London Health Sciences Centre

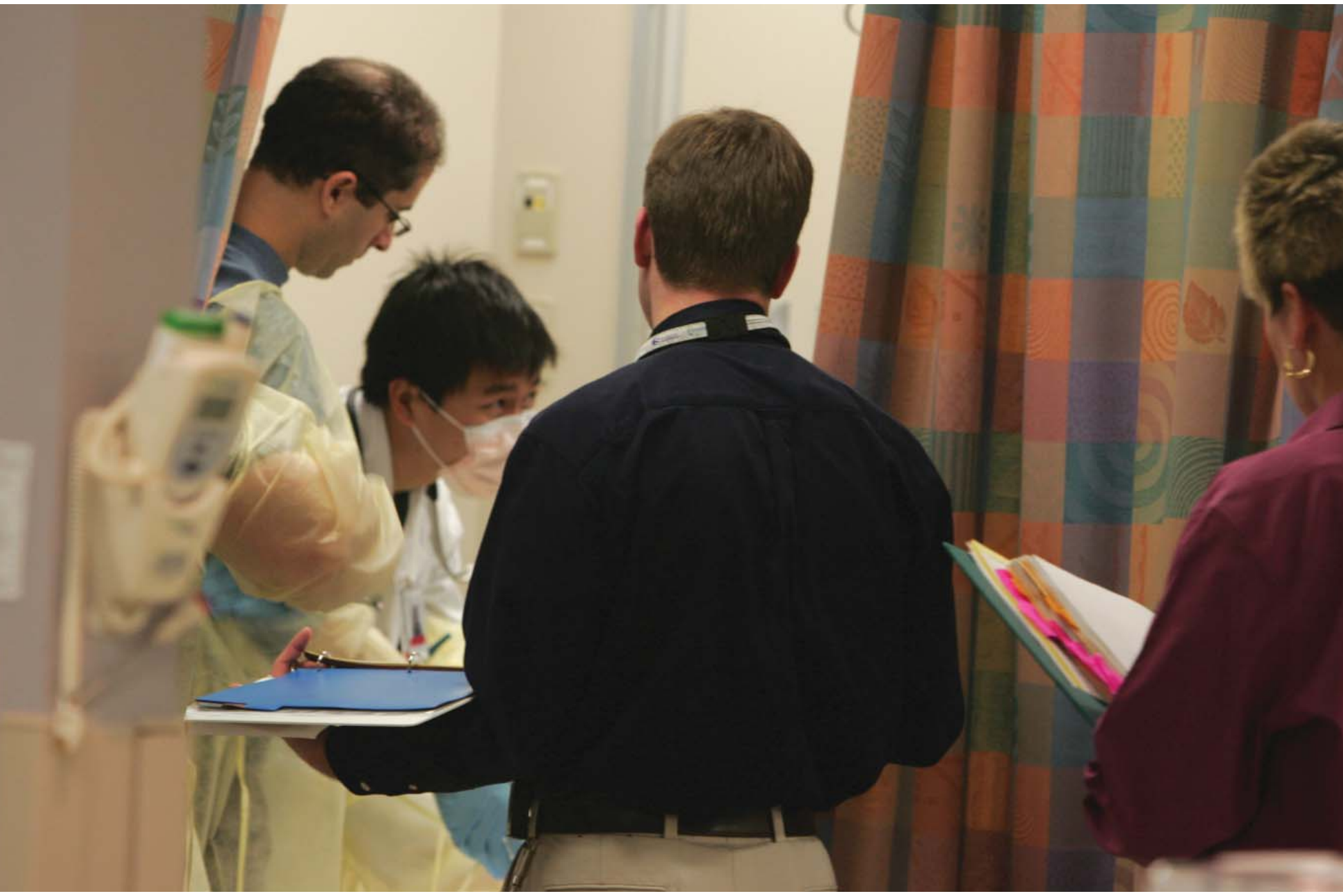
Caring for You. Innovating for the World.™

LIFE CHANGING MOMENTS

2008 ANNUAL REPORT

London Health Sciences Centre

Caring for You. Innovating for the World.™



AT ANY GIVEN MOMENT

LIFE GOES ON WITHIN AND AROUND US, AND IN THE WORLD OUTSIDE OUR DOORS… A MONDAY, A TUESDAY OR A SATURDAY.

But... any day can become a day like no other for those we serve.

At any given moment, a baby takes its first breath, changing the life of a family, forever.

A serious accident may occur, or a life-threatening illness may be diagnosed, requiring the latest and the best in treatment and therapy. Tragically, a life may end too soon.

London Health Sciences Centre (LHSC) provides care during life-changing moments, at any given moment, caring for you.

LONDON HEALTH SCIENCES CENTRE HAS BEEN AT THE FOREFRONT OF MEDICINE IN CANADA FOR OVER 130 YEARS AND IS PROUD TO OFFER THE BROADEST RANGE OF SPECIALIZED CLINICAL SERVICES IN ONTARIO.

As a leader in medical discovery and health research, London Health Sciences Centre has a history of over 30 international and national firsts and attracts top clinicians and researchers from around the world.

Building on the tradition of its founding hospitals to provide compassionate care in an academic teaching setting, London Health Sciences Centre is home to South Street Hospital, University Hospital, Victoria Hospital and Children's Hospital, Lawson Health Research Institute and two family medical centres. As a regional referral centre, we care for the most medically complex patients including critically injured adults and children in Southwestern Ontario and beyond. Together, our 10,000 staff, physicians, students and volunteers provide care for close to one million patient visits a year.

DID YOU KNOW?

LHSC is among the highest rated hospitals in Ontario for patient satisfaction.

LHSC is home to London's three emergency departments: University Hospital Emergency, Victoria Hospital Adult Emergency, and Victoria Hospital Children's Emergency.

LHSC is the largest employer in the region.

FEATURE STORIES

A crisis during childbirth for a young family… the diagnosis of a mental illness in a troubled young adult… the shattering effects of a loving father's motorcycle accident… read about the life-changing moments of these patients in this Annual Report.

A CONVERSATION WITH CLIFF NORDAL,
PRESIDENT AND CHIEF EXECUTIVE OFFICER

What were the highlights of the past year at London Health Sciences Centre?

Thanks to the dedication of leaders, physicians, staff and volunteers, there were many noteworthy accomplishments over the year. The recruitment of more than 500 nurses since January 2007 is a special highlight as it enabled us to reopen closed beds and meet more of the high demand for our services. On the innovation front, we recorded a world first, a North American first and two Canadian firsts in medical care—each chronicled in this report. We also welcomed a green light from the government signaling that the process for completing a major milestone in redevelopment is assuredly a go. This involved the release of a request for proposals to qualified firms to complete the interior of the North Tower at Victoria Hospital, and associated work. We also adopted a new tagline: *"Caring for You. Innovating for the World."* Our tagline expresses the great pride we take in our proud tradition of care and healthcare innovation.

Was there one highlight particularly significant to you, in your role?

One highlight is the work we completed this year on examining and redefining our organizational shared values. Based on research and consultation with our staff, carried out by an excellent project team, we have articulated three core values: respect, trust and collaboration. Each of these values is supported by behavioural statements to help describe how each of us lives our values at work. Clear core values are known to be fundamental to sustaining high quality service and the progress of organizations in general. They define how we work together and how we serve others.

Why has the hospital embarked upon a strategic planning process now?

Under the sponsorship of our Board of Directors, the senior leadership of London Health Sciences Centre is revisiting the strategic directions set in 2005, which were originally scheduled to be revised in 2009. Given our extensive performance improvement efforts and the changes in Ontario's health system, a refresh of our plan became essential. We will be building upon and enhancing our processes for performance monitoring and accountability with this new strategic plan. The plan will define our priorities and set clear, measurable goals that we will monitor. Ongoing performance monitoring and an annual renewal of the plan will help us to adjust our course toward our objectives over time.

What is the biggest challenge facing the hospital at this time?

There are always challenges in an organization of this scope and complexity. It is difficult to determine which is the biggest—the answer may be different depending on one's role and perspective. One thing we have focused enormous effort on this year is the challenge of optimizing patient access to care. It is not an issue that is unique to our hospital. It is an issue facing hospitals across the

CLIFF NORDAL, LHSC PRESIDENT AND CHIEF EXECUTIVE OFFICER

province and indeed across Canada. We have been addressing this on multiple fronts throughout our organization using a combination of approaches. We engaged external expertise for several months and mobilized internal project teams to develop the best available tools and techniques for enhancing the flow of patients through our Emergency Rooms, Admitting and General Medicine units. This work is ongoing, but we have made progress. One of the enabling system-level strategies that we are counting upon for the future is the expansion of long-term care beds in our communities and enhanced home support services. This would help to ensure patients are in the right care setting at the right time and that more of our acute care bed capacity is available to those patients needing acute care.

What was the biggest accomplishment for the hospital in 2007-08?

I would have to single out the further progress we have made on the financial front. Although we continue to face significant cost pressures, we have resolved several debt issues, and submitted a balanced budget for the next year. This is creating a more stable operating environment for our programs and certainty for staff recruitment.

What has happened on the people front this year at London Health Sciences Centre?

I've already mentioned the success we have enjoyed in the recruitment of nurses. In addition, LHSC welcomed 45 new physicians, two dentists and three midwives this year. We are truly fortunate to have been able to attract these individuals. Our physicians and staff continue to receive positive feedback from patients and families for the spirit of caring and compassion they demonstrate at the bedside, and the positive responses LHSC receives on the Ontario Hospital Association's patient satisfaction surveys bear this out.

This year we also completed our work on leadership transition. This initiative began two years ago, when we modified our leadership structure complement to create the positions of shared Chief Operating Officer and integrated Vice President Clinical Support Services on our senior leadership team and integrated the majority of senior leadership roles with those at St. Joseph's Health Care, London. The exceptions are the senior leadership positions for the London Regional Cancer Program, Women and Children's Clinical Services, and of course, our Foundations. To complete this process, in the fall of 2007, we filled the role of Integrated Vice President, Planning and Operational Improvement and the position of Senior Director, Human Resources within that new portfolio.

Finally, I want to mention that we have established a healthy workplace committee to strengthen our focus on factors that contribute to a safe, satisfying work environment.

Our staff, physicians, leaders, Board members and volunteers are always at the heart of all we do. I wish to thank them for their commitment to the patients and families that we serve. ■

London Health Sciences Centre

Caring for You. Innovating for the World.™

London Health Sciences Centre, a university teaching hospital, is committed to improving health. Building on our tradition of leadership and partnership, we champion patient-centred care, a spirit of inquiry and discovery, and a commitment to life-long learning.

STRATEGIC DIRECTIONS

1 EXCELLENCE IN PATIENT CARE

Achieve excellence in patient-centred care through the use of best available evidence in everything we do.

A HIGHLIGHT:
Critical care outreach teams are providing critical care support beyond the Intensive Care Unit for high-risk patients at LHSC. In partnership with teams on the hospital's inpatient wards, critical care outreach teams aim to provide supportive care in all patient care areas. This lowers admissions to the ICU by providing earlier intervention, which ultimately has been shown to decrease the number of in-hospital cardiac arrests.

2 INTEGRATED RESEARCH, CARE AND EDUCATION

Distinguish ourselves through integrated research, patient care and education.

A HIGHLIGHT:
In September, LHSC's Health Sciences Library helped to launch the Western Ontario Health Knowledge Network (WOHKN), a partnership between libraries at The University of Western Ontario and affiliated hospitals. Through the network, healthcare professionals have increased electronic access to evidence-based health information, enhancing education, research and evidence-based clinical practice at partner sites. The network spans 29 sites and serves approximately 18,200 staff and physicians.

3 PROGRESSIVE WORKPLACE

Be a progressive workplace that lives its mission, vision and values.

A HIGHLIGHT:
In January 2007, LHSC set a goal of hiring 450 full time and part time nurses to fill nursing positions throughout our hospitals. To reach this target, LHSC participated in career fairs and conferences inside and outside Ontario, offered a relocation reimbursement program, and advertised extensively on a variety of websites. By March 31, 2008, LHSC had successfully recruited 506 nurses. This initiative is helping to optimize access to patient care.

EVOLVING ROLE

Together with our community and partners, strengthen our role in the evolving integrated health care system.

4

A HIGHLIGHT:
LHSC takes an active role in regional partnerships aimed at enhancing patient care services in Southwest Ontario. Together, London Health Sciences Centre and St. Joseph's Health Care, London have an operating relationship resulting in the most integrated hospital system in Ontario. This year, LHSC and St. Joseph's jointly created new integrated senior leadership roles in clinical support services, and planning and operational improvement.

COMPLETE RESTRUCTURING

Complete restructuring/ renewal directives.

5

A HIGHLIGHT:
On August 31, Infrastructure Ontario, London Health Sciences Centre and St. Joseph's Health Care, London released a joint Request for Proposals to qualified firms to build and finance hospital redevelopment projects. At LHSC, this project involves the completion of shelled-in space in the North Tower at Victoria Hospital and renovation of existing space. In February, LHSC initiated $14 million in other renovations at University Hospital and Victoria Hospital.

ALIGN RESOURCES WITH PRIORITIES

Establish priorities and align the pursuit and allocation of resources with priorities.

6

A HIGHLIGHT:
This year, LHSC launched a process to review its strategic directions and confirm related priorities. The resulting strategic plan will define work priorities and guide hospital activity for years to come. The plan will include measurable goals to facilitate performance monitoring.

BOB EASTERBROOK WITH SON JESSE. BOB IS NOW REPAIRING THE 1977 HARLEY DAVIDSON DAMAGED IN A COLLISION THAT NEARLY COST HIM HIS LIFE.

LIFE AFTER NEAR DEATH

BOB EASTERBROOK REMEMBERS SEEING THE ONCOMING CAR SWERVE IN FRONT OF HIM AND THE DITCH SUDDENLY APPEARING. AFTER THAT HE REMEMBERS NOTHING.

"I just went out for an evening ride after a sunny day. That plan changed quickly," Bob says. The next four weeks he spent recovering in intensive care after being thrown off of his 1977 Harley are moments he cannot remember to this day.

On June 11, 2005 Bob was hit by an oncoming vehicle on Highway 2 while riding into London at a speed of 80 km/h. Bob would spend the next seven months in and out of hospital, undergoing 15 surgeries, both to save his life and to repair broken bones.

Dr. David Sanders, orthopaedic surgeon, has been caring for Bob since Bob's arrival at the former Emergency Department at South Street Hospital on the final night it was open.

Bob's injuries were extensive.

There were fractures—the left femur, right femur, right tibia plateau, left wrist, left compound tibia, pelvis and spinal column, and tears to an artery and the small bowel. Bob's kidneys had stopped functioning and a lung had collapsed.

"Bob was in shock and barely conscious," Dr. Sanders remembers. Bob was taken into surgery immediately.

Bob's wife Kelly was called by police at home on their farm moments after the accident.

"I remember driving to London with my dad and not being able to turn down Highway 2. It hit me then that it was closed because of the accident. I knew then that it was bad," says Kelly.

Kelly and Bob's extended family were at the hospital within moments of his emergency arrival, and kept an ongoing vigil for weeks.

"Every time I opened my eyes, I remember seeing someone there," Bob says.

At South Street Hospital, Bob underwent the first emergency surgery to deal with the collapsed lung, artery and small bowel tears, and pin all of his leg bones. Bob was then transferred to Victoria Hospital, where he underwent 15 surgeries over the next seven weeks, including the eventual disarticulation-amputation of his right leg up to the hip.

"THE FACT THAT HE MADE IT THROUGH THIS MANY SURGERIES IS A SUCCESS STORY, ...BUT BOB HAS AN ENTIRELY DIFFERENT MEASURE OF SUCCESS. HIS IS BASED ON THE SIMPLE FACT THAT HE IS STILL HERE ENJOYING HIS SON, WIFE AND FAMILY. THAT IS HIS MEASURE," SAYS SANDERS.

The family didn't bring Bob's son Jesse, 4, to the hospital at first, waiting until Bob was fully conscious and alert. On his first visit, Jesse didn't recognize his dad. The once burly and strong Bob, who play-wrestled with Jesse and showed him how to repair and care for cars, was gone. In his place was a beardless man, 50 pounds lighter, who at that point didn't have the strength to pick up a cup of water.

"Jesse stood beside Kelly in the doorway holding her hand. He just didn't know me," Bob remembers.

Reassured by his mother and grandmother that this was his dad, Jesse cautiously approached the bed. When Bob started to talk to him, Jesse was convinced. He jumped up on the bed and threw his arms around his dad.

"Once he was sure it was me then everything was cool," says Bob.

The long recovery in hospital and lengthy rehabilitation was made easier, Bob feels, because he had the support of his family. "The love of the people I have around me is what has gotten me through," he says.

After multiple surgeries on Bob's right hip to combat an ongoing infection, Dr. Sanders and Bob made the decision to amputate. Bob's trust of and respect for Dr. Sanders, who had been by his side since the beginning, has helped Bob keep a positive attitude despite the odds.

Now in a wheelchair and a partially accessible new home, Bob is busy working on cars and fixing up the '77 Harley damaged in the crash. Jesse can tell anyone listening what an accessible building is, and scolds those (including his grandmother) who don't yet have these accommodations in their homes.

Bob sees Dr. Sanders regularly and continues to work with a physiotherapist on his recovery.

"What Bob has gone through would challenge any human being's spirit. The fact that he can remain positive during a time period that would depress you and I, is truly amazing," says Dr. Sanders.

Bob doesn't see his recovery as remarkable. He simply says, "I just get up and get on with life. It's what you have to do." ■

ORTHOPAEDICS PROGRAM

London Health Sciences Centre provides orthopaedic care to the people of Southwestern Ontario. The care extends from sport medicine and joint replacement, to treating trauma patients who come into the Emergency Department. Education and outreach into the community through injury prevention programs are also a large component of the program. With a large multidisciplinary team of orthopaedic and sport medicine surgeons, along with clinical nurse practitioners, occupational therapists, pharmacists, physiotherapists and social workers, the orthopaedics program at LHSC is a leader in patient care.

PHOTO: ALPINE CANADA ALPIN/PENTAPHOTO

TRAINING FOR THE OLYMPICS... THEN DISASTER

ON JANUARY 8, THE WORLD STOPPED FOR CANADIAN ALPINE SKIER JAN HUDEC. RACING ALONG A TRAINING RUN IN WENGEN, SWITZERLAND, HE CAUGHT AN EDGE AT 155 KILOMETRES PER HOUR, ONLY 15 SECONDS BEFORE FINISHING HIS RUN.

Coming down hard on his right knee, Hudec heard a pop and felt a wave of pain. He knew what was happening. He had felt this pain twice before.

"I had a total sense of defeat and helplessness. In that moment I felt physically beaten," Hudec remembers.

Until that moment, Hudec had been on a career high. In November he achieved his first World Cup victory in a downhill race in Lake Louise, Alberta in front of the coaches and people who had seen him develop over the years skiing on those very mountains. Then in January, one week before the fall, he won a third place trophy in the World Cup downhill in Italy. At the beginning of 2008, Jan was listed as fourth in the World Cup downhill rankings, and the top Canadian, ranking tenth in the overall standings. This was to be his year to make it to the top of the podium.

Having torn the same anterior cruciate ligament (ACL) twice before, Hudec has always skied with some level of adversity against him. In 2003 his knee was repaired in an operation in British Columbia, and in 2004 it was operated on in London, Ontario by renowned orthopaedic surgeon Dr. Robert Litchfield, Medical Director of the Fowler Kennedy Sport Medicine Clinic.

This time Jan says, "There was never a question of where to go."

Airlifted off the hill and transferred to a hospital in Switzerland, Jan was assessed by team doctors, then sent here to London the next morning.

After reviewing Jan's MRI, Litchfield concluded that it was a clean tear. Jan underwent surgery the next day. The surgery involved using tissue from a donor tissue bank to construct a new ACL.

"After the third tear, we decided to go ahead and do a double bundle reconstruction to further strengthen and secure the motion of the knee," Litchfield explains.

Litchfield himself is well versed on the common injuries elite skiers can sustain. A member of the Canadian Alpine Ski Team medical group, and an associate of the Canadian Academy of Sport Medicine, Litchfield's clinical and research interests include athletic injuries to the knee.

Now back home, Jan is working through his recovery and rehabilitation at the Calgary Olympic Park. Four days after his surgery he was on the stationary bike. Jan plans on hitting the slopes at training camp in South America this August, only six months after surgery.

"Right now it is an intense and painful process. I know what recovery looks like. I am trying to do as much as I can now, so that I'm ready before I get on the snow," says Hudec.

Litchfield keeps a watchful eye on this skier, whom he calls, "the best thing since the Crazy Canuck days." He e-mails and calls regularly, and is in contact with Kent Kobelka, Jan's physiotherapist in Alberta.

"After as many surgeries as Jan has had to his knee, there is a risk that it may start to get arthritic. We are optimistic for Jan and he continues to set his sights on the next Olympics, but we know it will be a long road back," says Litchfield.

The 2010 Vancouver Olympics are Jan's next goal. "I am waiting for that moment where for two minutes on one day I will be the fastest guy in the world," he says. "I believe I can come back and win gold." ■

FOWLER KENNEDY SPORT MEDICINE CLINIC

Since 1974, the Fowler Kennedy Sport Medicine Clinic has provided specialized sport medicine care for elite athletes and active members of the community, both young and old. The clinic was founded by Dr. Peter Fowler and the late Dr. Jack Kennedy, two prominent LHSC orthopaedic surgeons and professors in the Faculty of Medicine at The University of Western Ontario.

LHSC's sport medicine clinic offers the services of a multidisciplinary team of orthopaedic surgeons, physicians, physiotherapists, radiologists and nurses at its three facilities.

Quality patient care, education, prevention and groundbreaking research, combined with the leadership and dedication of world-renowned surgeons, have positioned the Fowler Kennedy Sport Medicine Clinic at the forefront of its field. The clinic is one of the largest, most comprehensive sport medicine clinics in North America.

KEEPING ON TRACK

EIGHT ORTHOPAEDIC SURGERIES ON HIS RIGHT KNEE, ANKLE AND SHOULDER IN THE PAST 27 YEARS ALL STARTED FROM ONE ACCIDENT FOR GERRY BOS.

"I was finishing up a forty-kilometre bike ride," says Gerry. "With less than ten kilometres to go, a car came out of nowhere and clipped my back wheel. I couldn't get my foot out of the bike pedal strap fast enough."

A competitive speed skater, Bos was cycling to increase his cardio. Falling hard on his right side, Bos sustained injuries that would plague his athletic career for a lifetime.

cont'd

Over the years Gerry has undergone surgical and non-surgical procedures and countless hours in physiotherapy at the Fowler Kennedy Sport Medicine Clinic. None of these have deterred him from his athletic pursuits. Bos, now 76, finished second in the Masters World Championships for speed skating in 2007.

Gerry is a regular at Fowler Kennedy and exemplifies an active lifestyle, says Nancy Adams, physiotherapist. "Everyone knows Gerry."

In 2001 Dr. Peter Fowler did a rotator cuff repair on Bos. But in March 2008 Gerry reinjured his shoulder during a practice skating session. The injury happened when he improvised while practising his sprint starts and used a hockey net for resistance as he skated around the ice.

"The net caught an edge in the ice. It went one way and my body went the other. I popped my shoulder right out," Gerry says.

After the second repair to the shoulder, Gerry immediately started back in the gym at Fowler Kennedy under Adams' supervision.

He rode a stationary bike with his arm in a sling at first to increase his cardiovascular endurance.

Gerry worked with Adams on a weight training plan, building back gradually to the level he performs at comfortably. Adams then set up a plan for his training at home.

"Gerry is very good about adhering to the exercises I give him and not overdoing it. We recognize here how important keeping up a high level of physical fitness is to all of our patients," Adams says.

Being active is a family affair for Bos. His five children compete in a variety of sports. Menno is a cyclist, Peter a runner, while John, Greta and Wilmalee all swim. "My wife Ria and all the kids love to swim. Me, I don't like it. I prefer my water solid," says Gerry.

Next up for Gerry are the 2009 world championships, where he hopes to win gold. With no other operations on the horizon and the support of the staff at Fowler Kennedy, he will be there in top form. ■

GERRY BOS AND HIS PHYSIOTHERAPIST, NANCY ADAMS.

WHAT CAN YOU SAY TO SOMEONE WHO SAVES YOUR LIFE?

DR. MICHAEL MARUNCIC WITH SYLVIE GAEDE AND BABY DANIEL.

FOR NINE MONTHS, THE ARRIVAL OF SYLVIE AND STEWART GAEDE'S SECOND CHILD WAS AN EAGERLY ANTICIPATED MOMENT. "MY FOUR-YEAR OLD DAVID THOUGHT HIS BROTHER WOULD NEVER COME. EVERY MONTH OF MY PREGNANCY SEEMED LIKE AN ETERNITY FOR HIM," SAYS SYLVIE.

Sylvie was happy to see her belly grow as the months went by. Having suffered a heartbreaking miscarriage the year before, she was only too pleased to see this pregnancy progress normally.

But once she was 12 days overdue, Sylvie and her obstetrician, LHSC's Dr. Michael Maruncic, decided together that the baby needed to come out.

cont'd

"It is common procedure to talk to moms about induction after the baby is seven days or more overdue," says Maruncic. Sylvie and Stewart, a medical physicist at the London Regional Cancer Program, were called in to the hospital at 11 am on June 21, 2007.

The day progressed, but Sylvie did not. At 1 am June 22, Sylvie's water broke, but she was only dilated two centimetres.

At 6:45 am Stewart left the room to grab a quick coffee. When he came back 10 minutes later, he says, "Everything had changed." Sylvie was in respiratory distress and shaking badly. Her level of consciousness had decreased.

AND THEN HER HEART STOPPED.

Cardiopulmonary resuscitation was immediately started on Sylvie as she was rushed into the operating room.

The on-call obstetrician, Dr. David Langlois, and his team performed an emergency Caesarean section that saved both Sylvie and her son's lives. Baby Daniel was delivered safely at 7:06 am.

Dr. Maruncic arrived at the hospital and was briefed on what was occurring. He was able to tell Stewart that his son had been delivered, but that Sylvie was still bleeding. Dr. Maruncic told Stewart that all measures were being taken to stop the bleeding, however a hysterectomy was a possibility.

AND THEN, SYLVIE'S HEART STOPPED FOR THE SECOND TIME.

"You have no idea what it is like to be on the outside of those doors. My whole world was crashing around me. Sylvie was slipping away and I could do nothing to help her," Stewart remembers.

Sylvie's heart was revived, but she continued to hemorrhage. Despite all conservative measures, the decision to perform an emergency hysterectomy was made.

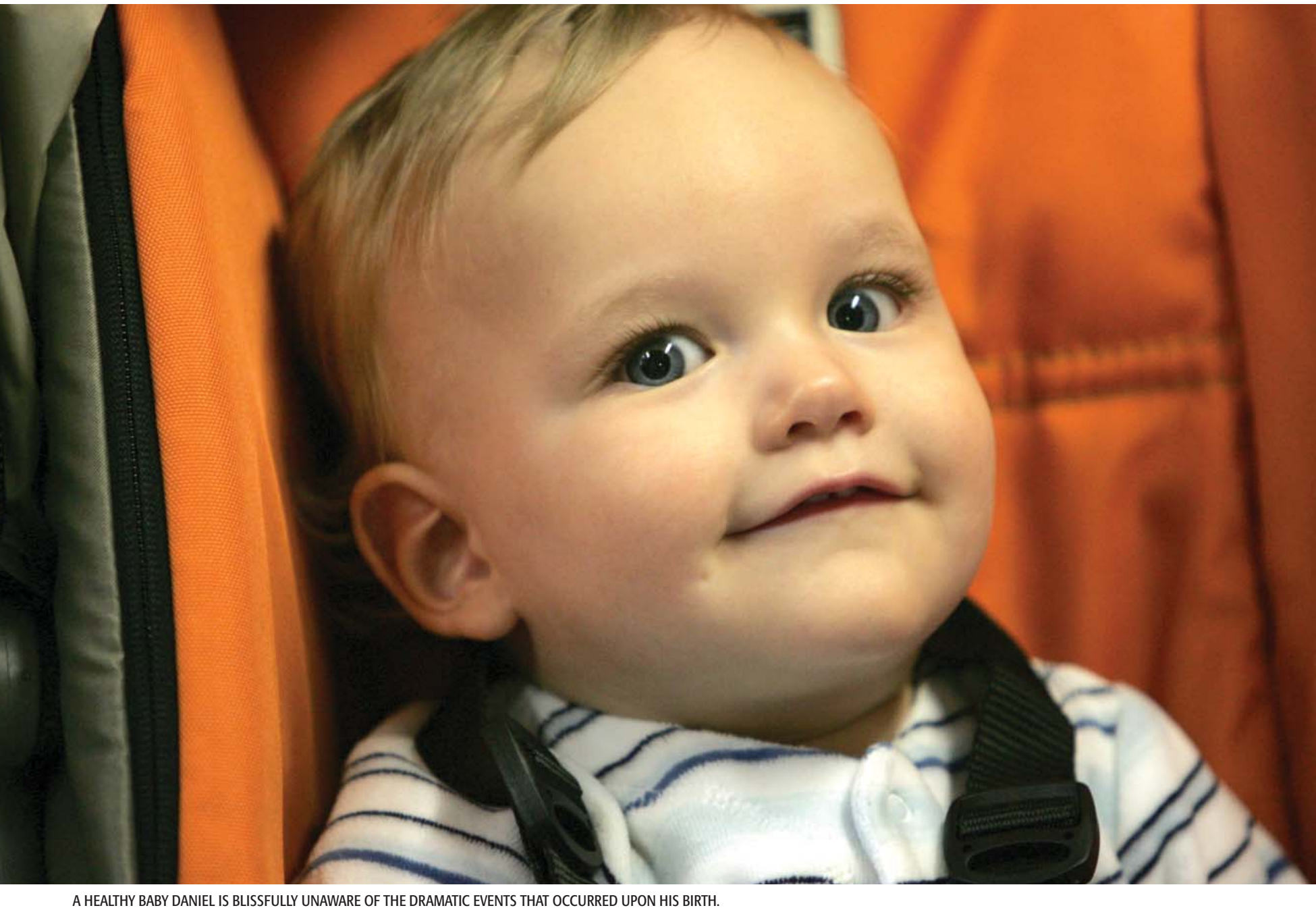
"We tried everything. Sylvie had received over 100 units of blood products. Needless to say, the decision to undergo a hysterectomy was not taken lightly but we really had no other choice," says Dr. Maruncic.

The hours and moments after Sylvie's emergency surgery were a blur for the Gaede family. Daniel had an ultrasound, an echocardiogram and an MRI. Born weighing 8lbs 2oz, fortunately, he had no complications despite such an urgent arrival.

When Sylvie woke up from sedation she was having problems seeing out of her right eye and her kidneys were not functioning well.

Sylvie was put on dialysis and watched closely by her care team.

While Sylvie was recovering in the Critical Care Trauma Centre (CCTC), her nurses tried to allow as much interaction between mom and baby as possible.



A HEALTHY BABY DANIEL IS BLISSFULLY UNAWARE OF THE DRAMATIC EVENTS THAT OCCURRED UPON HIS BIRTH.

"There wasn't anywhere on my body that the baby could lie that didn't physically hurt," Sylvie remembers. She had bruises all over her body.

Six days passed, and Stewart was allowed to take baby Daniel home. With the support of his parents, Sylvie's parents, Sylvie's brother George and George's fiancée Heather, Stewart was able to travel back and forth between hospital and home. Sylvie had moved to the Gynaecology Unit and continued on dialysis, but she says,"I knew I wasn't getting any better."

Exhausted all the time, but unable to fall asleep, Sylvie was averaging two to three hours of sleep each night. When Stewart brought her flowers to celebrate their anniversary the smell made her physically ill.

On July 4, Sylvie awoke from only a few moments of sleep, panic-stricken.

"I remember screaming, 'I can't see! Call my husband!'" she says. Sylvie had lost vision in both eyes and her heart was racing.

Stewart rushed to the hospital with Sylvie's parents. They were brought to the CCTC family waiting room while Sylvie completed an MRI exam. Waiting there, the family heard an overhead page.

"I HEARD A CODE BLUE IN THE MRI SUITE. I KNEW IT WAS SYLVIE. I KNEW WHERE TO GO. I JUST STARTED RUNNING," HE SAYS. " I HAD CONVINCED MYSELF SHE WAS DEAD. NO ONE PERSON COULD HANDLE THIS MUCH TRAUMA TO THEIR BODY."

But Sylvie had not had another cardiac arrest. As the MRI was being finished, Sylvie had a seizure and her pulse was next to impossible to find.

Nephrologist Dr. Bill Clark reviewed Sylvie's MRI, and noticed a series of miniscule strokes throughout her brain that were actually microthrombosis. Upon a quick review of her other symptoms, he determined that Sylvie was suffering from thrombotic thrombocytopenic purpura, (TTP), a platelet-clotting condition that had gone through her entire body.

While Dr. Clark sees 15 to 20 TTP cases each year, Sylvie's case, most likely precipitated by an amniotic fluid embolism during her pregnancy, is very rare. An amniotic fluid embolism is a condition in which the amniotic fluid surrounding the baby enters the mother's bloodstream via the placenta, and triggers an allergic reaction.

"It all started to make sense," Clark said. Sylvie's platelet count had continued to go down after the delivery of Daniel.

"The microthrombosis, or platelet clotting, had caused the vision loss and the aggregation of the healthy cells in the body. This is why Sylvie had started coughing uncontrollably and had bruises develop all over her body, even after Daniel was delivered," says Dr. Clark.

Sylvie started her first course of plasmasphersis immediately to remove, treat and then return donor blood plasma to her circulatory system. She woke up the next morning feeling better than she had in months. Her vision came back in the left eye and her hemoglobin normalized. She continued on that course of treatment for ten days.

Family, friends and neighbours rallied around, preparing to help Stewart and Sylvie get through the next few months of recovery. Stewart's parents took David to their home in Cape Breton and Stewart extended his leave from work at LHSC.

In a situation where they were prepared for the worst, Sylvie's treatment went extremely well. She was discharged the second week of July. "I remember calling Stewart to tell him I was coming home," she says. "He was shocked."

Sylvie returned home to care for her infant son, and herself. "It was tough. Twenty-three days in the hospital had nearly wiped me out. I needed to get back to normal," she says.

Finally, on August 19, Stewart, Sylvie and Daniel flew out to Cape Breton to celebrate David's fifth birthday as a family.

"That was the moment I knew we had turned the corner," says Stewart. "I knew then that the four of us would be fine."

Now Daniel and David are home in London with mom and dad, healthy and happy. Sylvie's parents are back home in St. Thomas and visit often. Stewart's parents are getting ready to come for a visit soon.

David is thrilled. His mom is home. His brother has arrived. And now there is something else he is waiting for that seems like it will never come—his upcoming trip to Disneyland. ■

WOMEN'S HEALTH PROGRAM

The Women's Health Program at LHSC provides services dedicated to the health of women. In the Women's Health Care Centre, patients are actively encouraged to participate in their own care. The Gynaecologic Oncology program focuses on informed choice about cancer care. Female patients are offered the widest range of options and counseling in the field of genetic research.

The Women's Health Program provides care throughout all the events of a woman's life cycle, and offers regular physical examinations to help women to maintain good overall health. Pap smears, breast exams, sexually transmitted infections testing, fertility clinics and options counseling are all available through the program.

Care is available for mental well-being for issues such as postpartum depression and premenstrual dysphoric disorder. The Women's Health Program uses a family-centred care approach to practice for all patients.

MAYBE THAT COULD BE ME

THE DAY THAT FANSHAWE COLLEGE STUDENT ANDREW MINDERLEIN WALKED THROUGH A BUSY DOWNTOWN INTERSECTION WITH HIS EYES CLOSED, IS THE DAY THAT HE KNEW HE NEEDED HELP.

Living on the streets for weeks after leaving his family home because of paranoid thoughts, Andrew was battling psychosis and feeling totally isolated from the world.

"The first time I got sick I was getting really bizarre ideas and images in my head," says Andrew. "I knew something didn't feel right."

Andrew walked into London's Youth Action Centre, and counselors there made the call to the Mental Health Crisis Line. Andrew admitted himself with the support of the Youth Action Centre Team to LHSC's Inpatient Mental Health Program at the age of 19.

Having been on and off the streets since 15, Andrew was no stranger to hard times and hard luck. His anger and moodiness caused his mother to put him on a plane to live with his dad in London when he was 14. The fighting with his father started immediately and within a few months Andrew found himself living in a halfway house for boys.

"Before I got sick, I was in and out of halfway houses, group homes and shelters. I even moved back home a few times, but eventually I would be out again," Andrew says.

Lori Hassall, the PEPP (Prevention and Early Intervention in Psychosis Program), Inpatient Social Worker at the time, was among the first of Andrew's healthcare providers to see him when he admitted himself in 2002. Because of the symptoms Andrew was exhibiting, he was referred to the program for assessment.

"When I first met Andrew he was extremely paranoid and scared. He thought everyone was against him. He was trying to talk clearly but his thoughts were racing. It was really difficult for him to communicate," Hassall remembers.

Hassall called Andrew's father and stepmother right away. Andrew had been out of their house for only a number of weeks this time.

"I was on the streets, but I shouldn't have been," Andrew reflects now. "I had a place to live, but I had become so paranoid and angry that I just couldn't live there anymore. And they couldn't live with me."

After assessment by the interdisciplinary team, Andrew was immediately accepted into PEPP. The program targets patients between 16 and 50 who have experienced a psychotic disorder for the first time. A psychiatrist and case manager work with the client to provide a plan for integrated medical and psychosocial treatment. The program also provides recreation and therapeutic groups, supported employment counseling, psychological services and assistance getting connected with services such as income support, housing and school.

Andrew remained in hospital for one month and had daily visits from Hassall. On one visit she brought him strips of cardboard and cans of paint after Andrew expressed an interest in art.

"When I returned the next day, Andrew had plastered his walls with his artwork," Hassall says. "The room was covered with bright, abstract designs. I looked around and thought, boy, there is an artist here."

After Andrew left LHSC, he worked with Cheryl Taylor, his case manager, to find housing in London. Taylor got Andrew into Piccadilly House, affectionately known as the 'Pic House' by its residents, a transition house for patients coming from the hospital to the community. There Andrew learned about personal finance and paying rent.

As part of PEPP, Andrew had regular sessions with Taylor and Dr. Sandra Northcott, one of the program psychiatrists. These sessions helped him find the right medication, and understand his illness. Andrew's team also helped bridge the gap with his dad.

"It is normal for family and social relationships to be altered when a person gets sick. Some clients are fearful to disclose what they are feeling for fear that the other person won't understand. We work with the people closest to our clients to help them understand what being sick means," Hassall says.

Andrew's dad and stepmom provided Andrew's PEPP team with information about Andrew's history and development.

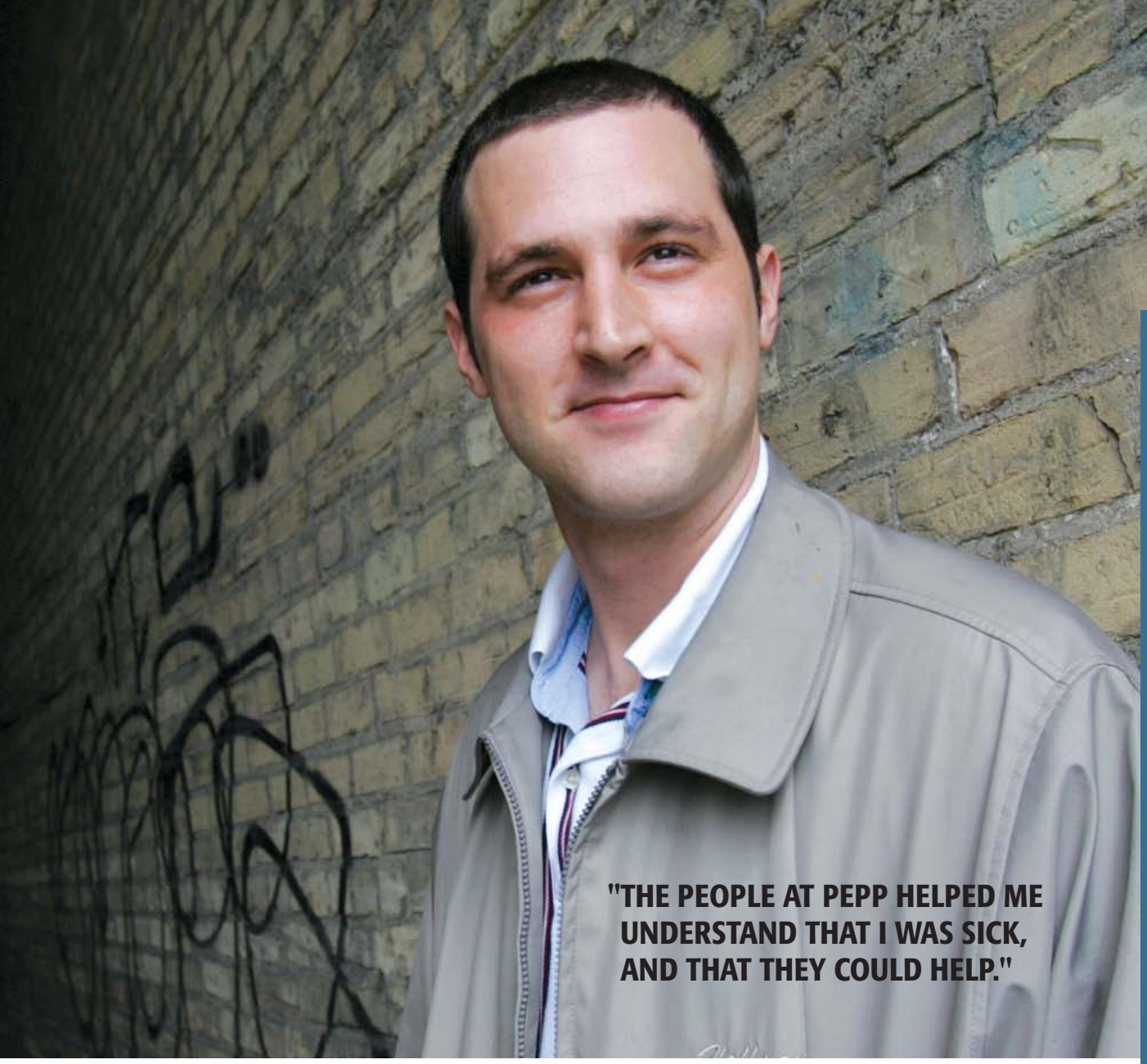
Both were very supportive of Andrew getting help and eager to be educated on the mental health issues affecting their son, and how they could support him in getting well.

"I understand now how scary the whole time must have been for them," Andrew says. "They didn't know what was going on and didn't have a clue as to how to react."

A PEPP client for over five years, Andrew has had two relapses. Stress and individual responses to medication often play a role in increasing patients' symptoms. Andrew realizes that his relapses may have come from not taking his medication, but he says he didn't initially understand the need for continuing to take the medication.

"Many patients feel they are doing so well that they don't need their medication anymore," Hassall explains. Andrew now says that he won't make that mistake again and takes his medication faithfully.

Andrew has also found satisfaction in volunteering for PEPP. He is the volunteer co-lead of the PEPP Recovery through Activity and Participation group (RAP) for new patients in the program. He also volunteers for the Art, Music and Healthy Living groups. Andrew enjoys arranging



ANDREW MINDERLEIN

social outings and planning events for the groups. He encourages other clients to start socializing again, understanding how important this is for those who may have chosen to be isolated for so long.

Andrew is so involved in PEPP activities that many clients think that he is a staff member. He is always available to listen or tell his story.

"I REMEMBER WHEN I WAS SICK HOW GOOD IT WAS TO HEAR THAT OTHER PEOPLE HAD GONE THROUGH THE SAME THINGS," ANDREW REFLECTS.

Working with new clients and staying on his medication are helping keep Andrew well. He recently sat on an interview panel for the new Supported Employment Counselor in the program and has given presentations to medical students about his experiences to provide them with a better understanding of mental illness. "Andrew has had setbacks, but looking at all he has achieved, he offers hope. New clients see him doing well and think, hey, maybe that could be me," Hassall says.

With the help of PEPP's employment counselor, Shawna Molinaro, Andrew has been working as a custodian at a local fitness club for the past three months. After moving from place to place for so long, he is now happily living in his own apartment.

"I would really like a cat, but for now, I'm just concentrating on taking care of my plants," Andrew says.

Between volunteering, school and work, Andrew's life is busy, but balanced. He is grateful for finding PEPP and for working with the program to get well.

"Getting sick – some people make it sound like getting a cold or something. It's not. The people at PEPP helped me understand that I was sick, and that they could help," he says.

Andrew hopes to volunteer for PEPP for a long time to come and is excited about his future. He is submitting some of his paintings to the PEPP Creative Minds Art Show, and is planning a trip out west to see his mom. His relationship with his dad and stepmom is better and he looks forward to their family dinners on the weekend.

"I AM JUST GRATEFUL THAT I HAVE OPTIONS," ANDREW SAYS. "BEING PART OF PEPP HAS GIVEN ME THAT." ■

MENTAL HEALTH CARE PROGRAM

The Mental Health Care Program at LHSC offers a wide range of services, reflecting the diversity of our clients as well as the range of skills of our staff and physicians. The program's main focus has always been, and will continue to be, on providing the best in patient care.

Our mental health care teams provide evidence-based, compassionate care in partnership with other LHSC and community programs. We offer inpatient and outpatient services for adults, adolescents and children.

Our adult services include: centralized emergency psychiatry, coordinated intake, consultation-liaison, general adult ambulatory, geriatric outreach, inpatient, prevention and early intervention in psychosis, traumatic stress, and urgent consultation.

For adolescents and children our services include: day treatment, inpatient, outpatient, urgent consultation, eating disorders and outreach.

DR. CHRISTOPHER SCHLACHTA, MEDICAL DIRECTOR OF CSTAR (CANADIAN SURGICAL TECHNOLOGIES & ADVANCED ROBOTICS)

BUILDING THE FUTURE OF SURGERY

AS A CENTRE FOR INNOVATION, LHSC TAKES GREAT PRIDE IN BUILDING UPON ITS LEGACY OF MEDICAL BREAKTHROUGHS. IN RECENT YEARS, LHSC SURGEONS HAVE MADE SIGNIFICANT PROGRESS IN THE FIELD OF MINIMALLY-INVASIVE ROBOTIC-ASSISTED SURGERY AT CSTAR (CANADIAN SURGICAL TECHNOLOGIES & ADVANCED ROBOTICS).

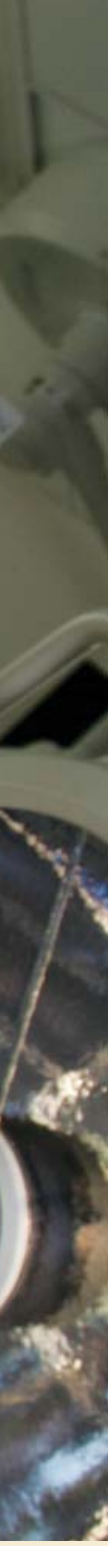
"I am a strong believer that the future of surgery is going to be computer-assisted, image-guided and robotic-assisted," says Dr. Christopher Schlachta, Medical Director of CSTAR, an LHSC research and education program in partnership with Lawson Health Research Institute and The University of Western Ontario.

DR. RAYMOND YEE AND A PATIENT PREPARE FOR A PROCEDURE AT LHSC.

SETTING THE PACE

LHSC TEAM LOWERS X-RAY NEEDS DURING PACEMAKER IMPLANTATION

Led by Dr. Raymond Yee, Medical Director, Arrhythmia Services, Division of Cardiology, a team of LHSC cardiologists has developed the world's first pacemaker implantation procedure using virtual reality technology, in partnership with the medical equipment firm Medtronic. A patient undergoes many x-rays during a conventional procedure to implant a pacemaker, with total x-ray time ranging from a norm of several minutes to as much as three-quarters of an hour. X-ray images are needed to guide the cardiologist during the procedure as to the position of the pacemaker. The new procedure requires only two or three x-rays. The images are fed into a computer to create a three-dimensional map of the chest. A low magnetic field is then created around the patient. Small magnets on a catheter used to deliver the pacemaker to the proper position in the heart are tracked on the computer, allowing the cardiologist to see the location of the catheter as it is being directed into the patient's chest. Both the patient and the health care team benefit from reduced exposure to x-rays as a result of this innovation.



On April 3, 2007, Dr. Schlachta, assisted by Dr. Ward Davies, LHSC's Chief of General Surgery, performed a robotic-assisted common bile duct exploration using CSTAR's da Vinci robot. It was a Canadian first. The use of robotics in Canada has tended to be in cardiac surgery and urologic surgery, making this particular innovation all the more significant for taking place in general surgery.

Dr. Schlachta and Dr. Davies had already performed a number of minimally-invasive gallbladder surgeries together using the da Vinci robot. It was when planning surgery for an elderly patient who had a large gallstone lodged in the bile duct that the surgeons decided to consider something new.

The method most commonly used at LHSC to dislodge a gallstone from the bile duct is that of ERCP (Endoscopic Retrograde Cholangio-Pancreatography), which is accomplished using a scope through the mouth, rather than surgery. But the patient, in this instance, had an anatomical abnormality that precluded this option.

Using the da Vinci robot for this very complex surgery on the bile duct promised all the benefits of minimally-invasive robotic surgery for the patient, 84. For conventional surgery, the patient would have been facing a one-week stay.

"We asked the patient what she would think of being the first to undergo this procedure at LHSC, a procedure done perhaps only five or six times before in the world," says Schlachta. The patient agreed.

Life cannot continue without an intact and functioning bile duct. The bile duct carries bile from the liver and the gallbladder into the small intestine, where it helps to digest fat. A blockage of the bile duct can be life-threatening.

What is it like to perform a new surgical technique for the first time? "You go into it having a lot of experience and knowing how to do the operation the conventional way," says Dr. Schlachta, "but there is still a certain amount of trepidation since it is the first time with this new technology. A basic tenet of medicine is to do no harm. We wouldn't attempt it without having confidence in our ability to succeed. In the end, I couldn't believe how easy it was to do what we wanted to do. It just went incredibly well.

"We derive great pleasure from patient success. To go and see the patient the same day and have her say, 'I feel good. When can I go home?' We feel a great sense of accomplishment." Discharge from hospital came the next day. ■

ANOTHER CANADIAN FIRST

On May 4, 2007, at LHSC's University Hospital, a cardiac surgery team led by Dr. Bob Kiaii, cardiac surgeon, performed Canada's first totally endoscopic closed-chest bypass surgery on a patient's beating heart. Using CSTAR's (Canadian Surgical Technologies & Advanced Robotics) da Vinci robot, the surgical team made only four one-centimetre incisions to perform the bypass surgery.

Previously, the team required a working incision of four to five centimetres as well as three one-centimetre incisions to perform coronary artery bypass surgery—a method that required a three-day hospital stay and four-to-six-week recovery period. This latest advance reduces the hospital stay to one to two days, and the recovery period to about one week.

In conventional coronary bypass surgery, the heart is stopped, and the patient is connected to a heart-lung machine during the procedure. An 18 to 20 centimetre incision is made and the breastbone cut to expose the heart. Patients typically stay in hospital for five to six days and require three months to recover.

Dr. Kiaii credits the cohesiveness of the cardiac surgery team for the steady advances being achieved at LHSC in the field of robotic-assisted cardiac surgery. "It has enabled us to go through the painstaking work required to reach a number of milestones." Members of the team include the anesthetist, respiratory therapist, surgeon, surgical assistant, nursing staff, and robotics technicians.

In 2004, the team was the first in North America to complete minimally invasive robotic-assisted heart bypass surgery and angioplasty with stenting at the same time in the operating room. It now leads the world in the number of times, more than 70, that it has performed this hybrid procedure.

Former LHSC cardiac surgeon Dr. Douglas Boyd performed the world's first robotic-assisted, closed-chest cardiac single bypass procedure on a beating heart at LHSC's University Hospital in 1999 in what Dr. Kiaii says was, "probably one of the biggest breakthroughs in cardiovascular medicine." Building on this strong legacy, LHSC cardiac surgeons, along with a dedicated surgical team, have achieved another six significant milestones in robotic-assisted coronary surgery since then.

Closed-chest cardiac surgery is not suitable for all patients who require bypass surgery. It is more likely to be an option for selected individuals with specific blocked arteries of the heart.

Today, robotic-assisted surgery is the norm for Dr. Bob Kiaii, who estimates that 85 to 90 percent of the operations he performs incorporate robotics. The team routinely performs robotic-assisted heart valve repairs, reducing patients' hospital stays from seven to ten days to just three or four.

Dr. Kiaii first trained in robotic surgery here in London, with Dr. Boyd. He returned to LHSC in 2003, after pursuing training opportunities in other centres, including a year in Germany. As LHSC began to build CSTAR, Dr. Kiaii built his team. From July to November that year, the team trained in the laboratory setting. It would be only a year later that the team would achieve a North American first. ■

London Health Sciences Centre

Caring for You. Innovating for the World.™

STATISTICS

WORKING AT LHSC

Medical Dental Midwifery	706
Nursing	3,241
Residents Fellows	618
Research	1,025
Technicians and Labs	880
Clerical	1,583
Service	1,133
Management	272
Allied Health	509
Other	483
Volunteers	800

PATIENT CARE

EMERGENCY VISITS

2007/08*	146,696
2006/07	142,371
2005/06	143,738

ABULATORY VISITS (EXCLUDING EMERGENCY)

2007/08*	668,006
2006/07	656,713
2005/06	627,489

ADMISSIONS

2007/08*	39,857
2006/07	39,648
2005/06	40,193

PATIENT DAYS

2007/08*	291,725
2006/07	287,170
2005/06	277,870

AVERAGE LENGTH OF STAY (DAYS)

2007/08*	7.32
2006/07	7.24
2005/06	6.91

OPERATING ROOM CASES

2007/08*	46,867
2006/07	46,522
2005/06	43,098

DAY SURGERY CASES

2007/08*	31,618
2006/07	29,548
2005/06	29,627

* BASED ON PRELIMINARY ESTIMATES

NORTH AMERICAN FIRST

DR. ALLAN SKANES (LEFT) AND DR. LORNE GULA

LHSC CARDIOLOGISTS FIRST IN NORTH AMERICA TO IMPLANT DEVICE THAT CONTINUOUSLY MONITORS HEART RHYTHM FOR ATRIAL FIBRILLATION

Dr. Lorne Gula and Dr. Allan Skanes, cardiologists at London Health Sciences Centre, were the first in North America to implant an insertable cardiac monitor that offers long-term and continuous monitoring for atrial fibrillation, the most common cardiac arrhythmia.

The diagnosis of atrial fibrillation can be difficult as episodes may have no symptoms and may therefore go unnoticed by patients. But the medical risks are well known: atrial fibrillation can lead to a two–to-seven times higher risk of stroke, and an increased risk of heart failure if rapid heart rates persist undetected for long periods of time.

Thanks to this innovation, "Canadian cardiac patients now have access to long-term, continuous monitoring of atrial fibrillation," says Dr. Lorne Gula, who implanted the device on March 20, 2008. "Patients with atrial fibrillation will now have additional peace of mind, knowing they are being monitored 24 hours a day." The device provides the cardiologist with detailed information that can be used in decisions regarding treatment.

Developed and manufactured by Medtronic, the new Reveal® XT insertable cardiac monitoring device is the next generation in cardiac monitoring. The original development was accomplished by Dr. George Klein, a cardiologist at London Health Sciences Centre, jointly with Medtronic more than 10 years ago with the Reveal® Insertable Loop Recorder.

"It's a good feeling to know that the device is monitoring my condition," said Gregory Thorp, 52, the first patient to receive the device. "I feel very lucky to be able to take advantage of this new cutting edge technology."

FIFTY YEARS AGO, THE LATE DR. CHARLES DRAKE, A WORLD-RENOWNED NEUROSURGEON, DEVELOPED A LIFE-SAVING SURGICAL PROCEDURE FOR ANEURYSMS AT THE BASE OF THE BRAIN. DR.STEVE LOWNIE REFLECTS ON THIS ACHIEVEMENT AND ON THE CAREER OF DR. DRAKE.

REACHING

THE ORDER OF CANADA RECOGNIZES LIFETIME ACHIEVEMENT.

Of the three levels at which this order is awarded, member, officer and companion, companion is awarded for merit of the highest degree. It recognizes a lifetime of outstanding achievement, especially in service to Canada or to humanity at large.

The late Dr. Charles Drake was appointed an Officer of the Order of Canada in 1982, recognized as "one of the best neurosurgeons of our time." In 1998, the level of this honour was elevated, to that of companion. "One of the world's most distinguished neurosurgeons, he has established a reputation for excellence and innovation that is unparalleled. An international authority on brain aneurysms, he has pushed medical boundaries by finding ways to operate on areas of the brain that were previously considered unreachable," the honour read.

This year, London Health Sciences Centre marks the 50th anniversary of a world first in neurosurgery by one of its most highly renowned medical leaders. It was in 1958 that Dr. Charles Drake developed a surgical procedure for aneurysms at the base of the brain, called basilar aneurysms. Reflecting on this achievement, Dr. Steve Lownie, Co-Chair and Chief of Neurosurgery, says boldness, motivated by compassion, was the driving force for this

DR. STEVE LOWNIE, CO-CHAIR AND CHIEF OF NEUROSURGERY, IN FRONT OF A PORTRAIT OF DR. CHARLES DRAKE.

THE UNREACHABLE

innovation. After four hemorrhages, the patient was running out of options, and facing near-certain death. Dr. Drake offered the patient the opportunity to try a new live-saving approach. It was the trust that Dr. Drake took great care to earn with his patient that helped the patient to choose a chance at life.

Was Dr. Drake a great surgeon and technical master? "That was not how he saw himself in comparison to others," says Dr. Lownie. "For Dr. Drake, the head and the heart were more important than the hands. He was totally open and honest with his patients. For this, he earned their trust."

Dr. Drake's career developed in the post-World War II era, before the advent of the advanced diagnostic technologies available to the neurosurgeon today. This made it difficult to determine when to operate, says Dr. Lownie, and as a result, other approaches were important.

"Dr. Drake became a very good neurologist," says Dr. Lownie. "He was very well respected by his colleagues who were not surgeons."

Dr. Drake was widely known in the hospital for his phenomenal work ethic, says Dr. Lownie. Neurosurgery operations are epic events, lasting many hours and requiring incredible stamina. Despite this, there was always time for personal interaction with the patient.

Dr. Lownie has long reflected on the qualities Dr. Drake brought to his work. One of these was integrity.

"'You have to be so honest that it hurts,' he would tell us. He was always honest if something went wrong. This was his way of establishing trust."

Another quality was humility. "He never referred to himself as Dr. Drake," remembers Dr. Lownie. "He would walk into a room and say, 'I'm Drake.'"

Making time for academic pursuits and keeping up to date contributed to Dr. Drake's success as an innovator. "He was not afraid to try something new, and if something new was developed elsewhere, he would bring it here."

Dr. Drake, as editor of the *Journal of Neurosurgery* held a central role in his field.

Finally, "He was able to bring out the best in people. He had a way of helping people to do better than they'd ever done before, but by themselves."

Today, a neurosurgeon commonly accesses a basilar aneurysm by means of a catheter through the femoral artery. When this approach is not possible and surgery is indicated, the technique pioneered by Dr. Drake is the way to proceed.

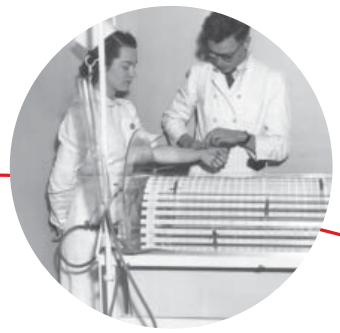
The legacy of Dr. Drake is honoured at LHSC's University Hospital in a memorial garden, and a portrait that hangs outside of Auditorium A, a meeting place for medical education. In his own office, Dr. Lownie has a photograph of Dr. Drake positioned on an angle, so as to look over the entire room. ■

A TRADITION OF DISCOVERY AND INNOVATION

MEDICAL BREAKTHROUGHS

LONDON HEALTH SCIENCES CENTRE COUNTS THESE MEDICAL BREAKTHROUGHS AS AMONG ITS PROUDEST ACHIEVEMENTS.

Our staff, physicians, and scientists are recognized internationally for the significant contributions they have made towards the advancement of medicine. Through these achievements, LHSC is improving the lives of people everywhere.



1948

The first artificial kidney machine in Canada is developed at Victoria Hospital

Physicians at Victoria Hospital are the first to recognize sexual dimorphism in human cells, leading to new knowledge of the relationship between sex chromosome abnormalities and human disease

1951

The first cobalt bomb in the world is used to deliver radiation therapy to cancer patients at Victoria Hospital

1956

The London Clinic of the Ontario Cancer Treatment and Research Foundation at Victoria Hospital (now the London Regional Cancer Program [LRCP]) and The University of Western Ontario discover the chemotherapy drugs vinca alkaloids

1958

Dr. Charles Drake pioneers a surgical procedure for aneurysms at the base of the brain, at Victoria Hospital

1972

Operations begin on cerebral aneurysms using a technique that establishes University Hospital's worldwide reputation

1981

University Hospital performs the world's first heart operation to correct life threatening right ventricular dysplasia

1983

University Hospital is the first in Canada to perform a heart-lung transplant

1985

A University Hospital team announces success in a trial using cyclosporine to arrest the progress of Type 1 diabetes

1987

The world's first pacemaker cardioverter defibrillator (PCD) is implanted at University Hospital

1988

The world's first successful liver-small bowel transplant is performed at University Hospital

The London Regional Cancer Centre (now LRCP) is the first Canadian site to treat malignant melanoma and kidney disease patients with Interleukin-2

1989

The first cardiac stent insertion in Canada is performed at Victoria Hospital

The world's first invasive inner ear surgery for vertigo in normal hearing ears is conducted at University Hospital

1990

LRCC is the first in Canada to use the radioactive source Ytterbium for treatment

1991

A study begins at University Hospital on the safety and efficacy of using detachable platinum coils to treat brain aneurysms

1993

Victoria and University hospitals collaborate on Canada's first living-related paediatric liver transplant

1994

The world's first 3D ultrasound-guided cryosurgery is performed at University Hospital

1996

A team of researchers accomplishes a world-first when they develop a miniature recording device that monitors the heartbeat during fainting spells

1997

LHSC's Multi-Organ Transplant team transplants a liver, bowel, stomach, and pancreas into a five-month-old infant, the world's youngest recipient of a multi-organ transplant

An LHSC nephrologist performs a world-first in plasma exchange treatment and is credited with saving the life of a man with a severe case of food poisoning

LHSC cardiac surgeons are the first in Canada to perform a revolutionary method of video-assisted minimally invasive heart surgery

1998

An LHSC team is the first in Canada to perform voice-activated robotic-assisted minimally invasive cardiac bypass surgery

1999

LHSC's surgical team successfully completes the world's first closed-chest, robotic-assisted beating heart coronary artery bypass graft

2000

LHSC's transplant team performs the first adult-to-adult living donor partial-liver transplant in Canada

LHSC's surgical team performs the first minimally invasive robotic-assisted mitral valve heart surgery in Canada

2001

Using Socrates robotic technology, LHSC conducts the world's first robotic-assisted surgery via telementoring, in which one surgeon assisted and mentored another at a remote site and both manipulated robotic arms inside the patient in the operating room

LHSC researchers are the first in the world to find strong evidence to support that surgery, not medicine, is the key to improved quality of life for temporal lobe epilepsy

The first artificial disc replacement in Canada is completed at LHSC

2002

An LHSC study determines that patients with congestive heart failure have an improved quality of life with a new pacemaker that works on both sides of the heart

LHSC cardiologists complete a left atrial appendage occlusion, a new procedure for stroke prevention that closes the area of the heart where the majority of blood clots form

Neurosurgeons at LHSC complete the first artificial cervical disc replacement in North America

LRCC is one of two sites in Canada and one of three in the world to have a tomotherapy unit, the newest radiation treatment technology

2003

Urologists at LHSC are the first in Canada to use the three-armed ZEUS robot to correct a blockage in the ureter of the kidney

Results of an international study show that the common high blood pressure drug ramipril can prevent heart failure in high risk cardiovascular patients

LHSC is the first in Canada and one of three in the world to use revolutionary digital technology to produce detailed fluoroscopic images for diagnostic and interventional procedures

LHSC surgeons are the first in Canada to use a four-armed da Vinci robot to complete a single coronary artery bypass graft

2004

In a Canadian first in research for CSTAR (Canadian Surgical Technologies & Advanced Robotics), the four-armed da Vinci robot is used throughout a surgery to complete a radical prostatectomy

A CSTAR team is the first in North America to complete two different procedures to clear blocked arteries, minimally invasive robotic-assisted heart bypass surgery and angioplasty with stenting, at the same time in the operating room

In a North American first, an interdisciplinary team successfully removes a renal artery aneurysm with the help of a da Vinci surgical robot

A small, multi-channel recording and stimulating device that aids in deep brain stimulation is developed at LHSC

2005

World's first robotic-assisted left atrial appendage ligation to reduce the chance of clot formation and stroke in high risk patients with atrial fibrillation is performed at LHSC

Canada's first minimally invasive robotic-assisted double bypass surgery is performed at LHSC

In an apparent world first, a robotic-assisted partial cystectomy is performed using the da Vinci robot

Canada's first robotic-assisted multi vessel small thorocotomy is performed at LHSC

2006

An LHSC team is one of two independent Canadian teams to first use new electroanatomical mapping technology to perform a pulmonary vein ablation for atrial fibrillation

2007

Canada's first totally endoscopic closed-chest robotic coronary artery bypass surgery on a patient's beating heart is performed at LHSC

Canada's first robotic-assisted common bile duct exploration using a da Vinci robot is performed at LHSC

The world's first pacemaker implantation procedure using virtual reality technology is performed at LHSC.

2008

LHSC is the first in North America to implant an insertable cardiac monitor that offers long-term and continuous monitoring for atrial fibrillation, the most common cardiac arrhythmia

DR. RAYMOND KAO

RESEARCH FINDING COULD IMPROVE ODDS FOR SOLDIERS WOUNDED IN BATTLE

SOLDIERS WOUNDED ON THE BATTLEFIELD COULD HAVE A BETTER CHANCE OF SURVIVAL and experience fewer complications thanks to a groundbreaking discovery made by Dr. Raymond Kao, a scientist at Lawson Health Research Institute, attending physician in the Critical Care Trauma Unit at London Health Sciences Centre's Victoria Hospital and Assistant Professor in the Department of Medicine (Critical Care) at the Schulich School of Medicine & Dentistry at The University of Western Ontario.

In a research study reported in September, Dr. Kao found that a hormone produced by the kidney, when combined with saline, improved blood flow

LAWSON
HEALTH RESEARCH INSTITUTE

As the research institute of London Health Sciences Centre and St. Joseph's Health Care, London, and working in partnership with The University of Western Ontario, Lawson Health Research Institute is committed to furthering scientific knowledge to advance health care around the world.

RESEARCH ACTIVITIES

Lawson Health Research Institute has 1,875 active clinical trials.

The total amount held in research accounts at LHSC is $56.3 million.

NEW CLINICAL TRIALS STARTED AT LHSC

2007/08 - 483

2006/07 - 436

2005/06 - 461

and tissue metabolism better than saline alone. "You always want to find ways to improve the resuscitative process, so I am looking at one aspect of that in order to improve a soldier's survival rate and decrease complications if a soldier is wounded in battle," says Dr. Kao.

"We are looking at something that a soldier or medic can easily give without a lot of fanfare that can save somebody's life. That's what I find so exciting about this research."

Dr. Kao, the principal investigator for the study, worked with four other scientists on the research project, which was funded by Canada's Department of National Defence. Dr. Kao, a Lieutenant Commander with the Canadian Forces, served in Afghanistan in the fall of 2007 as an internal medicine specialist. He also participated in a humanitarian mission to provide medical services to the citizens of Central and South America for five weeks.

DR. KAO CONTINUES TO SERVE AS AN ACTIVE-DUTY OFFICER WHILE DIVIDING HIS TIME BETWEEN DEPLOYMENTS AND TRAINING COURSES. HE HAS SERVED IN VARIOUS BATTALIONS AND UNITS AS A MEDICAL OFFICER SINCE 1991. A MEMBER OF THE MILITARY SINCE 1977, DR. KAO HAS SERVED IN BOSNIA, AFRICA AND THE MIDDLE EAST. ■

DR. WILLIAM CLARK, IN HIS OFFICE AT LHSC'S VICTORIA HOSPITAL.

TOO MUCH OF A GOOD THING?
WALKERTON STUDY YIELDS UNEXPECTED FINDING

YOU CAN NEVER HAVE TOO MUCH OF A GOOD THING, OR SO THE SAYING GOES. IN THE CASE OF FLUIDS, SUCH AS DRINKING WATER, RESEARCHERS HAVE DISCOVERED THAT SOMETIMES THE OPPOSITE IS TRUE.

In a study published in January in the *Canadian Medical Association Journal*, Dr. William Clark, a scientist at Lawson Health Research Institute, a nephrologist at London Health Sciences Centre and Professor at the Schulich School of Medicine & Dentistry at The University of Western Ontario, found that excessive fluid intake can lead to proteinuria, or protein in the urine. Proteinuria is known for causing kidney failure and has also been associated with cardiovascular disease—damaging blood vessels, which can lead to heart failure or stroke.

Proteinuria is often a side effect for individuals suffering from kidney disease, diabetes mellitus, or hemolytic uremic syndrome, a blood-clotting disease. As part of a screening study to assess the long-term health outcomes in residents of Walkerton, Ontario following the water contamination outbreak in 2000, Dr. Clark and his team of Walkerton *E.coli* Long-Term (WEL) investigators came across some significant findings. One hundred adults were identified as having proteinuria and polyuria (frequent urination), but had no medical history or medication use to explain their condition. Of the 100 individuals, 56 were then instructed to reduce their daily fluid intake to less than eight large glasses (two litres) per day for one week. Results showed that the proteinuria and polyuria were largely reversed. "These individuals were causing their condition from excessive water drinking," says Dr. Clark. "The treatment was simple. When the patients drank less water, we saw the condition go away."

"It is unknown at this time whether the reversible proteinuria associated with large fluid intake in these otherwise healthy people could affect their kidney function in the long term," said Dr. Clark. "Until such data is available from our longitudinal study, it may be advisable to discourage otherwise healthy people from consuming large volumes of fluid." ■

LAWSON
HEALTH RESEARCH INSTITUTE

PROMISING NEW FINDING IN THE FIGHT AGAINST CANCER METASTASIS

DR. JOHN LEWIS, IN HIS RESEARCH LAB WITHIN THE LONDON REGIONAL CANCER PROGRAM AT LHSC'S VICTORIA HOSPITAL.

Dr. John Lewis, a scientist at Lawson Health Research Institute, the Robert Hardie Chair of Translational Prostate Cancer Research at the London Regional Cancer Program at London Health Sciences Centre, and Assistant Professor in the Departments of Oncology, Surgery and Medical Biophysics at The Schulich School of Medicine & Dentistry at The University of Western Ontario, is part of a team of scientists that has identified a human protein that may be a new target for future cancer therapies. By experimentally blocking the action of this protein, called CD151, the researchers showed they could stop cancer cells from metastasizing, or spreading from one tumour to establish new tumours elsewhere.

Metastasis is a hallmark of late-stage cancer and contributes significantly to the large number of cancer deaths each year in Canada and the United States. In the cover article of the March 11 issue of the journal *Cancer Cell*, Dr. Lewis, and colleagues from The Scripps Research Institute in California, describe how blocking CD151 stopped the spread of human cancer cells within fertilized chicken embryos—an experimental model the researchers used for studying cancer metastasis.

According to Dr. Lewis, targeting this protein keeps cancer cells tied to their tumours. This may be the first time anyone has shown a potential way of blocking cancer metastasis at its very earliest stage—as the cells are first pulling away from their tumours of origin. While these results provide only a proof of concept, they suggest it may be possible to design a new way of fighting cancer by treating people with drugs that block CD151.

More than 72,000 Canadians die from cancer each year, making it the leading cause of premature death in this country.

The work started several years ago, when Scripps researcher Dr. James Quigley and his colleagues generated a unique antibody in mice that blocked metastasis. The antibody, as it turned out, targets CD151, a protein that sits in the cell membrane and had been associated with cell motility, or the ability of cells to crawl. Dr. Quigley and his colleagues initially assumed that the antibody would stop metastasis by preventing cancer cells from crawling. They were surprised to discover how it actually worked.

Dr. Lewis joined the research team to help identify the precise step in metastasis where the antibody was exerting its effect. Dr. Lewis developed a novel microscope-based imaging system to visualize cancer metastasis in the chick embryo. The group then used this system to capture all of the in vivo imaging data.

The scientists used an experimental system with fertilized chicken embryos with no shells. These embryos develop blood vessels when left in an incubator for several days, and cancer cells from metastatic tumours implanted into them will readily migrate through these blood vessels to form new tumour colonies in under a week. When Dr. Quigley and his colleagues treated the embryos with the antibodies, however, they found that the tumours did not metastasize. Instead, the cancer cells stayed tightly clustered.

It turns out that the antibody does not block motility at all. The imaging data revealed that the antibody halts intravasation—the moment when a cancer cell breaks free from its tumour. Somehow the antibody prevents the interaction that allows the cell to break free. Under the microscope, these cells can be seen in real time, trying to crawl away from the tumour mass only to snap back every time. The cells can crawl perfectly, but they are tied to their tumour.

The exact mechanism of this tethering is unclear, but the principle is clear enough. Without the antibodies, the cancer cells rapidly escape into the embryo vasculature and establish new tumours elsewhere.

Dr. Lewis's research team is currently following up on some of the findings by using intravital (live animal) imaging to study the process of intravasation, hopefully leading to news ways of fighting cancer. ■

LAWSON
HEALTH RESEARCH INSTITUTE

CONCLUDING MESSAGE

FROM DOUG ALEXANDER, CHAIR, BOARD OF DIRECTORS

The Board of Directors of London Health Sciences Centre is made up of 12 volunteer members elected from the community and seven members appointed ex officio. Our role is to provide oversight through three main duties: the selection and oversight of the chief executive officer, providing input into the preparation of a strategic plan, and monitoring the performance of the organization and the implementation of the strategic plan.

Elected members of the Board are selected on the basis of their skills and competencies in fields such as general management, accounting, law, human resources, technology and marketing communications. The selection process is very deliberate. We welcome individuals who have a set of skills that will help us to govern the hospital effectively and who can also provide advice and support for management.

The ex officio members of the Board are the President and Chief Executive Officer, the Dean of the Schulich School of Medicine & Dentistry at The University of Western Ontario, the President and Vice President of the Professional Staff Association, the Chief of Staff and the Board Chairs of London Health Sciences Foundation and the Children's Health Foundation.

The Ontario Hospital Association produced a *Guide to Good Governance* for the boards of Ontario's public hospitals. Using this excellent resource, the Board is moving forward to implement many of the best practices it contains.

In recent years, the Board has been preoccupied with financial issues facing London Health Sciences Centre. This year, as a result of progress on our financial issues, we welcomed the opportunity to balance our focus on cost of care with that of quality of care.

We monitor key quality measures and participate in ongoing activities to enhance our awareness of quality of care strategies and initiatives of the hospital. At recent Board meetings, we reviewed the hospital's process for the credentialing of the medical professionals granted privileges at LHSC and monitored various initiatives to manage access and waiting times. We also regularly review progress on strategies to improve outcomes and reduce infection rates.

It is also important for those of us serving on the Board to have an appreciation of the patient care experience. This year, I had the opportunity, with Board First Vice Chair Bob Siskind, of spending half of a day in the operating theatre observing surgery. We sincerely appreciated the opportunity to observe the activities of the operating room team.

It is a privilege to serve with my fellow Board Members in support of the work of London Health Sciences Centre. I wish to warmly thank the leaders, staff, physicians and volunteers of the hospital and our Foundations for your outstanding commitment.

In closing I wish to personally thank the members of the Board for giving so generously of their time, sharing their considerable experience and knowledge and above all, working together in a collegial and constructive manner for the benefit of our community.

Doug Alexander
Chair, Board of Directors

LONDON HEALTH SCIENCES CENTRE BOARD OF DIRECTORS 2007-08

DOUG ALEXANDER, CHAIR
PAUL ANDREWS
MONIQUE BERTRAND
HELEN CONNELL
WES DUNN
GLENN HARDMAN
CAROL HERBERT
IAN HERRICK
BERNICE HULL
PETER JOHNSON, 2ND VICE CHAIR
BRENT KELMAN
JEFF LOW
CLIFF NORDAL
BILL PEEL
BRIAN SEMKOWSKI
MITHU SEN
MARILYN SINCLAIR
BOB SISKIND, 1ST VICE CHAIR
GERRY WHEATON

A MOMENT TOGETHER

PATIENT CHRISTINE AGAR ENJOYS A MOMENT OF SUNSHINE ON AN EARLY SPRING DAY AT LHSC'S VICTORIA HOSPITAL
with father Larry, mother Helene and boyfriend David Sooklal. Christine is a student at Lambton College in Sarnia and a patient of the London Regional Cancer Program.

London Health Sciences Centre

Caring for You. Innovating for the World.™

London Health Sciences Centre
800 Commissioners Road East, P.O. Box 5010
London, Ontario N6A 5W9

Telephone: 519.685.8500
www.lhsc.on.ca

FSC
---FPO---