

# HEART

MATTERS

for the residents of York, Simcoe & Muskoka



Left to right: Cardiac surgeons, Dr. Richard Bausef and Dr. Byung Moon, perform by-pass surgery in one of Southlake's new cardiovascular operating rooms.

## CARDIAC SURGERY TEAM Makes Hearts Sing

Modern medical miracles are becoming so routine for the professionals at Southlake's Regional Cardiac Care Program that sometimes the most contentious issue in the cardiac surgery operating room is what music to play during the procedure.

"I will survive is popular," said cardiac surgery program medical director Dr. Byung Moon with a wry smile—characteristic of the easy going confidence displayed by the cardiac team, which performed Southlake's first heart surgery only 16 months ago.

As part of the new Regional Cardiac Care Program comprising percutaneous coronary intervention (PCI) and the arrhythmia program, the cardiac surgery team now performs some 900 heart procedures per year.

Playful sarcasm aside, the surgical team lead by Dr. Moon is among the most highly skilled and best equipped in the business.

The contingent of three surgeons, three physician assistants, three acute care nurse practitioners, three registered nurse first assists, six perfusionists, a team of anesthetists and nurses, a nurse educator, a cardiac care coordinator, and a support staff of varied specialists operates in a state-of-the-art facility.

The program has two dedicated cardiac surgery operating rooms, a 9-bed cardiovascular intensive care unit, and a 25-bed in-patient unit with 4 beds designated for high-risk patients.

The team performs several different heart procedures. The most common is coronary by-pass surgery. This involves grafting or attaching a vein or artery harvested from the patient's leg, arm, or inner chest wall to the aorta—the large vessel supplying blood to the heart—and by-passing or skipping over the area of the coronary artery that is blocked and grafting it to a healthier section. This enables the coronary artery to once again supply oxygen-enriched blood to the heart muscle.

The team also repairs heart valves and performs atrial or ventricular septal defect surgery—specialized surgeries to correct congenital defects in the upper or lower chambers of the heart.

As the regional cardiac centre, patients are referred from various hospitals in the province, including the nine hospitals in York Region, Simcoe County, and Muskoka. About 37 per cent of patients are from Simcoe, 36 per cent from York, and the rest from surrounding regions, including Muskoka.

Whether patients have heart valve, or coronary artery disease,

those who are waiting at home to have surgery are routinely referred to Southlake's pre-habilitation program. This unique program is designed to condition the patient both physically and emotionally for their surgery, which helps to contribute towards a faster recovery period.

"Typically, the surgery takes about three to five hours. In some cases, it takes much longer if the patient has a high degree of disease," Dr. Moon said. "On average, we do four procedures per day."

Endoscopic vein harvesting, pioneered by Dr. Moon, is a new and less invasive technique to remove the leg vein that is used for by-pass surgery. Innovations such as this result in shorter and less painful recovery for patients.

About half of all cardiac surgery patients are out of intensive care within a day and back at home within the week. Full recovery ranges from six to eight weeks.

"Our youngest patient is in the early 30s, our oldest is in the late

80s. Although cardiac surgery is not a cure, it is a long-term solution that greatly improves the patient's quality of life," Dr. Moon said. "Ten per cent of patients require reintervention in the form of surgery or angioplasty within ten years."

"The hardest part for patients post-operatively is the lifestyle change. They must be aware of the need to exercise, watch their weight, blood pressure and blood sugar levels, and stop smoking."

For this reason, post-surgery patients are automatically enrolled in Southlake's 26-week rehabilitation education and exercise program or in a similar program offered within their own community.

"Demand for renowned cardiac services will grow," predicts Dr. Moon. "We're a relatively new program and we were up to full capacity last November. At the moment, we're maintaining the program well. The region is one of the fastest growing in Canada. Statistically, each year, one in every 1,000 people will need cardiac surgery. As the population grows, so will the demand."

The team is geared for these challenges.

"Ours is a whole team approach," said cardiac care program director Janis Klein. "We couldn't do it without everyone on board."

Perfusion services manager Paul Murphy and his six-member team are also an integral part of Southlake's cardiac surgery program. Perfusionists are highly trained professionals, who are responsible for operating the heart-lung machine—the equipment that replicates the natural function of the heart and lungs—while the heart is stopped during cardiac surgery.

"It's an interesting job," Mr. Murphy attests. "Each case is different. What we achieve here is a nice combination of technology and artistry and the results are gratifying."

Dr. Moon is convinced the cardiac care unit will continue to uphold its well-deserved reputation as the finest in the field.

"Our greatest strength is our personnel, all of whom are highly skilled and enthusiastic," Dr. Moon said. "We function like a well-tuned orchestra. Everyone knows what part they play, when they need to play it, and how each member of the team is needed to complete the score. The applause we receive for saving or improving the quality of someone's life tells us that our work is indeed appreciated."



During by-pass surgery, the heart-lung machine replicates the natural function of the heart and lungs while the patient's heart is stopped.

### A New Era In Cardiovascular Care

4th Annual Conference Hosted by  
Southlake's Regional Cardiac Care Program  
April 23, 2005

The Kingbridge Centre, King City

An interactive one-day event focusing on the latest clinical techniques and practices in cardiac care.

#### Who Should Attend

- Cardiologists
- General internists
- Family physicians

#### Conference Highlights

- Interventionalists will debate whether thrombolytic therapy is obsolete in 2005
- Electrophysiologists will explore the cost effectiveness of cardiac resynchronization therapy and implantable defibrillators. An approach to appropriate patient selection will be offered.
- The cardiovascular surgery group will demonstrate the latest surgical techniques with intraoperative video. A practical discussion of post-operative complications will follow.

For more information and to register visit  
[www.southlakeregional.org](http://www.southlakeregional.org)

This conference is accredited by the Canadian Cardiovascular Society



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## CARDIAC PRE-HAB &amp; REHAB PROGRAMS

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Determined to maintain a healthier lifestyle, Warren Hall continues to attend Southlake's Cardiac Rehabilitation Program several months after having had by-pass surgery.



Warren Hall equates his heart surgery to plumbing.

After stress tests were conducted at Southlake's Regional Cardiac Care Program in early March 2004, the 58-year-old Aurora employee at the Works Department was diagnosed with severely congested heart arteries.

"I had a problem," understated the Innisfil resident. "Three of my arteries were plugged—one completely, one at 85 per cent, and another at 75 per cent. I had to have triple by-pass surgery to have three new pipes, just like plumbing."

Accordingly, Mr. Hall was scheduled for surgery. Prior to the operation he was enrolled in Southlake's pre-habilitation program. The pre-hab program, which is supported by a kinesiologist, registered nurse, social worker, and registered dietitian, offers emotional support, education, and exercise to patients awaiting surgery — this has proven to help them recover after their operation.

"I started pre-hab in April in preparation for the operation," Mr. Hall said. "It was a relaxing situation because my family was stressed out. I took different classes with the whole family and the staff informed us about what would happen. We met with the surgeons and anesthesiologist and they put our minds at ease."

Assisted by a qualified surgical team, cardiac surgeon Dr. Charles Peniston performed Mr. Hall's triple by-pass without a hitch.

Following an appropriate period of convalescence, Mr. Hall was enrolled in Southlake's 26-week cardiac rehabilitation program, which is designed to improve patients' overall heart health and to assist them in making healthy lifestyle adjustments. It includes a blend of exercise and education and teaches patients like Mr. Hall how to develop healthy eating habits, how to read food labels, and how to ease into a fitness regime. Serving close to 600 patients a year, the cardiac rehabilitation program is available to anyone who has experienced a cardiac event, such as a heart attack, heart failure, angioplasty, and/or by-pass surgery.

In the case of Mr. Hall, the program has already proven to be invaluable.

"They try and get you to eventually walk three miles in 45 minutes," he said. "I wasn't walking before. It was like going up hill in fourth gear."

"Now, I feel alive thanks to the surgery and the cardiac rehab program. The quality of my life has improved tremendously. The Southlake folks in cardiac pre-hab and rehab and at the hospital are terrific."

## Be Still, My Beating Heart

Bharat Datt has the most heart-stopping job in medicine. Literally.

Cardiac surgeons require that the target organ be perfectly still while they perform heart surgery. Akin to an automobile mechanic working on an engine that's running, a beating heart presents hazards for everyone involved. As a highly trained and skilled perfusionist, Mr. Datt's role is to operate the equipment that takes over the patient's heart and lung functions during surgery while the heart is stopped.

Inspired by Southlake's drive to build a world class cardiac facility in a community setting, Mr. Datt left his position at a downtown hospital during 2004 and moved with his family to Newmarket to accept a job at Southlake.

"It was a big decision to leave Toronto, but I was hearing good things about Southlake's cardiac program and the timing was right for my family to move to a smaller community. It's been a good change, both for my career and for my family," confirms Mr. Datt.

Trained both in his native India and the Michener Institute in Toronto, Mr. Datt and the surgical team stop the heart with the help of drugs. Using sophisticated equipment, blood is re-routed away from the patient's body, oxygenated, and cleansed of carbon dioxide and other wastes before being pumped back into the patient's system where the cycle starts again.

"The patient is in clinical hibernation," said Mr. Datt. "Basically we're by-passing the heart and taking over all the heart and lung functions so the surgeon can work on the heart."

The heart is still for approximately 90 minutes during surgery that can last for four hours and more. When the surgeons have repaired the damaged organ, the heart is allowed to spring back into action either on its own or, if help is required, a defibrillating electrical shock is applied for the heart to start beating.

Another integral part of the cardiovascular surgical team is Brenda Koivula, a registered nurse first assist (RNFA) specialist.

Once licensed as a registered nurse with the College of Nurses of Ontario, a nurse may apply for the first assist

program. Prerequisites include certification in perioperative or surgical nursing, five years of operating room experience, a specialized course of study, and a clinical internship with a surgeon mentor that can add up to 250 hours.

Although Ms. Koivula did not have to change employers to become an RNFA, she did require additional training that was financially supported by the Regional Cardiac Care Program.

"I was ready for a career change and the introduction of the RNFA role at Southlake definitely intrigued me. I have an active family, so working close to home is convenient," said Ms. Koivula, who was a clinical educator at Southlake for three and a half years before enrolling in the RNFA program. "With the support of the cardiac program, I now have everything I need to challenge me professionally in my own community."

The role of the three first assist nurses in Southlake's Cardiac Program is invaluable to the surgical team. Their duties begin before the surgery with meeting the patient, reviewing the patient's history, confirming the procedure, answering any questions or concerns, and generally endeavouring to allay anxiety.

During the complex surgery, the RNFAs assist the surgeon in exposing the heart area through the use of retractors, sponging and suctioning techniques, removing leg veins that are used to replace blocked sections of the coronary arteries, cauterizing blood vessels and finally, helping to close the chest and leg incisions. Once the surgery is complete, the RNFA is responsible for ensuring the safe transfer of the patient to the cardiovascular intensive care unit (CVICU).

Mr. Datt and Ms. Koivula believe, as do their patients, that their specialties make a world of difference.

"It's rewarding to have a job where you can come to work and help save a life each day," Mr. Datt said.

"The opportunity to participate in patient care from the preoperative through to the post-operative phases is gratifying," Ms. Koivula affirmed. "It's a privilege to be part of a highly skilled team that is able to deliver such a proficient level of patient care."



Bharat Datt,  
Perfusionist



Brenda Koivula,  
(RNFA)