

Faster, better diagnosis for patients with heart rhythm disorders

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Patients with heart rhythm disorders can look forward to better and faster diagnosis and treatment thanks to the latest generation of electrophysiology equipment used this week for the first time in North America at the Peter Munk Cardiac Centre.

"This state-of-the-art equipment allows us to better visualize [electrical activity](#) in the heart and localize the source of rhythm disturbance," says Dr. Eugene Downar, cardiologist in the Peter Munk Cardiac Centre.

"The improved display helps us diagnose more accurately and treat [patients](#) faster."

Atrial fibrillation and flutter - irregular, rapid heartbeats caused by electrical disturbances in the upper chambers of the [heart muscle](#) - are the most common arrhythmias in the world and affect about eight per cent of the elderly. The Peter Munk Cardiac Centre specializes in the treatment of patients with various heart rhythm disorders.

John Kelly was debilitated by frequent episodes of "skipping heart beats" for 20 years that left him short of breath and exhausted. These symptoms were not controlled with heart rhythm medications. Mr. Kelly was admitted to hospital earlier this week and is one of the first patients in North America to be treated with this new equipment.

"Climbing stairs was quite difficult and my episodes would last 12-14 hours at a time," reflects Mr. Kelly who is a retired high school teacher. "It was really affecting my quality of life."

The CARTO 3 system, currently under review by Health Canada, is a sophisticated electro-anatomic mapping system that records the heart's electrical activity. Just like geo-positioning systems (GPS) help drivers, this system allows physicians locate where in the heart the abnormality is coming from.

Using a small needle puncture, a few catheters are inserted into the vein of the leg and passed up to the heart. The catheters are like antennas that record electrical waves in the heart which are displayed on a screen and help electrophysiologists localize the source of the abnormal heart rhythm.

"Visualizing the catheters in the heart with CARTO 3 is a tremendous advancement that will be particularly helpful in treating patients with atrial fibrillation," explains Dr. Vijay Chauhan, Director of Interventional Electrophysiology at the Peter Munk Cardiac Centre. "Once we know where the abnormal rhythm is coming from, we carefully burn the area which can range in size from a few millimeters to a few centimeters."

The Electrophysiology team, led by Drs. Downar and Chauhan, is treating patients with this new technology with special access approval from Health Canada.

Source: University Health Network

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