

Tiny heart pump helps heart attack, heart failure patients

March 25 2011



In 2008, physicians at the West Virginia University Heart Institute became the first in the state to use the Impella left ventricular assist device. Now, they are among the first in the nation to use it in heart attack and heart failure patients.

Initially, the Impella device was used to enable the heart to rest during difficult procedures and to heal and recover during episodes of [congestive heart failure](#). In most cases, it was used in scheduled angioplasties and stent placements.

Now, doctors are using that same device in patients who come into the emergency department with severe heart attacks, congestive heart failure and cardiogenic shock, which occurs when the heart is unable to pump as much blood as the body needs.

“It’s a good therapy for people who are having a heart attack because it can take over when the heart is stunned after a heart attack,” Wissam Gharib, M.D., director of the WVU Heart Institute Cardiac Catheterization Lab, said. “It’s also useful in congestive heart failure patients because the device, often employed for only a few hours, can also stay in place for several days if necessary to improve blood flow.”

The Impella works by redirecting blood from the heart, increasing and supporting the patient’s blood circulation. It is inserted by using a catheter into the major artery of the leg.

The device is primarily used in heart attack and [heart failure](#) patients who are unstable when they arrive at the emergency department. It would not be used in a patient who suffers a small [heart attack](#) and has stable vital signs.

“The earlier the device is put in, the better chance the patient has to recover,” Dr. Gharib said. “Time saved is [heart](#) muscle saved.”

Provided by West Virginia University

Citation: Tiny heart pump helps heart attack, heart failure patients (2011, March 25) retrieved 20 March 2024 from <https://medicalxpress.com/news/2011-03-tiny-heart-failure-patients.html>

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