

University of Louisville/Jewish Hospital program helps avoid, delay heart transplant

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Some patients with advanced heart failure caused by cardiomyopathy, the deterioration of function of the heart muscle, are benefitting from a new recovery protocol at the University of Louisville and Jewish Hospital, a part of KentuckyOne Health.

Led by Emma Birks, M.D., Ph.D., FRCP, director of the Jewish Hospital [Heart Failure](#), Transplant and Mechanical Support Program, the program treats advanced [heart failure patients](#) who have left [ventricular assist devices](#) (LVADs), also known as [heart pumps](#), that help the [heart function](#). Using a specific combination of medications – which includes ACE inhibitors, spironolactone, beta blockers, angiotensin receptor blockers and digoxin, in combination with the LVAD – the elements work together to strengthen the patients' hearts.

Birks, professor of medicine, physiology and biophysics at the UofL School of Medicine, monitors the [patients](#) closely, and once the heart function improves to normal levels, the LVAD is removed. Once the LVAD is removed, medication therapy remains ongoing for patients, but they are able to function normally and return to work and other daily activities.

"These patients have a very good quality of life, much better, in fact, than if they continued with the LVAD alone or received a heart transplant," Birks said.

The program has led to the successful removal of LVADs from 11

patients at Jewish Hospital in just 18 months. The only other center in the United States to have removed LVADs using this protocol is the Texas Heart Institute, where 20 devices have been removed in the last 10 years.

The average time on the medication before the LVAD is removed has been six months, but it can be more than a year.

"We don't rush it," Birks said. "The patients are closely monitored to determine the right timeframe."

Jewish Hospital is the second facility in the country to remove LVADs from patients using the protocol, which was pioneered in England by Birks and her mentor, a well-known heart surgeon, Dr. Magdi Yacoub.

Upon Yacoub's retirement, Birks carried forward the work he began in England in 1998, which led to the recovery protocol.

The recovery protocol combines an LVAD with a cocktail of oral heart failure medications in a treatment protocol that led to heart recovery and the removal of the LVAD in patients. The success of the protocol opened the possibility that some advanced heart failure patients may forgo a heart transplant. Birks brought the program to Jewish Hospital in late 2009 when she joined UofL.

A collaborative study on the protocol in the United States led by Jewish Hospital and UofL, will begin in the coming months with seven total centers participating, including the University of Louisville, Texas Heart Institute, University of Pennsylvania, University of Pittsburgh, Cleveland Clinic, University of Michigan and Montefiore in New York.

The average life expectancy following a heart transplant is 10 years. For younger heart failure patients with an LVAD, using the protocol can

prolong their life expectancy by helping them to delay or avoid a heart transplant.

"The most rewarding thing in medicine is to help people heal," Birks said. "If you have a young person who is dying and you can help them avoid a transplant and return to good health, that is the ultimate challenge and it is very rewarding."

The program also has benefits for other [heart](#) failure patients because it reduces the number of patients on the transplant list and preserves a precious transplanted organ for others in need. Patients who are able to have their LVADS removed also do not require the extensive immunosuppressant drug therapy necessary following a transplant.

Provided by University of Louisville

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