policy. Contraindication #3 of policy MP-ME-01-04 of 2008 (Aortic insufficiency (regurgitation might prevent diastolic augmentation) was deleted from 2009 policy. Contraindication #4 of policy MP-ME-01-04 of 2008 policy the word “Severe” was added to peripheral vascular disease to read, Severe vascular disease and/or phlebitis (increased risk of thromboembolus) for 2009 policy. Contraindication #5 of policy MP-ME-01-04 of 2008 the word “varicosities” was deleted to read, Deep vein thrombosis and stasis ulcers for 2009 policy.</td>
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<tr>
<td>August 24, 2010</td>
<td>Revised</td>
<td>Deleted ICD-9 Codes 413.0, 413.1. The following limitations were added to the policy: 1. Coverage beyond a full course of thirty-five (35) one-hour sessions should be rare. Members are re-evaluated and if there is no angina class improvement after an initial thirty-five (35) hours of treatment, up to ten additional hours of treatment may be covered up until they improve by at least one angina class. 2. Procedure must be performed under direct supervision of a physician. The physician must be present in the office suite and immediately available to provide assistance and direction.</td>
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### Appendix

**New York Heart Association Functional Classification of Cardiac Disability**

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<tr>
<th>Class</th>
<th>Description</th>
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<tbody>
<tr>
<td>Class I</td>
<td>Patients with cardiac disease but without resulting limitations of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation, dyspnea, or anginal pain.</td>
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<tr>
<td>Class II</td>
<td>Patients with cardiac disease resulting in slight limitation of physical activity. They are comfortable at rest. Ordinary physical activity results in fatigue, palpitation, dyspnea, or anginal pain.</td>
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<tr>
<td>Class III</td>
<td>Patients with cardiac disease resulting in marked limitation of physical activity. They are comfortable at rest. Less than ordinary physical activity causes fatigue, palpitation, dyspnea, or anginal pain.</td>
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<tr>
<td>Class IV</td>
<td>Patients with cardiac disease resulting in inability to carry on any physical activity without discomfort. Symptoms of cardiac insufficiency or of the anginal syndrome may be present even at rest. If any physical activity is undertaken, discomfort is increased.</td>
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Source: Adapted from Goldman et al (1981)