

# Study may help heart failure through the Parachute Ventricular Partitioning Device

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Zachary Gertz, M.D.

(Medical Xpress)—If you're jumping out of a plane, a parachute is a life-saving device. It turns out the same may be true if your heart is failing.

Zachary Gertz, M.D., of Virginia Commonwealth University's Pauley Heart Center is leading a new study at VCU to monitor the effects of the Parachute Ventricular Partitioning Device, which may help in the treatment of [heart failure](#). The trial will evaluate the Parachute device versus optimal medical therapy in approximately 500 patients at up to 65 medical centers, including VCU.

"The Parachute device is an excellent example of invasive therapy that doesn't require [open heart surgery](#)," said Gertz, who is the director of structural heart disease and an assistant professor in the VCU School of Medicine with a specialization in interventional cardiology. "Right now, we are studying the device as part of a large randomized trial to see if it benefits patients."

The Parachute device will be tested on heart attack survivors suffering from heart failure. Heart failure is a common, debilitating and potentially deadly condition. Its symptoms include shortness of breath, persistent coughing or wheezing, fatigue, lack of appetite or nausea, impaired thinking and increased heart rate—all of which can significantly decrease the patient's quality of life.

Heart failure may occur after a heart attack, when the left chamber of the heart becomes enlarged. In addition, the apex of the heart can become more rounded, causing blood to settle in the bottom of the heart.

Over time, the healthy, undamaged part of the heart will become overloaded as it tries to compensate. That difficulty is increased by the heart's damaged muscle tissue, which becomes stiff scar tissue. As a result, the heart is inflexible and can't pump blood effectively.

"After certain large heart attacks, a portion of the heart muscle turns into a scar. That area of the heart does not beat, and blood can pool there and possibly inhibit the proper function of the remaining normal heart,"

Gertz said. "The Parachute device looks sort of like a basket, and it is designed to partition off the non-functioning heart."

Through a catheter inserted in the femoral artery, the Parachute implant is deployed in the left ventricle to partition the damaged muscle, excluding the non-functional heart segment from the healthy, functional segment to decrease the overall volume of the left ventricle and restore its geometry and function. This minimally invasive procedure is performed in the catheterization laboratory under conscious sedation.

Once it has partitioned off the non-functioning area of the heart, the geometry and function of the heart should improve. This allows the healthy heart tissue to perform more efficiently during each heartbeat. After the 75-minute procedure, patients shouldn't be able to feel the device in their heart and in approximately six months body tissue will cover the Parachute device, making it permanent.

After the study is complete, Gertz and other researchers will have a better understanding of whether the device slows the progression of [heart](#) failure. They will also be able to tell whether it can reduce repeated hospitalizations and mortality while significantly improving patients' quality of life.

Provided by Virginia Commonwealth University

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