

Long-lasting mechanical heart implanted for the first time in Canada in heart-failure patient

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In a Canadian first, the Peter Munk Cardiac Centre used a new kind of left ventricular assist device (LVAD) to treat a patient with advanced heart failure. The new device is longer lasting than older generation LVADs and may eliminate the need for a second LVAD - a major drawback with the old technology.

The patient, 61-year-old Marva Lorde of Mississauga, suffered a heart attack in 2007 and underwent several treatments for heart failure - including a 10-day intensive care unit stay, angioplasty and pacemaker implantation - culminating in a cardiac arrest in June 2008.

"I would have died in my sleep if the nurse hadn't checked my heart monitor," says Marva who is at home after receiving her LVAD on July 29, 2010. "Before the LVAD, I had trouble climbing the stairs to my bedroom, but now I'm back to my usual activities, including regular walks, and the stairs don't give me trouble anymore."

Marva's LVAD, known as the DuraHeart, is designed for long-term cardiac support and reduces the risk of complications including strokes, infection and device failure - all of which can happen in mechanical heart devices. The device's central pump is powered by magnetic levitation technology, which means its moving parts are held in place with magnets instead of bearings, eliminating wear and tear on the device. This technology enables blood to flow through the pump smoothly, which extends the life of the device and the life of the patient.

"With access to eight different types of cardiac assist devices, including the Duraheart, we have the most diverse array of circulatory support technology in Canada to best manage patients with end stage heart failure," says Dr. Vivek Rao,

Surgical Director of the Heart Transplant Program at the Peter Munk Cardiac Centre (PMCC), Toronto General Hospital.

Heart failure is the most common cause of hospitalization in North American adults and over 50,000 are treated for advanced heart failure annually. Transplantation is the only long-term treatment for end-stage [heart failure](#) patients and the long wait times for a matching donor organ make it necessary to find other alternatives.

Marva is currently on the heart transplant waiting list along with 36 other GTA residents, and her LVAD is her lifeline since her weak heart needs support until a new heart becomes available. This "bridge to life" is an innovative approach pioneered in Canada by Dr. Vivek Rao.

"Part of the centre's mandate is to evaluate new technologies such as the Duraheart to help determine which patients are best suited to a specific device," says Dr. Rao who's team has implanted approximately 70 LVADs since 2004, giving hope to many patients and families.

The Duraheart device has been used in patients in Germany and the United States.

Provided by University Health Network

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