



Seeing Inside a Child's Heart

Calgary, AB (February 11, 2008) – In ancient times, the heart was thought to be the centre of all emotions. This perception has persisted throughout the ages, which is why the heart is still associated with love and Valentine's Day. Today, most of us know from biology class that the heart is not a storage place for feelings; it is a complex muscular pump which delivers blood to the lungs to pick up oxygen and then delivers the oxygenated blood back to the body. Still, the complex workings of the heart can be a mystery. We can feel it beat. We can hear it. But we cannot easily see how this amazing organ gives us life, until now.

Today, imaging systems are being used to do just that. Here in Calgary, Cardiac MRI (Magnetic Resonance Imaging) is being used to see images of the heart and to see how it is working.

Dr. Patton and Dr. Abou-Reslan at the Alberta Children's Hospital (ACH) are working in collaboration with Dr. Friedrich at Foothills Hospital, doing clinical and research work in Cardiac MRI (also known as CMR). CMR is a high-tech way of imaging the heart in patients of all ages, from newborn babies to adults with congenital heart problems. CMR images are useful in evaluating the structure and function of the heart, and are used to help decide how to best treat heart problems.

CMR is a non-invasive imaging technique, meaning no surgery or catheters are needed. It is used to create detailed images of the heart and its function. CMR studies are done on special MRI scanners that use radio waves, magnets, fast computers, and specialized software to produce moving and still pictures of the heart and blood vessels in two and three dimensions.

In a typical week, four to six CMR exams are performed on pediatric patients at ACH, and six to eight exams are performed on adults with "grown-up" congenital heart problems at the Stephenson CMR Centre at Foothills Hospital.

CMR is extremely useful for evaluating complex types of congenital heart problems at all ages, especially after surgery, or for older patients when echocardiography is sometimes difficult. CMR is also used to diagnose and follow-up on many other types of heart problems including heart failure and inflammation, heart muscle and valve problems, coronary artery disease, damage after a heart attack, and heart tumours.

CMR helps elaborate on results from other tests such as echocardiograms. It is often used in place of invasive procedures and tests that use radiation (such as CT scans), or contrast dyes that may be harmful to patients with allergies or kidney problems. Unlike CT scans or conventional chest X-rays, CMR doesn't use radiation, so CMR studies can be repeated over many years without the risk of radiation exposure. CMR also provides information about the heart that is not available any other way. Using CMR cardiologists can check for scars or edema (swelling) in the heart, and precisely evaluate cardiac function and blood flow.

In the next few years, CMR studies will become faster and provide even more information from one single test. New hardware for the MRI scanner will allow the whole heart to be seen in half the time it now takes. Techniques are being developed for looking at abnormal blood flow in the heart and assessing areas of low oxygen in heart tissue.

For those who are interested in more information about Cardiac MRI, see the following two websites:

Society for Cardiovascular Magnetic Resonance:

<http://www.scmr.org>

Stephenson Cardiovascular MR Centre, Calgary:

<http://www.cmrcentre.ucalgary.ca>

February 7-14 is Congenital Heart Defect Awareness week in Calgary. An estimated 180,000 Canadians have Congenital Heart Disease (CHD) of which, approximately 8,000 reside in the Calgary area. How can you help during this week? Visit the Heart Beats' Website (www.heartbeats.ca) to learn more about Congenital Heart Disease. You may send an e-card to let others know that you care about children with this condition. You may also donate to Heart Beats to help provide financial assistance to families having difficulties meeting expenses related to their child's heart defect.

The Heart Beats Children's Society of Calgary (www.heartbeats.ca) is a grassroots, registered charitable organization offering information, resources and emotional support to families dealing with Congenital Heart Disease (CHD). Since 1987, our group of parents, caregivers and professionals have provided practical and compassionate service to children and families impacted by Congenital Heart Disease (CHD).

-30-

For further information, please contact:

Karen Perl-Pollard

Heart Beats

Communications Manager

Phone: (403) 270-7335

E-mail: karenperl_pollard@hotmail.com

Website: www.heartbeats.ca

Patty Wiebe

Heart Beats

Chairperson

Phone: (403) 256-7423

E-mail: pattyw@heartbeats.ca

Website: www.heartbeats.ca