



UNIVERSITY OF OTTAWA
HEART INSTITUTE
INSTITUT DE CARDIOLOGIE
DE L'UNIVERSITÉ D'OTTAWA

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Heart Institute Research Confirms Cardiac CT Can Help Predict and Prevent Heart Attack

OTTAWA – March 31, 2010 – One of the largest research studies into cardiac computed tomography (CT), conducted at the University of Ottawa Heart Institute (UOHI), shows that the high-speed advanced imaging technology can identify and predict patients at risk for heart attack and death.

The Heart Institute is a North American leader in diagnostic imaging, including research into new CT technology as a faster, effective alternative to invasive tests such as cardiac catheterization. A cardiac CT, which takes seven to 10 seconds, images the entire heart and the arteries in three dimensions (3D). The high-resolution images can point to plaque, which can build up to clog vessels, block blood flow to the heart and cause a heart attack.

“This is the largest study conducted by a single centre using the advanced high-resolution 64-slice CT. Previous results on the value of CT for cardiac diagnosis are very limited but our research confirms the importance of this promising tool.” said Dr. Ben Chow, Co-Director of Cardiac Radiology, UOHI. Details of the study were published electronically this week in the *Journal of the American College of Cardiology* (J Am Coll Cardiol 2010; 55: 1017-1028).

The Heart Institute employs an advanced 64-slice CT, installed in 2006 as the first such unit in Canada dedicated to cardiac care. Each year, there are some 6,000 CT scans performed at UOHI. High volumes provided Dr. Chow’s research team with a substantial database of patients to follow up cause of death and other cardiac events such as heart attack after they received a CT scan.

Patients in many cardiac centres are normally tested using catheterization, which involves threading a tiny catheter through the blood vessel to produce an image that can highlight arterial blockages that reduce blood flow to the heart. The procedure takes up to 40 minutes and patients often stay in hospital as long as six hours. There is also some risk associated with the procedure.

“Our main goal is to provide our patients with the latest technology and reduce wait lists to the shortest possible time while being able to pinpoint strong indicators of coronary artery disease. If we can identify patients earlier and get them proper medical therapy, we expect this will reduce the likelihood of a heart attack or death. Our research demonstrates the importance of cardiac CT as a diagnostic tool,” said Chow.

CT is still regarded as a novel technique for cardiac medicine. Traditionally used to image the brain and other organs, cardiac CT provides exquisite detail of the inner workings of the heart, including views of calcified plaque as well as other types of mixed plaque collected inside the lining of the vessels. Until the 64-slice CT became available, the technology was not applicable to a beating heart.

“For many individuals who suffer heart attack or sudden cardiac death, the cause is often due to non-descript plaque that rupture, block blood flow and cause a heart attack. The more plaque you have, the more likely you will suffer a cardiac event. CT allows us to see the plaque build-up and take appropriate action,” said Chow.

About UOHI

The University of Ottawa Heart Institute is Canada’s largest and foremost cardiovascular health centre dedicated to understanding, treating and preventing heart disease. We deliver high-tech care with a personal touch, shape the way cardiovascular medicine is practiced, and revolutionize cardiac treatment and understanding. We build knowledge through research and translate discoveries into advanced care. We serve the local, national and international community, and are pioneering a new era in heart health. For more information, visit www.ottawaheart.ca

-30-

Editor: Two photographs at http://www.ottawaheart.ca/news_publications/press_releases.htm are available. One photo os a sample CT image; the other is a photo of Dr. Ben Chow.

More details about the Dr. Chow’s research is available at: <http://www.cardiosource.com/cvn/index.asp?videoid=1290>.

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