



## External Counterpulsation

Last Review Date: August 11, 2017

Number: MG.MM.ME.12aC11

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### Definition

External counterpulsation (ECP), or enhanced external counterpulsation, is a noninvasive outpatient treatment for patients with coronary artery disease and angina that is refractory to medical or surgical therapy.

On a treatment table, the patient's lower trunk and lower extremities are wrapped in a series of 3 compressive air cuffs, which inflate and deflate in synchronization with the patient's cardiac cycle. The goal of ECP is to increase exercise tolerance and the time until ischemia onset and reduce the number and severity of anginal episodes. A full course of therapy usually consists of 35 1-hour treatments, which may be offered 1 or 2 times per day (usually 5 days per week) and should be completed within 2 months of initiation (but must be completed within 3 months).

### Guideline

ECP is covered when **both** of the following criteria apply:<sup>1</sup>

1. Positive diagnosis of stable, disabling angina (class III or IV under Canadian Cardiovascular Society classification or equivalent).<sup>2</sup>
2. Member's condition precludes surgical intervention, such as percutaneous transluminal coronary angioplasty or cardiac bypass, for any of the following reasons:
  - The condition is inoperable.
  - The member is at high risk of operative complications or postoperative failure.

<sup>1</sup> Treatment must be performed under the direct supervision of a physician present for the procedure.

<sup>2</sup> See [appendix](#).

- The coronary anatomy is not readily amenable to such procedures.
- The presence of comorbid states creates excessive risk.

### Limitations/Exclusions

1. There is insufficient evidence that the member will benefit from a 2<sup>nd</sup> or subsequent treatment; therefore, only a single course of therapy is considered medically necessary. (Additionally, ECP should not be performed concurrently with cardiac rehabilitation)
2. ECP with a hydraulic device is not considered medically necessary.

### Applicable Procedure Codes

G0166	External counterpulsation, per treatment session
92971	CardiAssist-method of circulatory assist; external

### Applicable ICD-10 Diagnosis Codes

I20.1	Angina pectoris with documented spasm
I20.8	Other forms of angina pectoris
I20.9	Angina pectoris, unspecified
I25.110	Atherosclerotic heart disease of native coronary artery with unstable angina pectoris
I25.111	Atherosclerotic heart disease of native coronary artery with angina pectoris with documented spasm
I25.118	Atherosclerotic heart disease of native coronary artery with other forms of angina pectoris
I25.119	Atherosclerotic heart disease of native coronary artery with unspecified angina pectoris
I25.700	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unstable angina pectoris
I25.701	Atherosclerosis of coronary artery bypass graft(s), unspecified, with angina pectoris with documented spasm
I25.708	Atherosclerosis of coronary artery bypass graft(s), unspecified, with other forms of angina pectoris
I25.709	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unspecified angina pectoris
I25.710	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unstable angina pectoris
I25.711	Atherosclerosis of autologous vein coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.718	Atherosclerosis of autologous vein coronary artery bypass graft(s) with other forms of angina pectoris
I25.719	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unspecified angina pectoris
I25.720	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unstable angina pectoris
I25.721	Atherosclerosis of autologous artery coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.728	Atherosclerosis of autologous artery coronary artery bypass graft(s) with other forms of angina pectoris
I25.729	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unspecified angina pectoris

125.730	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unstable angina pectoris
125.731	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with angina pectoris with documented spasm
125.738	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with other forms of angina pectoris
125.739	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unspecified angina pectoris
125.750	Atherosclerosis of native coronary artery of transplanted heart with unstable angina
125.751	Atherosclerosis of native coronary artery of transplanted heart with angina pectoris with documented spasm
125.758	Atherosclerosis of native coronary artery of transplanted heart with other forms of angina pectoris
125.759	Atherosclerosis of native coronary artery of transplanted heart with unspecified angina pectoris
125.760	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unstable angina
125.761	Atherosclerosis of bypass graft of coronary artery of transplanted heart with angina pectoris with documented spasm
125.768	Atherosclerosis of bypass graft of coronary artery of transplanted heart with other forms of angina pectoris
125.769	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unspecified angina pectoris
125.790	Atherosclerosis of other coronary artery bypass graft(s) with unstable angina pectoris
125.791	Atherosclerosis of other coronary artery bypass graft(s) with angina pectoris with documented spasm
125.798	Atherosclerosis of other coronary artery bypass graft(s) with other forms of angina pectoris
125.799	Atherosclerosis of other coronary artery bypass graft(s) with unspecified angina pectoris

## Appendix – Canadian Cardiovascular Society Classification System

Class I	Ordinary physical activity, such as walking and climbing stairs, does not cause angina. Angina occurs with strenuous, rapid or prolonged exertion at work or recreation.
Class II	Slight limitation of ordinary activity. Angina occurs when walking or climbing stairs rapidly; walking uphill; walking or stair-climbing after meals, in cold, in wind, when under emotional stress or during the first few hours after awakening; walking more than two blocks on the level; and climbing more than one flight of ordinary stairs at a normal pace and in normal conditions.
Class III	Marked limitation of ordinary physical activity. Walking 1 to 2 blocks on the level and climbing more than 1 flight of stairs in normal conditions causes angina.
Class IV	Inability to carry on any physical activity without discomfort—anginal syndrome may be present at rest.

## References

Centers for Medicare & Medicaid Services. NCD for External Counterpulsation (ECP) for Severe Angina. March 2006. <https://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=97&ncdver=2&bc=AAAAgAAAAAAAAA%3d%3d&>. Accessed August 15, 2017

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