

Enhanced External Counterpulsation (EECP)

It's always difficult to tell patients you have no treatments left to offer. Yet it is a problem for an increasing number of patients with refractory angina.

In the United States, up to 900,000 patients have chronic stable refractory angina with as many as 75,000 new cases diagnosed annually.¹

Most patients with refractory angina have undergone all the available treatments, such as coronary artery bypass or angioplasty, but continue to have symptoms that severely restrict their daily activities. Typically, they are not candidates for additional revascularization, have class III and IV angina and continue to have ischemic heart disease despite treatment.

Now patients with refractory angina have another option—enhanced external counterpulsation.

¹Yan EH, Barnsness GW, Gersh BJ, *et. al.* Current and Future Treatment Strategies for Refractory Angina. *Mayo Clin Proc.* 2004. 79(10):1284-92.

Enhanced External Counterpulsation (EECP) is the only noninvasive outpatient treatment proven to increase coronary blood flow, similar to that of an intraaortic balloon pump. Lakeland cardiologist **J. Douglas Huggett, DO**, and his partner, **Ogubay Mesmer, MD**, are the first physicians in Berrien County and northwest Indiana to offer this technology.

“EECP acts as an external balloon pump to increase blood pressure and perfuse the heart, providing a better stroke volume while giving the heart a rest,” says Dr. Huggett, of Cardiology Southwest in Niles. **“Another benefit is that it recruits collateral vessels, creating a natural bypass and aiding cardiac function.”**

The technology uses three sets of cuffs wrapped around the calves, lower thighs and upper thighs. Then, the patient's

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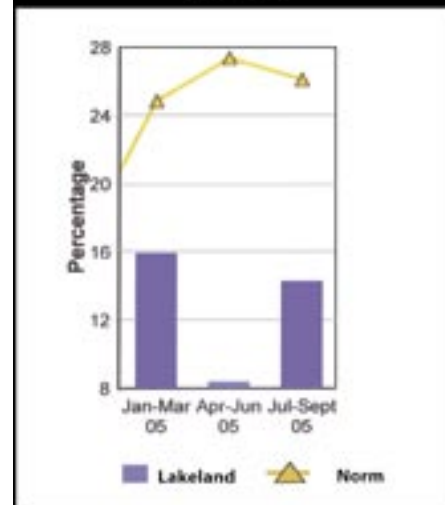
electrocardiogram is used to time the inflation and deflation of the cuffs. During diastole, the cuffs inflate sequentially from the calves to the lower thighs and upper thighs to raise diastolic aortic pressure, increase coronary perfusion flow and increase venous return. Rapid, simultaneous deflation of the cuffs at the beginning of systole pulls blood from the left ventricle, decreasing the cardiac workload.² The patient must commit to 35 hours of treatment—about one hour a day for seven weeks.

A recent multi-center study showed that about 70 percent of those who responded to EECP remained improved by at least one angina class and were free of any major adverse cardiovascular events one year after the treatment. About 35 percent of patients who did not initially respond showed lasting benefits of the procedure.³

“Most patients tolerate EECP with few or no side-effects. Patients sometimes have a headache the first day and a small number have had an angina episode during the treatment, but these recede as the treatment continues,” says Dr. Huggett. “We had one patient who was unable to walk to his bed from the chair without stopping twice. By the end of the treatment, he was racing the doctor down the hallway.”

Technologies such as this allow Lakeland to provide the best care for our patients. In fact, in 2005, Lakeland consistently surpassed the national average in care for congestive heart failure (CHF). Nationally, some 20 percent of patients hospitalized due to CHF required readmission within 30 days. Less than 15 percent of patients with CHF at Lakeland HealthCare required readmission within 30 days. (See chart above right)

CHF Readmissions within 30 Days DRG 127



Following ORYX best practices for CHF patients results in positive patient outcomes as evidenced by this graph that shows how Lakeland's rate of CHF readmissions within 30 days of discharge compared to the industry average.

“About 75 percent of patients reduce their angina class by one or two levels. EECP clearly offers lasting benefits for the patient,” says Dr. Huggett.

Drs. Huggett and Mesmer can be reached for consultations or to schedule an appointment at 269-684-6777.

²Bill M. EECP and coronary artery disease. *Advances for Physician Assistants*. www.advanceweb.com. March 2006.

³Lawson WE, Hul JXK, Kennard E, et. al. Predictors of Benefit in Angina Patients One Year After Completing Enhanced External Counterpulsation: Initial Responders to Treatment versus Nonresponders. *Cardiology* 2005. 103:210-206.



J. Douglas Huggett, DO