

New Device Improves Quality of Life for Heart Failure Patients



Virtua's Heart Rhythm team is now employing an innovative new device to improve the lives of people with heart failure. The Optimizer Smart System[®] utilizes an electrical current to improve the heart's ability to pump blood and oxygen to the body.

"The device delivers a precisely timed electrical current to the heart muscle," said Virtua heart rhythm specialist Heath Saltzman, MD, FACC, FHRS, FACP. "Unlike a traditional pacemaker or defibrillator that works to maintain or restore a normal heart rhythm, the Optimizer works on the cellular level, affecting how calcium is managed in the heart. It strengthens the heart's contractions and has been shown to improve a patient's quality of life, reducing heart failure-related symptoms and hospitalizations."

The device, manufactured by Impulse Dynamics, is implanted in a small pocket under the skin of the upper chest and connected to leads that are placed in the right ventricular septum of the heart. The procedure, which occurs while the patient is under light sedation, takes about 45 minutes. The patient then is monitored overnight in the hospital.

The Optimizer sends electrical pulses to the heart muscle for a total of five hours a day, in one-hour treatments separated by regular intervals. Cardiac contractility modulation increases the influx of calcium ions into cardiac muscle cells, enhancing the heart's ability to contract. Ultimately, over time, the amount of blood pumped out of the heart with each heartbeat increases. Patients experience a reduction in symptoms like shortness of breath and fatigue, and a better quality of life, said Dr. Saltzman.

Patients charge the device once a week for an hour using an external charger placed on their chest.

The device works alongside other heart failure therapies, including medication, a low-sodium diet and exercise. Another advantage is that device does not interfere with implantable cardioverter-defibrillators (ICDs). The Optimizer is expected to last about 15 years before needing to be replaced.