

Saint Joseph Offers Diamondback 360

New FDA-Approved Device Clears Clogged Arteries, Saves Patients' Legs from Amputation

Saint Joseph Heart Institute is using a unique new tool in the battle against peripheral arterial disease (PAD). The Diamondback 360 is a revolutionary device that provides new hope for patients with blood vessels too calcified for existing methods of treatment, including balloons and stents, and might provide an alternative to bypass surgery.

Dr. Avi Eres, an interventional cardiologist at Saint Joseph East, is the first physician in the Lexington area to use this new device, which was approved by the Food and Drug Administration in August for use below the knee. The Diamondback 360 orbital atherectomy system uses a rotating diamond-coated crown to sand away plaque inside blood vessels, opening the blood flow and restoring circulation in the legs of patients suffering from the debilitating disease.

“Up until now we haven’t had an effective tool for penetrating and effectively removing the tough, calcified plaque within the arteries that causes the blood flow to be restricted,” said Dr. Eres. “With this tool, I can offer my patients almost instantaneous improvement in restoring mobility, relieving pain and/or healing wounds.”

The Diamondback represents a new generation of atherectomy devices, solving the limitations of earlier models. Aside from its ability to remove even the toughest plaque,

The offset crown of the Diamondback 360 is the real “heart” of the device.

the device’s small size, less than half the size of an artery, makes it ideal for the tiny arteries below the knee.

“The smaller arterial vessels of the lower leg are difficult to treat,” added Dr. Eres. “With earlier devices, there was a risk of damaging the arteries.”

Dr. Eres uses the Diamondback 360 in the hospital’s cardiac catheterization laboratory. The device is inserted into the patient’s leg artery through a tiny puncture made in the groin. A small catheter and ultra-thin guide wire are used to direct its diamond-coated crown to the location of the plaque in the artery. The device’s unique orbital motion makes it stand out from other devices. As the crown rotates and orbit increases, centrifugal force action presses the crown against the lesion or plaque, removing a small amount of plaque with each orbit.

“Rather than cracking off pieces of plaque that must be extracted, the Diamondback 360 is designed to sand it into particles that are finer than a red blood cell and that are



Avi Eres, M.D., at Saint Joseph East

flushed through the body,” said Dr. Eres.

The Diamondback treatment is minimally invasive and patients go home the same day or spend one night in the hospital. Relief from the symptoms of PAD is immediate and patients can resume normal activity within 48 hours.

PAD affects between 8 million and 12 million Americans, according to the National Institutes of Health. It is a life-threatening condition where fatty material called plaque builds up on the inside walls of the blood vessels that carry blood from the heart to legs and arms. The build-up of plaque causes the arteries to harden and narrow — a condition called atherosclerosis — reducing blood flow to the legs and feet. Patients with PAD experience heavy, tired or painful legs or feet, and wounds that are slow to heal. Many also suffer from critical limb ischemia, which leads to 160,000 amputations a year in the U.S. PAD can lead to heart attack and stroke if not treated.

People who are at risk for PAD include anyone over the age of 50, those who smoke or who have smoked, and those who have diabetes, high blood pressure, high blood cholesterol, or a personal or family history of vascular disease, heart attack or stroke. ■

The Diamondback 360 handle

