

SUNNYBROOK

Inventing the Future of Health Care

2009

LEADING
THROUGH
INNOVATION

**BUILDING CANADA'S
MOST COMPREHENSIVE
BREAST CENTRE**

**The Holland
Centre's New
Model for Hip
and Knee Care**

Code STEMI:
Saving Hearts
Around the Clock

*Confronting
Everyday Tragedies in the*
TRAUMA ROOM

**UNDERSTANDING
Anxiety Disorders**

**SUNNYBROOK
GOES GREEN**

ONE NIGHT LIVE™
Raises Funds for
Women & Babies

**A HAVEN FOR VETERANS:
The Dorothy Macham Home**

.....
*Dr. Sam Radhakrishnan,
Schulich Heart Centre
Interventional Cardiologist and
Sunnybrook's Physician Lead on
the Code STEMI Project*
.....



Sunnybrook
HEALTH SCIENCES CENTRE

A Message from Board Chair David A. Leslie and President and CEO Barry A. McLellan



It is our pleasure to share with you the fifth edition of *Sunnybrook Magazine*.

The theme for this year is Sunnybrook innovation. Our stories reflect how the Hospital is making strides across the organization by developing innovative approaches to teaching and research, ensuring the hospital has a sustainable future and is accountable to the many communities we serve. Each element contributes to quality patient care that is at the foundation of Sunnybrook; we are there for our patients and their families when it matters most.

Within the pages of this publication, you will read articles that reflect Sunnybrook's new four Strategic Priorities (Cancer, Heart and Stroke, High Risk Maternal and Newborn Health, and Major Trauma) and our seven programs: Brain Sciences; Holland Musculoskeletal (orthopaedic and arthritic); Odette Cancer Centre; Schulich Heart Centre; Trauma, Emergency & Critical Care; Veterans & Community and Women & Babies. We are very proud of all our programs, and how the organization is improving patient safety, becoming more accessible to the needs of elderly patients, and developing a strategy for ambulatory care. Our stories also demonstrate how Sunnybrook innovation is significantly impacting patients' lives during and after their time with us.

During this past year, we've made great progress with our construction. Our Emergency Department is double the size of the old department and its many innovations, including a new triage and minor treatment area, will help to improve patient flow at the hospital. Our expanded M-Wing will be

the future home of the Women & Babies Program, including a state-of-the-art Neonatal Intensive Care Unit and expanded capacity for labour and delivery. In addition, it will house Canada's largest and most comprehensive Breast Centre, and new facilities for leading-edge research in cardiac imaging and intervention.

Sunnybrook's vision is to invent the future of health care. In partnership with the University of Toronto, Sunnybrook leads by discovery, innovation, teaching and learning. At Sunnybrook, we are fortunate to have dedicated staff, physicians, volunteers and students who are committed to the one million patients who look to Sunnybrook each year for care and their extraordinary work is expressed within these pages.

We would like to thank you for your support and partnership as we continue to build our organization. As members of our community, you are an integral part of how we will achieve success.

Sincerely,

A handwritten signature in dark ink, appearing to read "David Leslie".

David A. Leslie
Chair, Board of Directors

A handwritten signature in dark ink, appearing to read "Barry McLellan".

Barry A. McLellan
President & CEO



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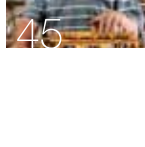
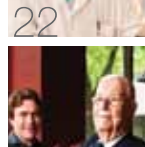
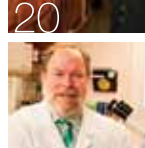
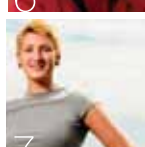
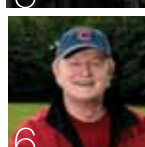
in•no•va•tion

in-uh-vey-shuhn

—noun

1. Something new or different introduced
2. The act of innovating; introduction of new things or methods

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On the cover

Dr. Sam Radhakrishnan is photographed in Sunnybrook's Imaging Research Centre for Cardiac Intervention (IRCCI), a state-of-the-art imaging centre that brings together the latest in innovative imaging technology with the best minds in clinical care and research. Uniquely designed to combine multiple medical imaging modalities, it is a Canadian first. The Code STEMI story is on page 6.

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Published by: The Communications & Stakeholder Relations Department (Public Affairs) at Sunnybrook Health Sciences Centre

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Caring for Vulnerable Babies and Their Families: Sunnybrook's Neonatal Intensive Care Unit



Amy is now a thriving eight-year-old who plays piano and dances competitively, but her parents have never forgotten the care she received as a baby

Amy Evanoff, NICU graduate, with her parents Dianne and Graham

After Amy Evanoff was born at just 26 weeks gestation, her mother, Dianne Evanoff, kept a diary of the key events in her daughter's life in Sunnybrook's Neonatal Intensive Care Unit (NICU). There were many small triumphs to record during Amy's almost two-month stay, but the events of March 8, 2001 stood out from all the rest.

"1:30: I was ready," Evanoff wrote on the long-awaited day when she was finally able to hold Amy in her arms – three weeks after her birth. "Graham was there with the camera in hand. I held that baby from 1:45 to 3:30." Looking back now, she says that day will live in her memory forever.

When Evanoff, a Toronto-area teacher, went into labour more than three months before her due date, she was airlifted to McMaster Children's Hospital in Hamilton, Ontario. Amy was transferred to Sunnybrook's Level III neonatal nursery two days after she was born, weighing in at less than two pounds.

Sunnybrook is one of three centres in Ontario's central east region with a nursery

for high-risk infants who have a serious illness and/or who are born extremely premature, and it will soon have expanded capacity (see sidebar). "We care for the smallest and the sickest babies," says Maureen Reilly, a NICU respiratory therapist. She remembers the day when Amy was stable enough to be held. "The first time a mom or dad holds a baby always strikes me, because it's such a lovely moment."

While some babies stay only a few days in the NICU, others such as Amy live there for several months. The NICU team helps families stay optimistic with holiday parties, celebrations on Mother's Day and Father's Day, and special acknowledgment for milestones such as the "Kilo Club," when babies reach the one-kilogram mark. "These parents trust us with their babies' lives," says Reilly, "and we often develop a special bond."

Amy is now a thriving eight-year-old who plays piano and dances competitively, but her parents have never forgotten the care she received as a baby. For several years, they made visits to the NICU with Amy to see the staff, and they keep in touch with

Reilly to this day. "Their continuing gratitude makes me realize that every little thing we do for these families means something," says Reilly. "We have such an important job." **ME**

The Move to Bayview

Sunnybrook will soon have expanded capacity to care for some of Ontario's most high-risk pregnancies and critically ill newborns. The new home of the Women & Babies Program is currently under construction with a scheduled occupancy date of fall 2010. There will be a state-of-the-art, family-centred Neonatal Intensive Care Unit (NICU) with 48 beds, up from the current 41. Each baby will have his or her own room in the unit, giving families greater privacy and comfort during a stressful time.

One Night Live™ Concert Event a Great Success

More than 11,000 supporters of Sunnybrook's Women & Babies Program attended One Night Live™ presented by Sun Life Financial, on May 21, at the Air Canada Centre. The concert featured performances by world-renowned artists Sting, Sheryl Crow and The Canadian Tenors and was hosted by Chris Noth, Mr. Big from *Sex & the City*. The concert raised more than \$2-million to support the construction of a new home for the Women & Babies Program that will include two new floors for births, high-risk pregnancies and critically-ill newborns.

World-renowned artists Sting and Sheryl Crow with event host actor Chris Noth and the Canadian Tenors at the concert on May 21 (Photos by Aric Guité)



Live to Tell With Sheryl Crow

On May 20, singer and breast cancer survivor Sheryl Crow performed for 500 Sunnybrook supporters at Live to Tell: Up Close and Personal with Sheryl Crow at the Angus Glen Golf Club. The event was hosted by former MP and breast cancer survivor The Honourable Belinda Stronach. The concert helped raise \$375,000 in support of the new Breast Centre.

Sheryl Crow on stage at Live to Tell; with event host The Honourable Belinda Stronach (Photos by Flow Photos)



Saving Hearts Around the Clock



Terry Jamison, the first patient in Toronto to benefit from the Code STEMI Transfer Program for emergency angioplasty

Not many people would describe the day they had a heart attack as “lucky,” but that’s exactly how Terry Jamison tells the story. The 65-year-old Ajax resident and owner of a home-improvement company was visiting a client in North York on Dec. 10, 2007 when he began to perspire and felt a tingling sensation radiate down his left arm.

“I had no idea that I had been walking around with coronary heart disease and was at risk for a heart attack but as soon as I felt that tingle, I knew what was happening and called 911,” recalls Jamison.

Toronto Emergency Medical Services (Toronto EMS) brought Jamison to the closest hospital – North York General Hospital (NYGH). Medical staff confirmed he was having a STEMI (ST-elevation myocardial infarction) and immediately sent him to Sunnybrook for emergency angioplasty.

“I found out later that if I had this type of heart attack before that day, I would have been kept at the first hospital on clot-busting drugs [thrombolytic] until a bed opened up and I could be transferred to a larger centre like Sunnybrook’s Schulich Heart Centre for the angioplasty I needed,” says Jamison.

The benefits of angioplasty, compared with therapy that uses clot-busting drugs alone, include a reduction in: death rates, recurrent

heart attacks, strokes, in-hospital length of stay and costs.

Jamison had his heart attack on the very first day Sunnybrook launched “Code STEMI” a new partnership with NYGH and Toronto EMS co-ordinating services to offer emergency angioplasty to patients presenting to NYGH with a STEMI. This initiative was the first of its kind in Toronto.

“Terry was the first patient in the city to benefit from the Code STEMI Transfer Program for emergency angioplasty and it’s rewarding to see how well he’s done,” says Dr. Sam Radhakrishnan, interventional cardiologist and physician-lead of the Code STEMI project.

“What’s really exciting is that there now exists a co-ordinated collaboration between Toronto EMS and four heart centres to provide this cutting-edge care to virtually all STEMI patients in the city 24-7,” says Dr. Radhakrishnan, who is also an assistant professor of medicine at the University of Toronto. “This is fantastic news for heart attack patients in the city, and the true credit for the success of this program goes to the efforts of the entire team: paramedics, the cath lab and recovery critical care and ward staff at each hospital.”

In addition to providing transfer services, Toronto EMS is now able to diagnose STEMIs

in the field and directly transport patients to angioplasty centres such as Sunnybrook, saving valuable time and further improving outcomes. “Because of the Code STEMI initiative, I received the right care, in the right place, at the right time and my quality of life has returned to normal,” says Jamison. “That’s pretty lucky if you ask me.”

LL

Here is how a Code STEMI works:

- A patient with chest pain calls 911.
- An ambulance crew of advanced-care paramedics arrive at the scene.
- Advanced-care paramedics obtain a targeted history from the patient and use an electrocardiogram (ECG) to determine if something is wrong.
- If a STEMI (a type of heart attack) is confirmed, paramedics call Sunnybrook’s Cardiac Care Unit (CCU) using a dedicated STEMI hotline and relay the vital information to a CCU nurse.
- A Code STEMI is immediately triggered at Sunnybrook, which activates catheterization laboratory team members (interventional cardiologists and nursing staff).
- The patient arrives at Sunnybrook and is taken to a prepared cath lab where an emergency angioplasty is performed. Through a small catheter inserted into the patient’s wrist or groin, a balloon and stent are positioned at the site of the blocked heart blood vessel (artery) causing the heart attack. The balloon and stent are expanded to open the blocked artery, restoring normal flow of blood and oxygen to the heart and stopping the heart attack.
- Following the angioplasty, the patient is transferred to a CCU bed at Sunnybrook for monitoring and nursing care.

The Trauma, Emergency and Critical Care Program: Interprofessional Team Confronts Everyday Tragedies

Joan Digaetano arrived at Sunnybrook's Emergency Department on a bitterly cold day in November 2005 after hearing that her 20-year-old daughter Rhiannon Rucas had been in a car crash. Dr. Fred Brenneman, medical director of Trauma Services, came out to tell her that Rucas had lost one leg and was in danger of losing the other. "I just fell to the ground," recalls Digaetano.

Despite the nightmare of those first few days of a two-month-long stay at the hospital, Digaetano says she will never forget the personal warmth and professional excellence of the many people involved in her daughter's care. "The whole trauma team was amazing. The crisis counsellors who met me at the door after the first time I was allowed to see Rhiannon, the nurse who stayed past the end of her shift to be with Rhiannon, Dr. Brenneman taking the time to talk to me and tell me that she was going to be OK, the surgeons explaining everything – they were all amazing."

Keeping families informed is crucial, says Dr. Brenneman, who is also an associate professor of surgery at the University of Toronto. "The traumatic injury is always unexpected, and there is often a lot of uncertainty around outcomes, long-term disability and, sometimes, survival."

Sunnybrook's Trauma, Emergency and Critical Care program uses an interprofessional model of care that has been emulated internationally. Within the first few hours of arrival, a trauma patient may see up to 30 different specialists whose combined expertise increases the chances of survival and ultimate quality of life. "I take pride and comfort in knowing that each patient receives the best possible trauma care in the world at Sunnybrook," says Dr. Brenneman.

Dr. Hans Kreder, program chief of Sunnybrook's Holland Musculoskeletal Program and associate professor of surgery at U of T, was able to save Rucas's remaining leg after several surgeries. "Every time I'm at Sunnybrook I go to see him," Rucas says. "Words cannot describe what he and his team did for me."



Rhiannon Rucas, who was treated at Sunnybrook after a serious car crash in 2005

Trauma at Sunnybrook

Sunnybrook's trauma service is the oldest and largest trauma program in Canada. Since it was launched in 1976, more than 20,000 trauma patients have received care at Sunnybrook with an overall survival rate of 89 per cent. In the past five years, the survival rate has increased to 91 per cent.

After recent renovations, the Emergency Department and Tory Regional Trauma Centre have expanded. With additional medical imaging equipment, state-of-the-art infection prevention capability, more stretcher bays and a new trauma room, the revamped facility will further enhance Sunnybrook's capacity to care for Ontario's most critically ill and injured patients.

Provincial Colorectal Cancer-Screening Program Led by Sunnybrook Scientist a Canadian First

The findings underscored powerfully the need for social marketing campaigns to raise the public's awareness of colorectal cancer



Dr. Linda Rabeneck

After decades of treating patients, Dr. Linda Rabeneck decided to combat colorectal cancer at its most critical point: before it appears.

Working with a team from Cancer Care Ontario, Dr. Rabeneck made the case for an organized provincial screening program and public education campaign to fight colorectal cancer. Dr. Rabeneck, who is a senior scientist at Sunnybrook Research Institute (SRI) and Chief of Sunnybrook's Odette Cancer Centre, marshalled compelling evidence from scientific publications and her own research.

Despite the fact that colorectal cancer is curable if detected early, it remains the second leading cause of cancer death in Canada. This year, about 9,100 Canadians will die from the disease, a bleak statistic confirming that many of the diagnoses are being made far too late.

In a 2004 study, Dr. Rabeneck and her colleagues examined how familiar Ontario resi-

dents aged 50 years and older were with the fecal occult blood test (FOBT), a screening tool for colorectal cancer that detects microscopic blood in the stool. They found that only one-half of the respondents knew about the test. Moreover, only 17 per cent were willing to take it.

"The findings underscored powerfully the need for social marketing campaigns to raise the public's awareness of colorectal cancer – how common it is in our country, in our province—and [the existence of] effective screening tests that can and should be used," says Dr. Rabeneck, who is also a professor of medicine at the University of Toronto.

In 2007 the Ontario government, in partnership with Cancer Care Ontario, launched ColonCancerCheck, the first province wide colorectal cancer-screening program in Canada. Dr. Rabeneck is ColonCancerCheck's clinical lead and chairs the Clinical Advisory Committee.

Designed to reduce colorectal cancer deaths by increasing the rate of early detection, the five-year, \$193-million program funds the screening of Ontario residents aged 50 to 74 years with no family history of the disease, using the FOBT. The program also funds colonoscopy screenings of people with an immediate relative who has had colorectal cancer.

First made available in April 2008, FOBT kits are distributed free by health-care providers across Ontario. So far, Ontario residents have completed tens of thousands of the kits, and have sent them back to designated labs for testing. Says Dr. Rabeneck: "It has been very rewarding to be part of the initiative. It's not fully implemented yet, but as we move forward we have no doubt that we will be saving lives from this cancer."

AK



More information about the FOBT is available at www.coloncancercheck.ca.

Patient Safety Walk-Arounds Prompt Innovative Thinking and Change

Other Innovative Patient Safety Initiatives at Sunnybrook:

- An industrial engineering student is working with the Performance Improvement team to decrease the time it takes for blood specimens to reach the labs. Analyzing this process through an engineering lens is valuable in identifying process improvements. This project, which involves many health-care team members, seeks to improve the turnaround time of blood-test results.
- To reduce potential errors, oxygen and air valves in patient rooms are being marked in a more distinguishable manner to prevent identification errors.
- For implementing bar-coding as part of the identification and matching process, Dr. Jeannie Callum and her team in the blood-transfusion project and Dorothy Dougherty, registered nurse, in the Women & Babies Program (for identification of breast milk) have received award-winning results.



Since 2005, Sunnybrook has been conducting patient safety walk-arounds in patient care areas as a way to improve safety for patients. This activity also allows senior leaders and front-line staff to exchange ideas and information about safety-related issues.

Patient safety walk-arounds are conducted every other week with an interdisciplinary team. An assigned senior leader guides dialogue with staff using questions designed to focus on patient-safety issues. These questions stimulate discussion and encourage participants to share their concerns about patient safety as well as their suggestions for improvement. During the walk-around, staff are asked to select three key issues that, if addressed, would improve the safety for their patients. The senior leader who conducted walk-arounds is then responsible for following-up with the most appropriate people to resolve the issues that were raised.

Some issues might take longer to be resolved than others; therefore providing timely feedback to the front-line staff and managers

on actions and progress is important. Such communication builds trust and shows that patient safety is and will remain a high priority for the organization.

"Walk-arounds are not only an opportunity to fix issues. They also strengthen the communication between senior level managers and the bedside staff who work in the reality every day," says Ru Taggar, director of Quality & Patient Safety at Sunnybrook. "They bring to light examples of the things that can impact a work environment, but that are fixable and are not necessarily that costly to fix."

Of the recommendations that have been brought forward since 2005, a 70 per cent completion rate has been achieved with over 100 recommendations implemented.

Examples of some recommendations that have been addressed:

- Oral liquid potassium chloride 15mL and multivitamins 15mL had similar labels and packages which made it difficult to tell them apart. Pharmacy now differentiates these by manually highlighting the potassium chloride label in yellow.

- Nursing staff needed to understand how to initiate contact with the Rapid Response Team when a patient is rapidly failing. Dr. Martin Chapman, intensivist, met with staff to explain the role of the Rapid Response Team.
- One of the participating units noted that IV poles were not strong enough to hold multiple pumps – in particular the newer pumps. Ten new IV poles were obtained for that unit and the older poles were removed.

"Looking at the smaller issues that impede staff is so critical to providing consistently good care," says Alison Welch, chief financial officer at Sunnybrook. "This ideology is continuing to spread throughout the hospital, evolving the culture of patient safety that we have at Sunnybrook."

LB

A Haven for Veterans and Their Families: The Dorothy Macham Home



Dr. Jocelyn Charles with nurses June Chan-Tse and Perlita Garcia

The first facility of its kind in Canada, the Dorothy Macham Home opened in 2001 with funding from Veterans Affairs Canada

Whether they are baking bread in the comfortable kitchen, visiting with family around the fireplace or taking a quiet walk in the garden, the residents of the Dorothy Macham Home at Sunnybrook Health Sciences Centre enjoy all the comforts of home. Yet they also benefit from leading-edge care in an innovative facility designed specifically for Veterans with challenging behaviours due to dementia.

"When you walk in the door, it doesn't feel like an institution or a hospital," says Sue Whittick, whose father, Douglas Woodall, is among the current residents in the Macham Home. Woodall, a former RCMP officer and owner of a successful insurance restoration business, began experiencing severe dementia five years ago at age 77. He lived in Sunnybrook's Cognitive Support Unit until he began having aggressive outbursts which led to a referral to the Macham Home for specialized care.

The first facility of its kind in Canada, the Dorothy Macham Home opened in 2001 with funding from Veterans Affairs Canada. "We were seeing an increased prevalence of dementia in our long-term care facility, while also recognizing that some Veterans with dementia had aggressive or disruptive behaviour," says Dr. Jocelyn Charles, medical director of the Veterans Centre at Sunnybrook. "We decided that they needed a special therapeutic environment where staff were trained to respond to their needs in a way that would reduce those behaviours. It's a different model of care because

Veterans stay for however long they need in this special environment – which is different from most behaviour units across Canada."

At the Macham Home, which has 10 private bedrooms and accepts residents based on need, an interdisciplinary team creates individualized care plans aimed at minimizing frustration and confusion in residents' daily lives. "When people lose cognitive ability, they're not able to express their needs, to tell the people around them that they're in pain, hungry, cold, lonely or disoriented. So they feel frustrated a lot of the time," says Dr. Charles. "When staff really get to know the residents and learn to recognize changes in their facial expressions and body posture, they can respond to the underlying needs and decrease the disruptive behaviour." Staff members also know how to recognize and avoid the triggers of post-traumatic stress disorder, which affects many Veterans.

In addition to specially educated staff, the physical environment in the Macham Home plays a pivotal role in diminishing challenging behaviour associated with dementia. It looks and feels like a home, which provides crucial familiarity to the Veterans, but it also boasts state-of-the-art design features. There are floor sensors in the bedrooms to alert nurses to wandering residents, who can sometimes spark conflict. An internal wandering path away from the bedrooms allows residents to walk without mistakenly entering the wrong room. The doors that are off-limits are camouflaged to prevent feelings of confinement. And the gardens have no visible

fences, which could be disturbing to former prisoners of war.

A comprehensive evaluation showed the Macham Home has been highly successful in reducing challenging behavioural symptoms in its residents, while also producing a significant decline in incidents involving disruptive behaviour and aggression in the regular long-term care units. "It's a win-win situation," says Dr. Charles, "and it furthers our goal of improving the quality of life of all our Veterans."

Whittick says her father has responded extremely well to the Macham Home's unique model of care. "He's much better now. He's very, very comfortable there," she says. "The nurses are phenomenal, and you can clearly see the evidence of their knowledge, because the place is different from anywhere else. But it's not just their education, it's their compassion."

Staff members accompany Woodall on outings geared to his long-time passions, whether it's a fishing trip or a visit to the horse stables on Sunnybrook's grounds. Residents also have access to art, music and recreation therapists on staff, with a pharmacist, physical therapist, occupational therapist, pastor, social worker and geriatric psychiatrist available as needed. "I wish there were Dorothy Macham Homes right across Canada for all seniors with dementia," says Whittick. "They all deserve that level of care."

ME

Schulich Scientist Develops a Method of Access Through Dense Artery Blockage



Dr. Bradley Strauss

Dr. Bradley Strauss is a clinician-scientist in the Schulich Heart Research Program at Sunnybrook Research Institute and a professor in the Department of Medicine at the University of Toronto. He is also forging paths that have stymied those who came before him.

Dr. Strauss has devised a method of life-saving access through an otherwise impenetrable passage called a chronic total occlusion (CTO). Chronic total occlusions are coronary arteries that have been totally blocked for at least six weeks, and they are notoriously resistant to thoroughfare. Strauss's innovation involves the injection of an enzyme called collagenase into the occlusion to soften the dense blockade of collagen that has entirely obstructed the artery.

A major cardiovascular problem, CTOs are relatively common. About 30 per cent of coronary angiograms and 50 per cent of leg angiograms reveal CTOs in patients. These medical conditions frequently cause major cardiac symptoms in their victims, including chest pain and shortness of breath, and likely contribute to decreased survival. Additionally, they're not well understood by the general public and are very difficult to treat. Angioplasty success rates in coronary CTOs are around 50 per cent, far lower than the 95 per cent achieved

through treating arteries that are narrowed but not fully blocked. As such, CTO patients are usually referred for more invasive bypass surgery or treated with medications and forced to live a restricted lifestyle.

Dr. Strauss's development is impressive because there typically isn't room to draw a wire through a CTO because the blockage is too solid. "There's no space," he says. "The stuff blocking the artery is often like cement, and you can't get the wire through."

Up until now, technicians bent on solving the CTO dilemma have concentrated their efforts on mechanical solutions by developing stronger, more deliberate guidewires. Dr. Strauss's softening effect is a biological solution that allows a physician to pull an angioplasty guidewire across the occlusion successfully, without damaging any of the normal layers of the blood vessel.

Dr. Strauss, who holds the Reichmann Chair in Cardiovascular Sciences at Sunnybrook's Schulich Heart Centre and is director of interventional cardiology research at the hospital, is poised to test a collagenase formulation in a clinical trial—the first of its kind in the world. This research chair was generously funded by Paul and Lea Reichmann and will be an integral part of redevelopment of The Schulich Heart Centre.

LP

Some Facts About Chronic Total Occlusions:

- A chronic total occlusion (CTO) is an artery that has been completely blocked for at least 60 days.
- CTOs account for between 20 - 30 per cent of current coronary disease cases. They are found in 20 - 30 per cent of all angiograms. They can occur in isolation, or there might be blockages in the other arteries.
- There are three methods of treating CTOs: percutaneous intervention (in which doctors use conventional guidewire techniques to poke their way through a blockage), coronary artery bypass surgery and medical management (drugs to treat CTOs include nitrates, calcium and beta-blockers).
- Fewer than 10 per cent of CTO cases are managed by percutaneous intervention, about 25 per cent are managed by surgical means and 65 per cent are controlled by medications alone.
- The procedure takes between 45 minutes and three hours to complete.
- The guidewire technique is successful 50 - 60 per cent of the time.
- There is evidence that opening up CTOs significantly improves patient symptoms, can improve the function of the heart and may even prolong survival.

Life in the Balance

Ten Years and Two Trials Bring Sunnybrook Researchers to the Brink of New Guidelines for Preterm Birth



Dr. Elizabeth Asztalos

A “negative trial” – when a treatment under evaluation fails to provide the outcomes that researchers were expecting—can still positively affect clinical care. The MACS study (Multiple courses of Antenatal Corticosteroids for preterm birth), results of which researchers at Sunnybrook and other Canadian hospitals published in 2008, is a case in point.

Corticosteroids, when given in a single course to mothers at risk of giving birth too early, dramatically and safely reduce illness and death in preterm infants. But, evidence shows benefits are reduced if the mother does not deliver within seven to 10 days of treatment. For these women, some studies suggest possible benefits in additional courses of antenatal corticosteroids. However, pre-clinical research also suggests potential for harm. MACS researchers sought to determine if antenatal steroids given every two weeks would confer benefit without harm; instead, they found that bi-weekly courses did little to improve babies’

outcomes. Moreover, the treatment was associated with significantly less fetal growth: infants weighed less, were shorter and had smaller heads.

The study raised a red flag for clinicians, many of whom were prescribing multiple courses of steroids, and spawned a critical research question: if biweekly doses can hinder fetal growth, could they impair long-term neurological development? The answer lies, partly, in MACS-5, a five-year follow up study underway at Sunnybrook Research Institute’s Centre for Maternal, Infant and Child Research.

Led by Dr. Elizabeth Asztalos, director of the centre and an associate professor at the University of Toronto, MACS-5 will enroll about two-thirds of the 1,900 women who participated in MACS. The study will compare the vision, hearing, motor and cognitive skills of the five-year-old children whose mothers received multiple courses of steroids with those whose mothers received a single course.

This long-term study is essential, says Dr. Asztalos, because “we’re very concerned about what the effect of steroids may be on the brain, and we may not see those effects until a child is older.” Rigorously compiled evidence from MACS-5, together with results from an ongoing six-year Australian trial, promise to secure the answers. “The results of those two trials should provide the evidence that clinicians and their organizational bodies need to draft new clinical guidelines,” says Asztalos.

The need for new guidelines is pressing: between seven and 10 per cent of births in North America are preterm, and account for 75 per cent of newborn babies’ deaths. “If we don’t give some definitive answers about the long-term effect of the medication on the children, we won’t be able to say whether it’s good, bad or doesn’t do anything,” says Dr. Asztalos. JO

Results of MACS-5 should be available in 2011. The trial is funded by the Canadian Institutes of Health Research.

The Holland Centre's New Model of Hip and Knee Care Fulfilling Patients' Needs

Key Elements of the Holland Centre Hip & Knee Arthritis Program

- Central intake and referral management
- Advanced practice physiotherapists
- Assessment centre
- Surgeon consult
- Post-operative followup

Hip & Knee Arthritis Program Benefits for Patients

- Shorter wait times
- Choice of surgeon or next available appointment
- Prompt assessment
- Education and community resources
- Access to appropriate services sooner



"As a potter, I have to lift boxes of clay that weigh about 22 kilograms per box," says Marcia. "Lifting the box and going down stairs was becoming very difficult, and I was never sure of my footing. When I was having a bad knee day, my family definitely noticed that I wasn't a happy camper!"

In September 2007, Marcia visited Sunnybrook's Holland Centre Hip & Knee Arthritis Program (HKAP) following a referral from her family doctor. In support of the Ministry of Health and Long-Term Care's priorities for improved access and reduction in wait times, the HKAP provides prompt access, triage and assessment. The HKAP is based on a centralized intake and assessment model where patients have the option of requesting a specific surgeon or accepting the first available appointment with any one of the surgeons on the health-care team. The program is part of the Toronto Central Local Health Integration Network.

On her first visit, Marcia met an advanced practice physiotherapist and a nurse who

confirmed that she qualified for a knee replacement. At the HKAP's assessment centre, advanced practice physiotherapists now triage and prioritize all incoming referrals and are the first point of contact for patients referred with hip or knee pain – a role that was traditionally fulfilled by an orthopaedic surgeon. Preoperative assessment, education and follow up care after discharge from the hospital is also now largely provided by advanced practice physiotherapists.

Within eight weeks of her initial referral to the Holland Centre, Marcia met with an orthopaedic surgeon. After her surgical consultation, she was scheduled for knee-replacement surgery less than six months later. The staff at the Holland Centre provided Marcia with educational resources to help her prepare for surgery, including web-based information and print booklets such as *A Guide for Patients Having Hip or Knee Replacement*, which acts as a guide before surgery, during hospital stay and throughout recovery. "I knew exactly what I was going to go through," says Marcia.

Following surgery in January 2008, Marcia scheduled physiotherapy sessions and visited the post-operative follow up clinic at the Holland Centre to assess her progress after surgery. "By the end of April, I could work again and move about normally. I had stopped using pain medication fairly quickly, and by the six-month mark after surgery I was totally happy," laughs Marcia. "The staff at the Holland Centre was very thorough and helpful."

In its efforts to continue providing the best patient care possible, the Holland Orthopaedic & Arthritic Centre is currently developing partnerships with a number of community organizations that offer programs for patients with arthritis, including the YMCA and the Arthritis Society.

SD

Marcia has benefited from the new Model of Hip and Knee Care at the Holland Centre

Sunnybrook to Build New Breast Centre



Dr. Eileen Rakovitch with Marguerite Ward

The Sunnybrook Breast Centre will help thousands of women with breast cancer, as well as those at risk of developing the disease.

To be located in the newly expanded M-Wing at Sunnybrook's Bayview campus, the Breast Centre will be a world-class breast centre that will provide:

- leading technology in breast imaging to improve the early detection of breast cancer;
- expanded clinical space to improve breast cancer care;
- expanded breast cancer research.

Longer-term plans for the Breast Centre include a Rapid Diagnostic Assessment Unit for women with suspected disease and expanded resources to screen women.

"The Breast Cancer Care Program at Sunnybrook is a fully comprehensive program," says Dr. Eileen Rakovitch, chair, of the Breast Cancer Care Program, Sunnybrook's Odette Cancer Centre. "We are very fortunate to have a team of dedicated physicians and scientists who are international leaders in the full spectrum of breast cancer

research including breast cancer prevention, early detection, clinical trials and psychosocial research to find better treatments that improve the survival and quality of life for women with breast cancer."

"We are also extremely active in leading breast cancer research that provides more tailored treatment to the individual to help improve quality of life," says Dr. Rakovitch, associate professor in the Department of Radiation Oncology at University of Toronto. "For example, we are conducting research into innovative and more effective radiation treatments with reduced treatment time, more minimally invasive, image-guided breast-conserving surgery, novel drug therapies more tailored to the individual, and research into imaging technologies for more accurate and early detection, and for rapid tracking of individual treatment response."

The Breast Cancer Care Program at Sunnybrook offers care to over 2,500 women a year who are newly diagnosed with breast cancer and accommodates about 20,000 patient visits per year related to breast care.

NCS

Brief highlights of breast cancer research conducted by Sunnybrook researchers:

- Hormone replacement therapy in women with BRCA1 mutations shown to not lead to an increased risk of breast cancer
– Dr. Andrea Eisen
- Magnetic resonance imaging for earlier and better detection of breast cancer in women with BRCA1 and BRCA2 mutations
– Dr. Ellen Warner and Dr. Don Plewes
- The role of HER-2 and topoisomerase II alpha as predictors of response to chemotherapy
– Dr. Kathleen Pritchard
- The benefits of surveillance mammography after treatment of primary breast cancer
– Dr. Lawrence Paszat

“

I can enjoy entertaining my family and friends again, now that I'm cancer-free.

Lola Philp, Odette Cancer Centre Patient

”



Odette Cancer Centre: A world leader in cancer care and research

In 2004, Lola had a lumpectomy and radiation treatments at Sunnybrook, and has since been in remission. Our new Breast Centre will bring innovation to the treatment of all stages of breast cancer.

Building a new Breast Centre

Innovations developed at our Breast Centre will save the lives of countless women here and around the world. We need your help to build a supportive facility for women battling cancer.

Donate at
www.sunnybrookfoundation.ca
or call 416-480-4483



Sunnybrook: An Elder-Friendly Hospital



Sunnybrook has a distinguished history in caring for the elderly, and this tradition continues today. Here are four innovative programs designed to meet the needs of the growing senior population

IMPACT Clinic

In order to develop optimal models of care for seniors with multiple chronic illnesses, Sunnybrook's Department of Family and Community Medicine has created the Interprofessional Model of Practice for Aging and Complex Treatments (IMPACT) Clinic. Funded by HealthForceOntario, IMPACT is one component of the department's current research focus on better understanding the experience of seniors and improving care for those with chronic disease.

A doctor's appointment typically lasts 15 minutes, but at IMPACT, appointments last 90 minutes. Patients benefit not only from the advice of a family physician, but from an interprofessional team of experts that include a pharmacist, occupational therapist, physiotherapist, social worker, community nurse and dietitian – all of whom are available at each appointment. "Most patients are amazed and are very positive about the clinic," says Dr. Leslie Nickell, a family physician with the IMPACT team.

At the beginning of the appointment, the patient and his or her family member meet with a family doctor while other health-care professionals watch on a monitor in a nearby room. During this initial discussion between the patient and doctor, the team listens and observes to identify potential strategies to improve the health status and function of the patient.

Then, as needed, the other team members meet with the patient and family to complete further assessments and/or review their observations and recommendations. For example, if the patient could benefit from using a cane, the occupational therapist would enter the interview room, measure the patient for a cane and teach him or her how to use it.

"The crux of the program is that it's an interprofessional team working in real time at the same time," says Dr. Nickell. "It's incredibly efficient. No time is lost." Health-care trainees from multiple disciplines also participate, ensuring that the health-care providers of tomorrow develop the necessary skills to work in a team environment. An evaluation of the IMPACT Clinic is underway and the early indications are that this innovative model of care is well received by patients and families.

W.P. Scott Geriatric Day Hospital

On referral from a family physician, seniors can attend this Sunnybrook outpatient program to learn new skills that will allow them to continue living at home.

Seniors attend the program once or twice weekly for three to five months. An interprofessional team helps participants improve memory and cognition, and addresses emotional concerns. An occupational therapist demonstrates aids to daily living, such as easy-to-grasp pens.

Outside on the putting green, a recreational therapist introduces new leisure skills or re-introduces activities the seniors once enjoyed but have since given up. And in the Falls Prevention Program, a physiotherapist instructs on how to prevent falls by improving balance.

Diabetes Education

Diabetes requires patients to take an active role in their own care. But if seniors develop the disease at age 75 or older, they might already be managing other health problems. To address the elderly patients' unique needs, Sunnybrook's Diabetes Education Program pared down its two full-day education program to two half-days. And if patients have a question, they can phone a dietitian or diabetes-care nurse.

SPPICES

The goal with the screening tool SPPICES (stability/falls, polypharmacy, pain, incontinence, confusion, eating/nutrition, skin) is to provide earlier intervention, through an interprofessional team of health-care providers, in managing the care of seniors. This screening tool for patients is used within the first 24 hours to identify and assess potential screening complications associated with hospitalized adults over the age of 70. It is intended to enhance the care already being provided for patients. Adapted from a model at North York General Hospital, the screening tool is now used in four acute-care units in General Medicine at Sunnybrook.

SP

Groundbreaking “eSheet” Web Technology to Benefit Patients and Staff



Sunnybrook Health Sciences Centre recently developed and launched a groundbreaking new web technology tool called “eSheet” that is enhancing the patient and staff experience.

A provincial first, eSheet is an electronic version of the paper order form used by doctors. eSheet is now being used at Sunnybrook’s Odette Cancer Centre. With the new technology doctors’ orders (for requests such as blood tests, chemotherapy and radiotherapy, and appointments for diagnostic imaging) are now being entered into computer by physicians and then processed online by clerical staff. Pop-up reminders appear on-screen to prompt the user for required information, ensuring that nothing is overlooked or incomplete on the form.

“Ultimately patients will benefit from eSheet because the processing time for orders will

be greatly reduced, thus ensuring they are able to get their blood test or chemotherapy treatment, for example, that much faster,” says Oliver Tsai, director of information technology at Sunnybrook. “Orders will now be more legible, comprehensive and immediately available to all who need to see it. In addition to clerical efficiencies, it also improves patient safety as any human errors that might occur in deciphering the handwritten reports, for example, are minimized.”

eSheet was developed because many staff members require simultaneous access to the information on the order sheet. In the past, multiple steps had to take place to share the paper copy, and still the form might not be available in one place because it was needed in another. In addition, Sunnybrook will eventually be moving toward a paperless patient chart, a change that makes eSheet essential.

“We knew we would have had to find an electronic solution for the order forms at some point so that they would mesh with the eventual shift to electronic patient charts,” says Tsai. “We’re ahead of the curve, which is a great place to be.”

The program is also an environmentally friendly solution, dramatically cutting out approximately 200,000 paper order sheets every year.

eSheet’s pilot phase took place with the haematology oncology site group before the full rollout in fall 2008. Currently, the software is specific to the Odette Cancer Centre’s needs; however there are many components that could be applicable to other programs and hospitals if the infrastructure for support is developed. The development of eSheet was an internally funded project.

LB

Interprofessional IPPOD Team Works to Prevent Delirium in Older Patients

Preventing delirium in older patients is critical – especially in hospital emergency departments, says Dr. Jacques Lee, an emergency physician at Sunnybrook Health Sciences Centre

“When an older person waits a long time, his or her risk of developing delirium doubles – which in some cases can be life-threatening,” says Dr. Lee, who is also a member of the hospital’s Interprofessional Prevention of Delirium (IPPOD) team.

“Research shows that delirium often prolongs a hospital stay for older patients by as much as 56 days,” adds Dr. Lee. “While some patients are back to normal by the time they’re discharged, others can take up to six months to recuperate from delirium.”

But preventing delirium in a busy, noisy urban hospital emergency department isn’t easy, and requires the compassion, patience and skill of an interprofessional team, such as Sunnybrook’s IPPOD. The group of emergency physicians, geriatric nurses, psychologists, security guards, paramedics and volunteers is trained to prevent the onset of delirium.

Lee estimates 10 per cent of older patients are already delirious by the time they arrive in the emergency department, but it’s IPPOD’s job to prevent delirium in those who are waiting. “For various reasons, an older patient who comes in normal can become delirious within hours of being seen by an emergency doctor,” says Lee. “It can be because they’ve been waiting too long to be admitted, or simply because we’ve taken their hearing aids or glasses away. Dehydration also plays a big factor as does malnutrition.”

Lee stresses that placing restraints on an older patient quadruples chances of delirium.

“The bottom line is that we who work in the emergency department have to develop a more humanistic approach to treating older patients in order to keep them from becoming delirious,” he adds. “Especially frailer pa-

tients. It’s our responsibility to monitor them on a regular basis to make sure they’re not suffering from hypoactive delirium, offer them something to drink or something to eat,” Lee adds. “Let’s not assume that an older patient who is confused is always confused.”

By keeping delirium at bay, hospital emergency departments operate more efficiently and that’s important for Sunnybrook’s emergency department which sees an average of 41,000 people each year – more than 35 per cent of them over 65-years of age.

IPPOD was developed by Dr. Lee, and Sunnybrook’s Barbara Jonathan, Dr. David Ryan and Sharon Ramagnano and has been in place in the emergency department since 2007.

In 2007, IPPOD received \$245,000 in funding from the Ontario Ministry of Health and Long-term Care and another \$482,000 in 2008 to design a tool kit, called EnTICE (Enabling Teamwork, Interprofessional Collaboration and Education).

The tool kit, completed in March, helps front-line health-care workers introduce best practices into their clinical setting more effectively.

EnTICE is based on the best available evidence on how to change clinical practice, but written as a simple step-by-step guide for clinicians without expertise in implementation science.

This year Sunnybrook received \$440,000 in government funding to distribute the tool kit and study IPPOD teams in several Ontario emergency departments.



Dr. Jacques Lee



To learn more about IPPOD go to:
www.stopdelirium.com

Teams From Across the Hospital Act to Improve Patient Flow



Teams from the across Sunnybrook have been coming together over the past 10 months to develop real-time solutions that address some of the serious patient capacity issues the hospital is facing, and the results are encouraging. The teams are comprised of representatives from the Emergency Department (ED), the wards, the operating rooms, the intensive care units, and a group that works on the interconnectivity of the other four.

Using the principles of 'kaizen workshops' (kaizen is a Japanese word meaning "change for the better") the teams identify key issues to address and break down the solutions into manageable chunks, which creates a detailed action plan for implementing the solutions.

"This approach is a highly beneficial and proven tool for solving complex problems," says Keith Rose, executive vice-president and chief medical executive at Sunnybrook and chair of the Patient Flow Steering Committee. "These workshops have been used for years in other sectors to improve

quality and performance. The principles apply to creating solutions for what we're facing here on a daily basis with our high bed occupancy and difficulty moving patients in and out of the hospital."

For example, one of the most challenging areas to deal with fluctuations in the demand for patient care is the unscheduled volumes that rush through the doors of the Emergency Department. As a result of the workshops the Emergency Department group was able to identify 28 areas for specific improvement. More importantly, the group was able to develop an implementable action plan with broad input from their team members and others throughout the hospital.

"It was extremely beneficial to have an open discussion as we worked through the process," says nurse Christene Winters. "We came away with the sense that solutions to complex issues may be possible."

One of the successful improvements the Emergency Department has been able to implement is the Acute Care Emergency

Surgery Service (ACCESS) initiative, which is a reorganization of how general surgical consults are provided for patients. ACCESS has achieved significant improvements in patient flow and in its first three months (July to September 2008) the time from consult request to final decision in the Emergency Department was reduced from an average of nine hours to less than two hours.

"Innovative initiatives such as this may seem obvious at first, but until there is support across all disciplines it is difficult for these kinds of projects to gain traction organization-wide," says Dr. Jeffrey Tyberg, chief of the Department of Emergency Services. "We are seeing what is achievable when we all come together."

In the months to come all patient flow teams will build on further kaizen workshops to develop better processes and generate solutions. Discussions will also continue with the hospital's community partners in order to utilize all resources optimally.

LB

The Sunnybrook Veterans Centre



Sunnybrook's Veterans & Community Program houses the largest Veterans Centre in Canada. Working in close partnership with Veterans Affairs Canada, Sunnybrook's Veterans Centre offers long-term and complex hospital care to 500 Veterans of the Second World War and the Korean War. The program provides cognitive, physical and mental health support to Canada's war Veterans. The program also provides palliative care for Veterans and the community. These are two recent initiatives at the Centre.

The Royal Canadian Legion Physiotherapy Gym

Through the generous support of the Ontario Command of the Royal Canadian Legion (RCL), the physiotherapy gym in the Kilgour Wing has undergone a complete renovation. The new Royal Canadian Legion Physiotherapy Gym offers group and individualized therapeutic activities and programs for residents of the Sunnybrook Veterans Centre. It now also specializes in stroke care.

"With the Legion's generous support, the physiotherapy team has covered all the bases, embracing this project to make sure the new gym will offer the best environment and equipment for our Veteran residents," says Theresa Kay, chief of health disciplines and manager of rehab services at Sunnybrook.

The Royal Canadian Legion Physiotherapy Gym now offers a large variety of therapy equipment that will meet many health-care needs of residents, and will specifically help those who have had a stroke. Four Canadian landscape photographs taken by Leonard Rubin, a Second World War veteran and resident, adorn the walls and add a feeling of greater space in the gym.

Research shows that the elderly, and people who have had strokes, improve their balance, endurance and physical functioning

through long-term exercise. Research also shows that with improvements in physical functioning comes an increase in social participation.

"We are truly delighted to support Veterans at Sunnybrook. Through the new RCL Physiotherapy Gym, we are able to make a difference in the care provided to Veterans who have had a stroke, enabling them to achieve their best possible quality of life," says George O'Dair, president of the Royal Canadian Legion, Ontario Command.

The Veterans Honour Wall

At a ceremony celebrating the hospital's 60th anniversary last June, a special memorial wall commemorating Sunnybrook's Veterans was unveiled by Dr. Barry McLellan, president & CEO of Sunnybrook, and Brig.-Gen. John Collin, Land Force Central Area commander.

The Veterans Honour Wall is reflective of Sunnybrook's legacy as a Veterans hospital. It honours Canadian Veterans while providing an inviting and inspiring entrance for residents and family members of the Veterans Centre. "This new wall will recognize and remember Canada's Veterans each and every day of the year. Hospital staff, visitors, family

members, grandchildren, great-grandchildren and school groups who come to visit our Veterans will all stop to pause and reflect. It will serve as a lasting memorial and tribute to a generation of great Canadians," says Dr. McLellan.

The Veterans Honour Wall, measuring 28 feet wide, is a creative endeavour that features the work of renowned Canadian wood-carver Siggie Buhler. The focal point of the wall is the large collage of military scenes from the First World War, Second World War and Korean War. Also hand-carved by Buhler are Canada's military badges (Army, Navy, Air Force and Merchant Navy), along with a historic quote from former prime minister William Lyon Mackenzie King, who gave the key address at Sunnybrook Hospital's official opening on June 12, 1948.

The wall also depicts a waterfall, with the words "Lest We Forget" inlaid in solid brass, and a history book to symbolize Canada's past military services. The wall also includes an overview of Sunnybrook's history as a Veterans hospital and transformation into a leading health sciences centre. The Nelson Arthur Hyland Foundation generously supported this project.

SF

Nonie Sovka, physiotherapist and Stephen Little, District Director, Veterans Affairs Canada, at the opening of the new physiotherapy gym; Chief Warrant Officer, Lucien Durelle and Lieutenant Colonel (retired) Bob Dale at the new Honour Wall

Sunnybrook Partners with Telus

Sunnybrook-Developed MyChart™ System Acquired by Telecommunications Carrier

MyChart™ was developed by Sunnybrook over the past three years and is used at the hospital by more than 2,600 caregivers, patients and their families



In January, Canada's third-largest telecommunications carrier, Telus, acquired the MyChart™ personal health-record system from its creator, Sunnybrook Health Sciences Centre.

MyChart™ was developed by Sunnybrook over the past three years and is used at the hospital by more than 2,600 caregivers, patients and their families. At MyChart's user-friendly website, patients can set up a personal and family health record, manage personal health information, share health information with care providers and caregivers and access accurate disease-specific information from trusted sources at Sunnybrook. Patients have access to test results, online questionnaires, appointment scheduling, their own personal information in case of emergency, and links to educational information to help better manage their own care. Patients can also set up a personal health diary, create care-team contact lists, access videos on disease-specific information, maintain medication history and request prescription refills online.

"Patients are demanding more say in the way their health is managed and MyChart™ was an innovative way to achieve this goal," said Sam Marafioti, vice president and chief information officer of Sunnybrook Health Sciences Centre. "More and more, patients wish to be involved in the management of their health situation, and this is helping them get there."

This is not the first time that Telus and Sunnybrook have partnered. Sunnybrook has been a long time user of Telus's Oacis electronic health record system, which is a tool for clinicians. The MyChart™ partnership builds on this history and will draw on the hospital's health-care expertise and the technology capabilities of Telus enabling the system to reach an even bigger audience as needs for more interactivity with health-care providers increase.

Another aspect of this new venture relates to a partnership Sunnybrook's MyChart™ team had previously developed with the Central Ontario Local Health Integration

Network (LHIN). The LHIN is interested in implementing MyChart™ across all of the health-care institutions that fall under its umbrella and Sunnybrook was starting to guide them on how to do that. With Telus's brand strength, this plan should now accelerate.

Next steps for MyChart™ include continuing to work closely with the Sunnybrook community, and learning from our clinicians, patients and their families so that MyChart™ continues to evolve and improve the way we manage, share, access information and care for healthier living and continuity of care. **LB**



Visit MyChart™ at www.mychart.ca

Predicting a Healthy Pregnancy

Senior Scientist Helping to Develop Test for Pre-eclampsia



Dr. Clifford Librach

“We’re on the cusp of making an important contribution”

“We’re on the cusp of making an important contribution,” says Dr. Clifford Librach. The senior scientist at Sunnybrook Research Institute and staff physician in Sunnybrook’s Women & Babies Program is helping develop a new genetic test to predict if a woman is likely to develop pre-eclampsia, a pregnancy complication that can threaten both the mother’s and baby’s life.

This innovative test will allow physicians to improve prenatal care by enabling them to monitor the pregnancy more closely and intervene sooner if the complication develops. “If we know that a woman is predisposed to pre-eclampsia, we’re going to be watching her pregnancy like a hawk,” says Dr. Librach.

Dr. Librach has what he calls “intriguing evidence” that a mutation in the human leukocyte antigen-G (HLA-G) gene is associated with the development of pre-eclampsia. He says HLA-G plays a critical role in preventing the mother’s immune system from rejecting the fetus because it contains foreign

genes—from the father. HLA-G “disguises” or “cloaks” the baby’s genetic material from the mother.

In a study published in the *American Journal of Obstetrics and Gynecology* in July 2008, Dr. Librach and colleagues reported that women who develop pre-eclampsia have a lower-than-average level of HLA-G. In a new study, Dr. Librach’s team is testing 350 pregnant women at Sunnybrook and Mount Sinai hospitals for the HLA-G mutation. They are also checking the fathers’ DNA. It may be that Dad’s HLA-G is just as important in predicting pre-eclampsia as Mom’s.

In Canada, about one in 20 pregnancies is affected by pre-eclampsia. The complication affects the arteries carrying blood to the placenta, so the developing baby doesn’t receive sufficient oxygen and nutrients—which can lead to a premature birth. In the mother, pre-eclampsia can permanently damage the brain, liver and kidneys. Conditions that increase the risk of pre-eclampsia include kid-

ney disease and having had pre-eclampsia in a previous pregnancy. Expecting twins, triplets – or even more babies also increases the risk.

But often, the hallmark symptoms of excess protein in the urine and high blood pressure at the 20th week of pregnancy seem to develop out of nowhere. “The majority of women who develop pre-eclampsia don’t have any of the risk factors,” says Dr. Librach, who is also an assistant professor in the Department of Obstetrics and Gynaecology at the University of Toronto. “Regular prenatal exams are extremely important because they allow doctors to pick up on any unexpected changes.”

AB

Using the Internet to Teach Clinicians about Benefits of New Therapy for Acute Lung Injuries



“Great innovation can come through small and relatively simple acts”

A Sunnybrook physician is leading an innovative study on how to use the Internet to teach clinicians about acute lung injuries (ALIs).

“ALI is under-recognized, partly because it can be hard to identify,” says Dr. Gordon Rubinfeld, the inaugural chief of Sunnybrook’s Trauma, Emergency and Critical Care and program (TECC). “There isn’t a blood test for ALI; rather, it’s a matter of recognizing the constellation of symptoms.”

A severe burn, pneumonia or trauma can cause parts of the lungs to collapse and fluid to pool in the lungs, suggesting ALI. The website will guide critical-care physicians, nurses and respiratory therapists in diagnosing lung injuries.

To be eligible, the hospital must keep electronic health records so the Sunnybrook team can track the care of patients both before and after the web-based education. Many Canadian hospitals don’t use e-re-

cords, so Dr. Rubinfeld’s team is currently recruiting 40 American hospitals to participate in its Internet study.

Staff at the recruited hospitals will be able to click on Dr. Rubinfeld’s website at any time. On the site they’ll find case scenarios, interactive exercises, references to scientific literature and resource materials for family members who have a loved one with a lung injury.

There will even be filmed demonstrations, and several Sunnybrook patients have consented to be filmed for the website. Visitors can also submit questions, which Dr. Rubinfeld and his team will answer.

ALI should be treated with lung protective ventilation (LPV), which is a way of setting a ventilator so that patients receive breaths of air that don’t injure sick lungs. Some clinicians are reluctant to use LPV for severe lung injuries, says Dr. Rubinfeld who is also a professor of medicine at the University of

Toronto. “The website will inform visitors of the benefits of the therapy, which has been shown to reduce mortality in these patients.”

When using LPV, there’s a tendency to force too much air into the lungs. This practice might occur because the patient appears short of breath on a lower volume of air. “The patient breathes very quickly and looks uncomfortable,” says Rubinfeld. “In fact, he or she is not in distress.” Forcing too much air into the lungs, though, can lead to further damage.

The website will encourage clinicians to base the volume of air on height and gender. Dr. Rubinfeld believes that for many, this calculation will lead them to turn down the ventilator’s volume dial. “It’s all about turning the dial down,” he says. “Great innovation can come through small and relatively simple acts. In this case, turning a dial a bit to the left can save a life.”

SP

Construction Projects at Sunnybrook

Sunnybrook Health Sciences Centre is busy with many construction projects that are part of the Hospital's \$300-million capital expansion. Our main projects include: The M-Wing Vertical Expansion that will house the Women & Babies Program and Research Facilities, the Schulich Heart Centre Redevelopment Project, the Emergency Department and Tory Regional Trauma Centre Expansion, the Odette Cancer Centre Redevelopment and Parking Garage 3. It's clear to see, Sunnybrook is building a bright future.

M-Wing Vertical Expansion

Thanks to our generous donors who contribute to the construction of this \$43-million facility, two of the four new floors added to M-Wing of the Bayview Campus will be the future home of the Women & Babies Program. Last February, the Women & Babies program was the beneficiary of an unprecedented \$8-million donation from Aubrey and Marla Dan. The renovation for the program facilities, which will include a state-of-the-art Neonatal Intensive Care Unit and expanded capacity for Labour and Delivery, is expected to be complete in mid-2010 with occupancy in fall 2010.

The top two floors (M6 and M7) will house research facilities and a new Breast Centre. The space will be built in stages, with completion of the first labs in 2011. The Centre for Research in Image Guided Therapeutics will consist of 10 interrelated labs in M-Wing, plus facilities elsewhere at Sunnybrook. The Breast Centre will combine clinical, imaging and research functions in an interdisciplinary setting. Sunnybrook is investing \$27-million to construct the new Centre to provide women with single-point access to rapid diagnosis and complete care.

Schulich Heart Centre Redevelopment Project

Sunnybrook's Schulich Heart Centre Redevelopment Project will create new facilities for the centre. These new facilities include: a cutting edge cardiac acute care unit on C3, high-intensity cardiology beds on C3, a new procedural unit on B3, a renovated cardiology, cardiac and vascular surgery unit on D3, medical/radiation oncology unit on C2 and a surgical oncology unit on D6. The project will achieve clinical realignment for the Schulich Heart Program and Surgical Oncology Program on the third and sixth floors respectively. Construction is expected in June 2009. The full project is expected to be completed in March 2011.

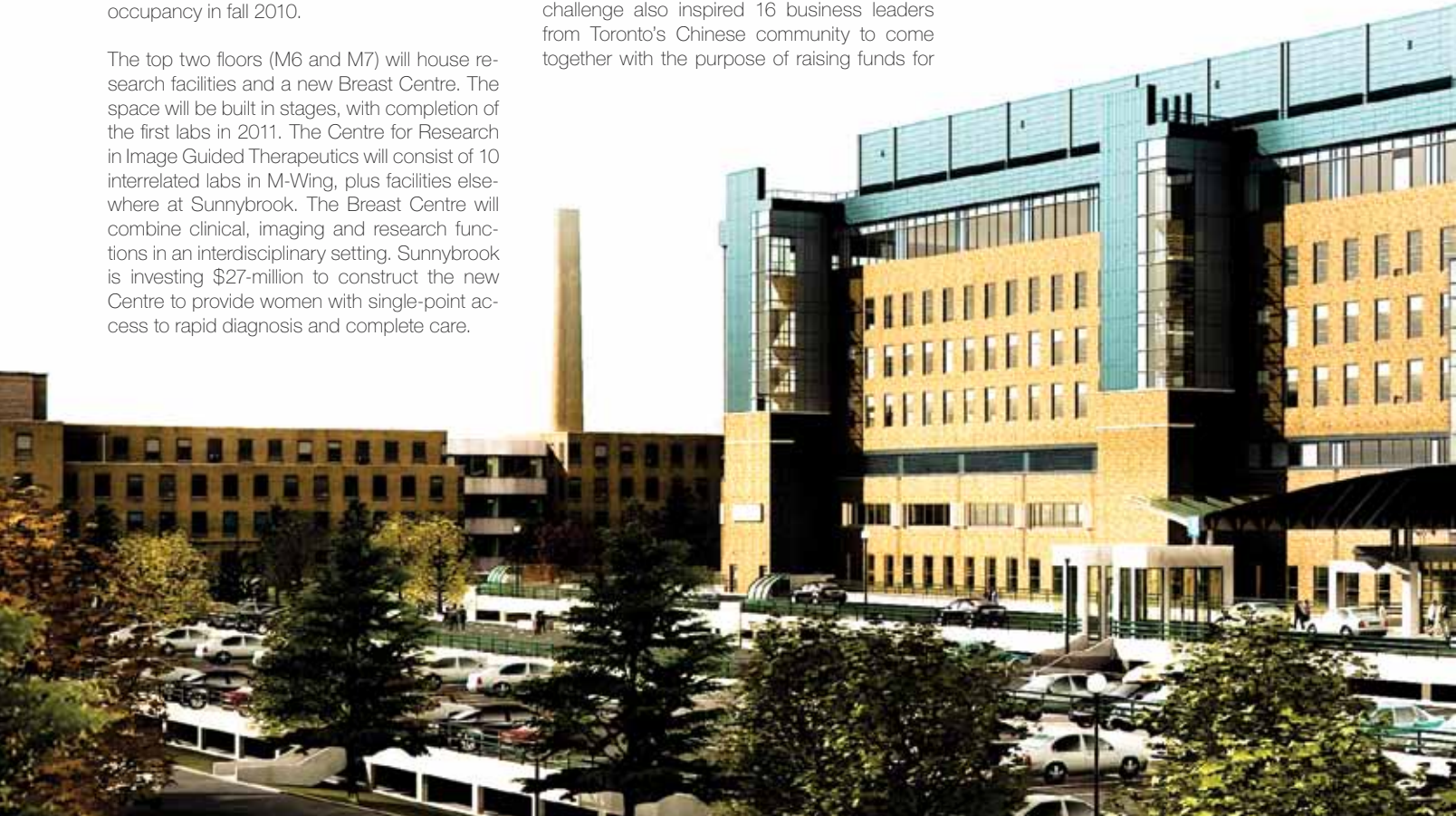
The Schulich Heart Centre's \$46-million reconstruction and revitalization project received a \$20 million fundraising boost from Mr. Seymour Schulich who put a challenge to Sunnybrook: if the hospital raised \$10-million by the end of 2008, it would be matched, dollar-for-dollar. Sunnybrook accepted the challenge and donors from across the GTA stepped up to help Sunnybrook achieve the matching goal. The challenge also inspired 16 business leaders from Toronto's Chinese community to come together with the purpose of raising funds for

Sunnybrook's matching campaign. The group, called the Honorary Patrons Council, set a goal of raising \$1.5-million. Their final figure was \$2.5-million.

These investments and others will help revitalize the centre's 40-year-old acute care unit that will include expanded and modernized patient rooms and visitor facilities and updated equipment, ensuring the best technologies are available to all patients when they need it most.

Emergency Department and Tory Regional Trauma Centre Expansion

The demand for Sunnybrook's Emergency and Trauma services has outgrown the facility built in the 1970s. With the support of John and Liz Tory, and many other generous donors, Sunnybrook has invested \$31-million into the construction of a new and innovative Emergency Department that is capable of dealing with all patients' needs and is nearing completion. The Emergency Department has doubled in size and now houses additional



medical imaging equipment (including a new CT Scanner Suite) and 18 new stretcher bays. These facilities will help to improve patient flow at Sunnybrook and reduce ambulance off-loading delays.

Odette Cancer Centre Redevelopment

In 2007, the Odette Cancer Centre was named to recognize the landmark contributions made by Edmond and Gloria Odette to the future of cancer care at Sunnybrook. The Odette Centre is renowned for its treatment and care of cancer patients and our medical staff is known worldwide for inventing the future of cancer care.

To keep pace with our need to accommodate increasing patient visits, Sunnybrook is making a \$57-million investment into the redevelopment

of the Odette Cancer Centre. This expansion will increase the number of chemotherapy suites, giving our patients the comfort and privacy they need, and the pharmacy will be expanded. The cancer in-patient unit will also be renovated to accommodate 36 patient beds. The Chemotherapy unit was originally built to accommodate approximately 5,800 patient visits per year; the demand today is for more than 17,000 visits per year. The Odette Centre redevelopment project will address this growth.

This project is being handled in phases over a number of years and is expected to begin this June.

Parking Garage 3

In early May, construction of a new multi-level parking garage accommodating 765 cars started in current parking lots 10 and 11, which are located on the southeast part of Sunnybrook property. When completed in May 2010, the garage will be used for staff parking. The structure is being built to reduce existing parking pressures and to address the parking needs of the campus when construction is near completion.

To support Sunnybrook's construction projects, visit www.sunnybrookfoundation.ca or call (416) 480-4483.



Partners in Veterans Care

A Lesson in Communication and Collaboration



Raymond Holland, Second World War veteran and his wife Rosemary with Christine Westerhoek, social worker and Carlene Wallen, RPN. The cognitive support unit was the first one to complete the Partners in Veterans Care program at the Sunnybrook Veterans Centre

“Understanding the resident from the perspective of their family and their family relationships is key to really knowing and understanding what is important to them and how they would like to achieve their best life experience at Sunnybrook”

Communication is key in our lives, but how well do we do it? And do we really listen when others are speaking? At the Sunnybrook Veterans Centre, health-care professionals and family members of Veteran residents are participating in workshops that focus on communication and collaboration—leading to enhanced resident and family-centred care.

“Understanding the resident from the perspective of their family and their family relationships is key to really knowing and understanding what is important to them and how they would like to achieve their best life experience at Sunnybrook,” says Dr. Jocelyn Charles, medical director of the Sunnybrook Veterans Centre.

The Partners in Veterans Care initiative began in the fall of 2007 and today it continues to be rolled out with great success across the 17 resident-care units at the Veterans Centre, Canada’s largest Veterans’ care facility.

In 2007, a Sunnybrook team working on improving communications on one resident unit looked at a project, which was jointly developed by the Braceland Center for Mental Health and Aging, and the Cornell Gerontology Research Institute

and Foundation for Long Term Care called “Partners in Caregiving in a Special Care Environment.”

The Sunnybrook workshops incorporated sections on the experiences of war Veterans and post-traumatic stress disorder (PTSD), as well the Veterans Centre’s philosophy of care. This allowed the hospital to meet the specific needs of caregivers and family members of Veterans.

The six-hour training session for staff teaches advanced listening skills, conflict resolution, coping strategies, bridging cultural and ethnic differences, handling blame and criticism in positive ways, giving positive feedback, and understanding one’s own values, as well as the values of others. The training also promotes learning how to listen well and see things through the eyes of others. Family members are invited to take part in a similar four-hour workshop.

In both staff and family workshops, participants role play and learn about each other through interactive activities that reveal individual values and attitudes. Then both groups join together for a third and final workshop to brainstorm ways to improve communication on an ongoing basis.

“Involving and partnering with the family in the care of a loved one is key to achieving the best care for our residents. It’s about helping staff understand the person as an individual with unique needs and preferences. Studies have shown that when staff really know their patients as real people, the care provided is improved,” says Dr. Charles.

Many of the health professionals at the Veterans Centre are from countries outside Canada and have never learned about Canada’s war history. Through special training, staff gain a better understanding of what it means to be a war Veteran and also what it means to be married to someone who has gone to war so they can better understand the experiences of some of the Veterans’ spouses.

“Partners in Veterans Care has been well received by both staff and family members, and is a big step in the right direction in caring for our elderly residents here at Sunnybrook,” says Dorothy Ferguson, operations director of the Veterans Centre. “Our staff are better able to anticipate and recognize family concerns and address them immediately. Staff and family members feel that they are all part of the same team and are looking at things through the same lens.”

SF

Veteran Profile

Clifford Guest

Second World War, Royal Canadian Air Force



In 1940, at age 34, Guest felt the need to help and was inspired to join the Royal Canadian Air Force

At the Sunnybrook Veterans Centre, 103 year-old Clifford Guest is reclining in a comfortable chair with his earphones on, so as not to disturb his next-door neighbour. On the large flat screen TV, Guest is watching the Business News Network—a regular favourite. After a 44-year career in finance with the Bank of Nova Scotia, he still follows the markets every day.

Guest remembers well when the markets crashed in October 1929. “We lived in Barrie, Ontario and my father was working as a truck driver for the Barrie Creamery,” says Clifford. “Everyone was talking about international nickel in those days. I remember a friend of mine who held onto it right through the Depression.”

In 1940, after meeting a recruiter for the Second World War, Guest felt the need to help and was inspired to join the Royal Canadian Air Force. “My wife and I were living in Ottawa at the time with our infant son. She and I discussed the war at great length. It was a joint decision. I was committed,” he says. At 34, Guest travelled overseas and became a staff equipment officer for the Canadian Bomber Group, contributing two years to the war effort.

Guest has been a resident at Sunnybrook only since July 2008. “I’ve been lucky and healthy all my life; the worst pain I’ve ever had was a pain in my neck for a few days. I have had minor surgery and that’s it,” he says. “I think if we all had a good laugh every day, there would be no sickness.”

At Sunnybrook, he enjoys breakfast time with his fellow comrades the most. “It’s a wonderful way to start the day,” he says. “I’m also very thankful for all of my nurses. They look after everything for me. I think they do a marvellous job and I’m very grateful.”

Across the campus, and on the other side of the hospital, a younger member of the Guest clan is caring for the most critically ill. Clifford’s grandson, Dr. Cameron Guest, is an intensivist in the Department of Critical Care Medicine.

“The Critical Care Unit provides care to patients who either have or are at risk of getting a life-threatening disease or injury,” says Dr. Guest. “Our main job as specialists in this area is to provide care for patients on life-support, who are at high risk of dying from a “fixable problem”.

Working in close association with the trauma and emergency teams, the Critical Care Unit at Sunnybrook contains 50 beds and is the largest single-site resource of critical-care beds in Ontario. Patients come from across the province for treatment of serious injuries, cancer, cardiovascular disease and other life-threatening illnesses.

Sunnybrook is a recognized leader in the care of veterans who are no longer able to live at home independently. Caring for more than 500 veterans from the Second World War and Korean War, it is the largest Veterans’ care facility in Canada.

“I’m very proud of my grandfather,” says Dr. Guest. “He has a wealth of experience from over the years and loves to share his old stories. He was a little apprehensive to leave his apartment but he’s happy here in the Veterans’ residence—and the added bonus is that I am able to visit him more often now.”

SF

Dr. Cameron Guest with his grandfather Clifford who lives in the Sunnybrook Veterans Centre

Sunnybrook's Early Fetal Ultrasound Service Detects Potential Prenatal Problems



Dr. Ori Nevo with Ayelet Lahat

When Ayelet Lahat visited the new Toronto Centre for Early Fetal Ultrasound of the Women & Babies Program at Sunnybrook Health Sciences Centre for an ultrasound during her second pregnancy she was only 14 weeks pregnant.

The Toronto Centre for Early Fetal Ultrasound is the first of its kind in Canada performing early stage fetal targeted ultrasound examination. These exams detect potential fetal conditions such as structural anomalies – which are complications that may occur with the development of the fetal skull, brain, spine, abdominal wall, limbs, stomach and bladder – and also detect chromosomal disorders such as Down syndrome.

Lahat, who was referred to the centre by a fetal assessment specialist in Israel who examined her during her first pregnancy, says that since the early fetal ultrasound involves very minimal risk, if any, she wanted to try it. "I didn't have any specific concerns but I know that even healthy women often have babies with various abnormalities and it was

very important for me to know at this early stage that everything is OK," says Lahat. "In addition, I believe the early ultrasound is more detailed and that it can detect more fetal conditions than the ultrasound that is typically done later."

Congenital anomalies, which are defects present in a baby since birth, occur in two to three per cent of low-risk pregnancies. In Canada, the first targeted ultrasound for detection of anomalies is traditionally performed at 18 - 20 weeks. The Toronto Centre for Early Fetal Ultrasound performs targeted ultrasounds for detection of possible fetal problems six to eight weeks earlier, at 12 - 15 weeks.

"Our aim is to get ultrasounds for pregnant women done sooner, so that women have more possibilities and testing options," says Dr. Ori Nevo, a maternal fetal medicine specialist and lead physician at the Toronto Centre for Early Fetal Ultrasound. "We have the same equipment as everyone else, but the performance and interpretation of the scan requires a different level of expertise

that we can offer at an earlier stage in a woman's pregnancy."

Using conventional ultrasound equipment and transvaginal ultrasounds, the centre provides pregnant women with greater information about their fetus early in their pregnancy. At a stage when most possible anomalies are already present, with only a few anomalies developing later, the benefits of early scanning include greater testing options and earlier treatment for those fetal problems that are amenable to therapeutic interventions, such as the treatment of twin-twin transfusion syndrome and treatment of certain urologic problems.

While most of the scientific articles and case reports relating to early fetal ultrasound examination have been submitted by researchers in Israel, Italy, the Netherlands, Germany and other countries, the service remains relatively unknown and unavailable across North America. Sunnybrook Health Sciences Centre is the first professionally accredited facility to offer this service to women in Canada.

"The women we are seeing are either at risk for fetal anomalies or are obese, and in that case, the later ultrasound may be of limited resolution," says Dr. Nevo, who is also an assistant professor in the Department of Obstetrics and Gynaecology at U of T. "However, ideally, any pregnant woman would benefit from early fetal ultrasound examination."

Happy with the results of her early fetal ultrasound exam, Lahat felt less stressed for the remainder of her pregnancy. She has since given birth to a healthy baby girl.

Until construction for the new home for Sunnybrook's Women & Babies Program is completed in the fall of 2010, the Toronto Centre for Early Fetal Ultrasound will be located at 76 Grenville Street.

SD

Screening for Osteoporosis



Dr. Dana Cohen

One in four women and at least one in eight men over the age of 50 suffer from osteoporosis, according to Osteoporosis Canada. In fact, bone density declines with age and so the number of Canadians afflicted with this silent disease is predicted to increase as Canada's population continues to age.

Osteoporosis, which literally means "porous bone" is a skeletal disorder. In this condition bone tissue deteriorates, resulting in low bone mineral density and weakened bones. As the bones become less dense, they more easily break. Unfortunately, many people are unaware that they even have this condition as there are no warning symptoms. Thus, in its early stages, osteoporosis remains a "silent" disease until it is complicated by fractures, which can occur with minimal or sometimes even no trauma at all.

"Many people don't realize this, but the skeleton is a highly specialized and dynamic organ that undergoes continuous regeneration," says Dr. Dana Cohen, a rheumatologist at Sunnybrook Health Sciences Centre. "Old bone is removed and new bone is added in order to maintain the structural integrity of the skeleton. With advanced age or with various medical conditions this balance is altered – you have more bone being removed than replaced, and your risk of fractures increases exponentially."

There are a number of factors that increase a person's risk for the development of osteoporosis. Dr. Cohen says that all post-menopausal women over the age of 50 should be screened by their physician to determine if they are at increased risk of osteoporosis. Everyone over the age of 65 should have a bone mineral density test to look for the disease itself.

A Bone Mineral Density (BMD) test is a simple and painless procedure that compares a person's BMD with that of a young adult. The test assesses the hip and spine. If the test results show osteoporosis, there are drug treatments available that work to maintain or increase bone density and reduce fracture risk. Both lifestyle modifications and medications can be used to prevent and treat this condition.

The good news is that osteoporosis is both preventable and treatable.

At Sunnybrook, Dr. Cohen works with other rheumatologists in the Division of Rheumatology to see patients for various problems affecting bone and joints. A number of Dr. Cohen's patients are post-menopausal women and elderly men, all of whom are screened for risk factors and tested for osteoporosis.

"At Sunnybrook, we are testing large numbers of patients for osteoporosis. It's an enormous problem," says Dr. Cohen. "I recommend adequate calcium and vitamin D intake to all my patients, which supplements bone loss and improves bone mineral density. We are now realizing more and more that vitamin D deficiency is extremely high in Canada due to our northern latitude and very long winters. This is especially true for housebound and institutionalized people. Proper nutrition and weight-bearing exercises, such as walking, also benefit bone mass."

"Patients should also be counselled on fall prevention," adds Dr. Cohen. "Things like keeping floors clutter-free, removing loose rugs and wires, using handrails on stairs or in bathrooms and having proper lighting in rooms can all help to prevent falls, and thereby decrease the risk of fractures." SD

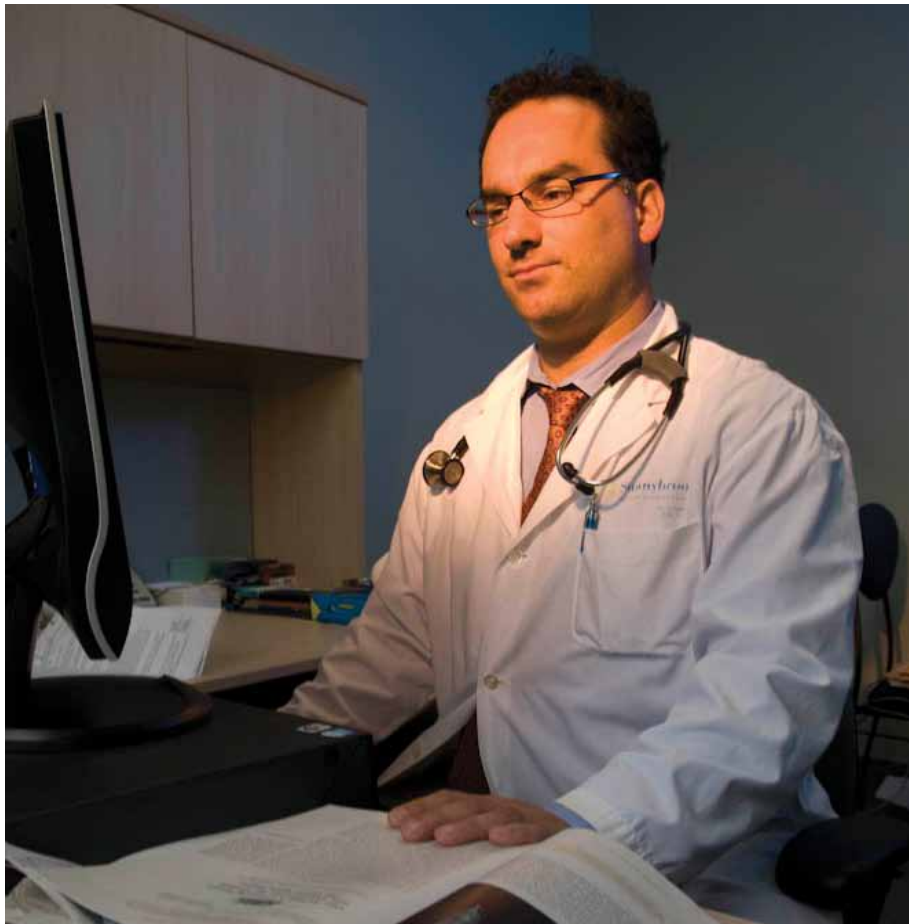
What You Need to Know about Osteoporosis

- Canadian guidelines now recommend that all men and post-menopausal women over the age of 50 take 1500 mg of elemental calcium and 1000 IU of vitamin D a day.
- Bones, like muscle, become stronger and denser with exercise. There are two types of exercise recommended for good bone health: weight-bearing or muscle-strengthening, and resistance-training.

The risk factors for osteoporosis are:

- An age of 65 years or older;
- Past history of fractures;
- A family history of osteoporosis (particularly if your mother experienced a hip fracture);
- The use of glucocorticoid therapy (such as prednisone) for more than three years.

An Increased Focus on Patient Safety



Dr. Kaveh Shojania

“That’s what’s so exciting. The hospital isn’t just switching around resources; we’re upping the ante by investing in this centre, which opens up an academic focus for patient safety”

Dr. Kaveh Shojania, a scientist in combined health services sciences at Sunnybrook Research Institute and professor at the University of Toronto, has assumed the role as director of the new U of T Centre for Patient Safety.

Dr. Shojania, who holds the Canada Research Chair in Patient Safety and Quality Improvement, appreciates that this new venture – a partnership among U of T’s Faculty of Medicine, Sunnybrook Health Sciences Centre and the Hospital for Sick Children – will enable safety-improvement initiatives that would otherwise remain shelved.

The centre provides an intersection for those safety issues local to the hospital and to all U of T-affiliated hospitals across the city, says Dr. Shojania, who arrived at Sunnybrook in April 2008, but only started his new role early this year.

“Some of [those] problems...have obvious academic potential. Now we have, with the Centre for Patient Safety, the resources to tackle them,” Dr. Shojania says. “That’s what’s so exciting. The hospital isn’t just switching around resources; we’re upping the ante by investing in this centre, which opens up an academic focus for patient safety.”

Dr. Shojania’s focus is on identifying both evidence-based patient-safety interventions and strategies for translating them into practice. One of his goals is to establish an “inventory repository” of all safety-based research studies. This way, Dr. Shojania says, duplication of efforts should become a thing of the past.

“One of the problems in patient safety and quality improvement is that you’ll often end up with a situation where people will indi-

vidually identify a problem and make a move to solve it, as someone else has before,” he says. “It’s reinventing the wheel and, unfortunately, the wheel is often a flat tire.”

The centre will also offer a consultation service, wherein a clinician can spend an hour with a scientist to learn strategies for solving a problem in front-line safety. Both parties benefit from this exchange. Says Dr. Shojania, “There’s a limited extent to which researchers can roll up their sleeves and get involved in enacting change at the hospital. They need a clinician who can take the job and run with it.”

LP

Sunnybrook's Double "Win" of Expertise in Infectious Diseases, and Infection Prevention and Control

Members of Sunnybrook's Microbiology and Infection Prevention and Control group are system leaders and participate in federal and provincial advisory groups to inform best practice



To better manage and further reduce infections and infection risk for patients, health-care professionals and the community, Sunnybrook's Microbiology and Infection Prevention and Control group is focusing on faster, more accurate diagnostics to detect, identify and perform typing of potential pathogens. The group also actively surveys and screens for infections and audits infection-prevention practices.

"To minimize the impact of infectious diseases on the health-care system, we continue to provide accurate and rapid diagnoses and to lead in infection surveillance," says Dr. Andrew Simor, chief of Microbiology and Infectious Diseases at Sunnybrook.

People who are hospitalized for complex medical conditions and might develop weakened immunity are at greater risk of infectious disease. Infections include *Clostridium difficile*, antibiotic-resistant organisms or superbugs such as MRSA (methicillin-resistant *Staphylococcus aureus*) and VRE (vanco-

mycin-resistant *Enterococcus*) and respiratory viruses such as Influenza.

Sunnybrook Health Sciences Centre is one of only a handful of Canadian hospitals using molecular-based results technology, which yield more rapid and accurate diagnostics, and which require significant microbiology expertise. "Use of molecular-based technologies in complement with conventional methods helps us develop the most effective interventions to manage infection and better prevent transmission," says Dr. Simor, professor in the departments of medicine, and laboratory medicine and pathobiology, University of Toronto. "In some cases molecular-based technologies detect 30 to 40 per cent more strains of infection than with conventional methods and can isolate and confirm an organism's drug sensitivity or resistance."

"We also use an aggressive active surveillance and screening strategy," says Dr. Mary Vearncombe, medical director of Infection

Prevention and Control at Sunnybrook and associate professor, department of laboratory medicine and pathobiology, at U of T. "Our protocols, which have been in place for years, proactively identify patients at higher risk of infection and quickly identify new cases among current patients and newly admitted patients from the community."

Sunnybrook's Microbiology and Infection Prevention and Control group also monitors the hospital's infection-prevention practices and has implemented a hand-hygiene initiative that includes education and hand-hygiene compliance audits, a core competency training and certification program every two years for all staff, and a supportive healthy-workplace philosophy led by the hospital's Joint Health and Safety Committee to help staff better manage their own health and well-being.

NCS

Understanding Anxiety Disorders: The Difference between a Disorder and “Everyday” Anxiety

One in four people are affected by an anxiety disorder at some point in their life, and this can cause profound personal suffering and significant barriers in relationships, employment, school, finances and everyday tasks.

Anxiety disorders are characterized by excessive, unrealistic, intense and prolonged feelings of fear, worry or distress, sometimes for no obvious reason, that interfere with daily life. This can cause people to avoid situations that might bring on anxiety. In some cases, they develop compulsive rituals to help lessen symptoms.

These disorders represent the most common of all mental illnesses and yet they are not well understood. “A certain amount of anxiety is normal and necessary,” says Dr. Neil Rector, a psychologist and research scientist, and director of the Mood and Anxiety Treatment and Research Program at Sunnybrook. “Everyone feels anxiety from time to time. We may feel anxious when we’re facing an exam or job interview, or when we perceive some threat or danger.

However, such everyday anxiety is generally occasional, mild and brief, while the anxiety felt by the person with an anxiety disorder occurs frequently, is more intense, and lasts longer – up to hours, or even days.”

The crossover point occurs when the anxiety becomes excessive and causes persistent and significant distress to the individual and when it makes it hard to work or study, manage daily tasks or relate well with others. “A diagnosis is not given until the anxiety hits a threshold and impairs one’s ability to function,” says Dr. Peggy Richter a psychiatrist and director of the Clinic for Obsessive Compulsive Disorder and Related Disorders at Sunnybrook.

People can live with anxiety disorders for years before they are diagnosed and treated. They might consider their symptoms normal, or the symptoms themselves might prevent them from seeking help. “This is partly because we all have some level of anxiety but an anxiety disorder greatly impacts one’s life, and the person suffering more often than not does not realize how

much it affects them,” says Dr. Richter who is also an associate professor of psychiatry at the University of Toronto. “Individuals and society don’t always understand that this is a condition that is diagnosable and requires treatment.”

In addition, a lack of understanding of the illness has contributed to a mistaken perception of it as a weakness or a character flaw, and therefore has discouraged many with the illness to seek help. “Stigma is still an issue, but it is diminishing as there is a movement towards awareness and better understanding. Public awareness campaigns have helped in recent years, including those by Sunnybrook and the Centre for Addiction and Mental Health,” says Dr. Rector.

“It is helpful to be an informed consumer, to seek information online, and it is important to discuss any concerns with your doctor as soon as possible,” says Dr. Richter. “Anxiety disorders are treatable, and early treatment can help to ensure treatment success.”

NNR

Types of Anxiety Disorders

Panic Disorder: Repeated unexpected panic attacks, which include heart palpitations, sweating and trembling, followed by at least one month of persistent concern about having another panic attack. These might be accompanied by the avoidance, or endurance with marked distress of specific situations.

Social Phobia: A persistent fear of social or performance situations (meeting strangers, playing sports or participating in small groups) in which embarrassment might occur.

Specific Phobia: A persistent fear of distinct objects or situations, such as a fear of specific animals (for example, spiders); natural environment conditions (storms, heights); sight of blood or injections; situations (public transportation, elevators or enclosed spaces); and choking or vomiting.

Obsessive-Compulsive Disorder: Recurrent obsessions (uninvited or intrusive thoughts, urges or images) or compulsions (behaviours or rituals to try to reduce or suppress obsessive thoughts) that are severe enough to be time consuming or cause significant distress or impairment. An example of obsessions is concerns about contamination. An example of compulsions would be chronic handwashing or the constant checking of something such as a locked door.

Acute Stress Disorder: Occurs within one month after someone has experienced, witnessed or was confronted with an event that involved actual or threatened death, serious injury or a threat to the physical integrity of self or others. Disturbing memories of the traumatic event cause an emotional reaction and a sense of reliving it.

Post-Traumatic Stress Disorder: Following exposure to an extreme traumatic stressor, the person’s response to the event involves intense fear, helplessness or horror. Symptoms usually begin within three months, although there might be a delay of months or years. The experience is repeatedly relived through intrusive memories, distressing dreams and flashbacks.

Generalized Anxiety Disorder: Excessive anxiety and worry occurring more days than not for a period of at least six months, about a number of events or activities; difficulty in controlling worry.

The material is drawn from Rector et al., 2005, The Centre for Addiction and Mental Health Anxiety Disorders Information Guide.

Caring for Your Mind and Brain: The Brain Sciences Program

Research into Anxiety Disorders

Sunnybrook is working to treat anxiety and depression at every stage of life, with the development of the new Mood and Anxiety Treatment and Research Program. Sunnybrook researchers and clinicians are working together to investigate how these disorders interact. They are currently working on the following projects:

- Development of treatment guidelines to inform family doctors and other primary-care providers how to treat those presenting with symptoms.
- Investigation of the genetic basis of obsessive compulsive disorder.
- Prediction of responses to treatment by looking at genetic, cognitive and other psychological factors that give rise to illness.
- Training health-care professionals to be better able to detect and treat mood and anxiety disorders.

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Joe Newton (R), stroke survivor, with Sunnybrook President and CEO Dr. Barry McLellan at the Heart and Stroke Foundation Centre for Stroke Recovery plaque unveiling and celebration at the hospital in March.

As the population ages, the number of Canadians living with brain-related conditions at home, in the community and in residential-care settings is increasing.

Sunnybrook's newly named Brain Sciences program (formerly known as The Neurosciences program) brings together professionals in clinical care, provides education and conducts research into the health and disorders of the brain and mind, which have a significant impact on the quality of life of patients, their families and their caregivers.

The program provides comprehensive care which includes prevention, acute intervention, long-term management, outreach and connections to community providers. The three major themes are among the greatest public health challenges of the coming generation:

- Stroke;
- Dementias;
- Mood and anxiety disorders.

These three focal areas are supported by a range of clinical services and teams, which work together to address the overlap and interplay that exists between conditions. For example, patients who have suffered a stroke might also have dementia and experience a mood disorder such as depression.

The program offers specialists in traumatic head injuries, brain tumours, sleep and other brain-related conditions. There are also specialists in brain development, sensation and perception, learning and memory, movement, attention, stress and aging. The different disciplines include psychiatry, neurology, geriatric medicine, family medicine, neuroimaging, neurosurgery, neuropsychology, nursing and allied health professions.

Rethinking "Mind and Brain"

Sunnybrook's Brain Sciences team is dedicated to increasing knowledge of how the human brain works; an area still not well understood by scientists.

The team is rethinking the notion of "mind and brain," as they are encouraging health-care professionals to be more sensitive to the psychological, emotional and cognitive features of "brain" diseases such as stroke and Alzheimer's disease. For example, experts are now looking at ways to assess and work with the behavioural and psychological symptoms of dementia.

The team is also increasingly aware of the neurobiologic origins of psychiatric disorders such as depression, bipolar disorder and post-traumatic stress disorder.

Sunnybrook has led many advancements and developments in the knowledge, treatments and tools used in brain sciences from the local to the international level.

Researchers, together with front-line caregivers, are finding innovative ways to understand the brain, its health and its disorders, which will make a significant impact on patients and the community. Sunnybrook is pioneering new interventions and imaging analysis techniques to optimize brain recovery and rehabilitation.

Together, the best in clinical practice, teaching and research come together at Sunnybrook's Brain Sciences program to provide an unprecedented kind of care.

NNR

Sunnybrook Welcomes Members of Provincial Parliament



Sunnybrook plays an important role in the health care system of Ontario. We value the support of our Members of Provincial Parliament and the government of Ontario. The Honourable Kathleen Wynne, Minister of Education and MPP for Don Valley West, where Sunnybrook's Bayview Campus is located, has attended a number of functions at Sunnybrook. This past year, she toured our new Emergency Department and most recently, she visited with staff and patients in our Odette Cancer Centre. Sunnybrook is always pleased to welcome Minister of Health and Long Term Care, The Honourable David Caplan. During his most recent visit he had the chance to meet some of our staff pharmacists and members of our Department of Family and Community Medicine.

The Honourable Kathleen Wynne, Minister of Education and The Honourable David Caplan, Minister of Health and Long Term Care, are pictured at recent visits to Sunnybrook



A new home for Women & Babies:

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At the Heart of the Matter: Katie Crozier Gives Back to the Schulich Heart Centre EVAR Program

“The accident has changed my life,” says Crozier. “My spirit has been lifted. I’m eating healthier. I’m more active, and I’ve almost completed my master’s degree in elementary education”



Katie Crozier

Katie Crozier, a North Carolinian with dual citizenship, loved spending the summer months at her family cottage in Muskoka, Ontario.

In the summer of 1998, Crozier and 10 of her friends went skydiving in Orillia. They spent half of the day learning about skydiving and the remainder taking turns jumping out of an airplane. For Crozier, the third to jump, what should have ended as a huge adrenaline rush instead resulted in a horrific accident.

“I remember being petrified to jump, but I don’t recall jumping out of the plane,” says Crozier. “After I jumped my parachute opened automatically, the wind picked me up and I came crashing to the ground.” Crozier landed half a kilometre past the landing site, causing her instructor and friends to frantically search for her.

“When they found me, my most obvious injury was my fractured right femur and I complained of a severe headache,” says Crozier. “They called 911 and I was taken to a local hospital but they were not equipped to deal with a potential brain injury.”

When Crozier’s mother was informed of the accident she insisted that her daughter be brought to Sunnybrook. “My mother is a retired nurse and knew that Sunnybrook is a leader in innovative and interdisciplinary care,” says Crozier.

Crozier was airlifted to Sunnybrook’s Tory Regional Trauma Centre for her leg and head injury but upon further assessment an MRI revealed that her aorta – the main blood vessel – was severely torn and immediate surgery was needed to repair the damage.

“I got to Sunnybrook just in time,” says Crozier. “Dr. Daryl Kucey saved my life.”

“My mother noted in her journal that she began shaking with relief when Dr. Kucey informed her of the positive outcome of my surgery,” says Crozier. “I really can’t thank the trauma team and Dr. Kucey enough for what they’ve done for me.”

Six days after her aorta was repaired a rod was inserted into her right femur by orthopaedic surgeon Dr. Hans Kreder to repair her broken leg. “I recovered at Sunnybrook for two weeks and then I went back to the United States for rehab,” says Crozier. “I was in the right place at the right time because the care at Sunnybrook was extraordinary.”

Eleven years after the accident, Crozier’s heart is ticking and her leg and brain have healed.

“The accident has changed my life,” says Crozier. “My spirit has been lifted. I’m eating healthier. I’m more active, and I’ve almost completed my master’s degree in elementary education.” Forever grateful

for the care she received at Sunnybrook, Crozier has made a generous donation to the Endovascular Aneurysm Repair (EVAR) program at Sunnybrook.

NM

• What is EVAR?

• EVAR is a novel minimally invasive technique used to treat patients with potentially lethal abdominal aortic aneurysms. The EVAR technique is particularly important for Sunnybrook, not only because the Schulich Heart Centre is known for its excellence and innovations in the treatment of complex aortic diseases, but also because the Trauma, Emergency and Critical Care program treats a high number of patients with traumatic aortic injuries. The EVAR technique results in decreased patient risks, shortened length of hospital stay and saved lives.



To make a donation in support of the Schulich Heart Centre or EVAR, visit www.sunnybrookfoundation.ca or call (416) 480-4483

The Greening of Sunnybrook



The Harry Taylor Solar Energy Wall

Sunnybrook is batting 1,000 when it comes to conservation and environmental protection.

The only hospital to make Canada's 2009 Greenest Employers list, Sunnybrook continues to win awards and public recognition for its dedication to environmental sustainability through innovation and leadership. The numbers tell the story.

By replacing aging infrastructure with energy-efficient, state-of-the-art equipment over the years the hospital has drastically reduced utility consumption by millions of watts.

But nothing compares with the Honeywell Energy and Facility Renewal program. This \$28-million, multi-year project will see Sunnybrook reduce its annual greenhouse gas emissions by an estimated 9,000 metric tons – an amount equivalent to taking 1,400 cars off of the road.

"We're a hospital first, but we know we're part of a larger system. Our partnership with Honeywell will result in the implementation of over 100 energy-management initiatives, like the 100-kilowatt photovoltaic Harry Taylor Solar Energy Wall that will produce electricity from the sun," says Rudy Amrein, director of plant operations and maintenance. "It takes an entire community to create change; together we are partners in responsible energy management and sustainability."

"The installation of photovoltaic panels, which use a technology that converts sunlight directly into electricity is incredibly exciting," says Beverley Townsend, Sunnybrook's manager of environmental sustainability.

The current from the photovoltaic array will be fed to a power conditioner located in close proximity to the photovoltaic panels. When the sun shines, the power conditioner will feed electricity into Sunnybrook's existing utility distribution system.

Another first for Sunnybrook is the introduction of Deltasorb in its operating rooms. This device, developed by Blue-Zone Technologies, is used by anesthesiologists to selectively capture anesthetic gas that's not inhaled by the patient. "Only five per cent of the gas is actually metabolized by the patient," explains Townsend, "which means the rest escapes into air and contributes to global warming."

As of August 2008, Deltasorb kept 474 tonnes of CO₂ equivalent from entering the atmosphere. Anesthetic gas contains volatile halogenated ethers, which are 3,766 times stronger than carbon dioxide.

Sunnybrook also advocates the use of safer Green Seal-approved cleaning products for use in patient rooms, reception areas, washrooms, corridors and high-risk areas, as well as kitchen and laundry rooms around the hospital.

"At Sunnybrook, we see greening and patient care as very complementary. From scavenging gas in our operating rooms, to retrofitting our heating and ventilation systems, we're greening Sunnybrook to be there for patients and our planet in the years ahead," says Amrein. "Our 10,000 staff members are committed to environmental sustainability. They show their commitment daily through carpooling, recycling and their willingness to incorporate environmentally friendly practices at work. They recognize that their contributions have far-reaching effects."

AB

Sunnybrook Green Facts

- Sunnybrook has replaced its medical vacuum and medical air systems with a new air-cooled system that reduces water use immensely.
- Honeywell's Energy and Facility Renewal Program will result in annual savings of \$2.7 million.
- Sunnybrook replaced an inefficient wooden cooling water tower with an energy-efficient aluminum tower that has cut annual water usage by 36,838 m³.
- Sunnybrook is retrofitting more than 23,300 lighting fixtures throughout the hospital.
- Sunnybrook's first Earth Matters Showcase held last September was well attended by staff and community members. It promoted the hospital's environmental initiatives.
- Sunnybrook handed out 1,000 white spruce seedlings last year during Environment Week.
- You can learn more about Sunnybrook's green programs by visiting <http://earthmatters.sunnybrook.ca>

2009
Canada's Greenest
Employers

Harry Taylor



To honour his memory it's fitting that his name be associated with a cause close to his heart – energy conservation. Sunnybrook has named its state-of-the-art solar panel installation the Harry Taylor Solar Energy Wall

When Harry Taylor died tragically on November 5, 2008, at the age of 53, not only did his family lose a wonderful and caring man, but Sunnybrook and the community-at-large lost an important advocate for environmental conservation.

Taylor was Sunnybrook's popular, innovative and gifted facility services director. "Harry was a natural-born leader, respected by all staff and a true advocate for a safe work environment for staff. This was confirmed by his leadership as co-chair of the hospital's Joint Occupational Health and Safety Committee," says Marilyn Reddick, Sunnybrook's vice-president of Human Resources.

Under Taylor's leadership, the hospital received numerous awards and rebates for water and energy conservation and was applauded for its work in recycling and adopting sources of renewable energy.

Taylor was also the go-to man in a crisis, as was the case during the SARS outbreak. Overnight, his team transformed sections of the hospital into safe-care areas for pa-

tients while ensuring staff safety. As well, he was also influential in initiating the Greening Health Care Committee, a membership that helps hospitals work together to improve energy and water efficiency and reduce solid waste generation.

Taylor also co-chaired the Energy and Environment Committee for the Toronto Central Local Health Integration Network and served on the board of directors of Booth Centennial Healthcare Linen Services.

To honour his memory it's fitting that his name be associated with a cause close to his heart – energy conservation. Sunnybrook has named its state-of-the-art solar panel installation, the Harry Taylor Solar Energy Wall.

And in September, during the hospital's Earth Matters Showcase, the newly created Harry Taylor Innovation Award will be presented to a staff member who has shown innovation in his or her work and shown achievement in inventing the future of health care.

AB

Making Sunnybrook More Accessible

Since its inception in 2003, the Accessibility Working Group of Sunnybrook has dedicated significant time and resources toward identifying, removing and preventing barriers that impact persons with disabilities.

"At Sunnybrook, we have over 10,000 staff, physicians and volunteers and one-million patients come to the hospital every year," says Jim Shuparski, chair of the Accessibility Working Group. "There are a lot of people with different accessibility needs and it's been our mission for the past six years to identify and remove any barriers that impede their ability to work at Sunnybrook or receive care here."

Sunnybrook's corporate accessibility plan, "Universal Access and a Culture of Inclusion," outlines the hospital's continuing efforts to eliminate accessibility barriers, including those that are physical, architectural, informational, technological and attitudinal, and those related to policy and practice.

Here are just a few of ways the Accessibility Working Group at Sunnybrook is improving access for community members:

- Installation of TTY telephones and inbound TTY phone lines at both the Sunnybrook Bayview campus and the Holland Centre;
- Increased number of wheelchair-accessible washrooms;
- Creation of larger shower rooms for patients with mobility issues;
- Increased accessible parking spaces around the campus;
- Replacement of sliding doors at some entrances to provide greater access;
- Installation of a new wheelchair ramp at entrance to the Geriatric Day Hospital.

This year, plans include the development of an online access guide that will provide patients and visitors with better directions and information for both the Bayview campus and the Holland Centre.

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Sound Strategy and Financial Management Helps Sunnybrook Invent the Future of Health Care

Despite a near constant demand for their services, Canadian hospitals are far from recession proof but meeting the challenges of the new economic reality is nothing new to Sunnybrook. The Hospital has a well-defined strategic plan and through the hard work of its 10,000 employees and physicians, the organization has not only achieved a balanced budget for the past seven consecutive years but it has also been able to reinvest strategically to develop innovative programs and services.

Each year, Sunnybrook cares for about one million patients and has an annual expense budget of about \$750 million, one of the largest in the province. With costs such as medications, supplies and energy prices rising each year at a rate of about five per cent, compared to average two per cent annual funding increases, much of Hospital financing is about managing the gap between inflationary costs and actual revenue.

Sunnybrook President and Chief Executive Officer Dr. Barry McLellan, suggests that the key to success in tough economic times is to have a well-articulated game plan that everyone supports. Recently, the Hospital updated its strategic plan to ensure the organization was clear on its priorities. After broad consultation in and outside of the Hospital, Sunnybrook's *Strategic Focus* document was produced. It outlines the organization's strategic priorities as well as focus for all clinical and research and teaching activities. (The plan can be viewed at www.sunnybrook.ca).

"There are harsh economic realities all organizations have to face and one of the best strategies to manage these challenges is to be abundantly clear about what you are going to focus on and that you are not going to be able to grow in every area of the Hospital," says Dr. McLellan. "Sometimes defining where you are not going to grow can be more difficult than understanding your strengths and areas for future investment, but by articulating a clear vision for the

organization and by achieving the commitment of your leaders to strive for it, difficult conversations become easier to have."

Through its *Strategic Focus*, Sunnybrook defined four areas of emphasis called strategic priorities and these include:

- Cancer, specific to breast, colorectal and prostate;
- Heart and Stroke with respect to finding innovative methods of imaging the heart to detect and treat cardiac disease, and acute interventions and rehabilitation for stroke;
- High Risk Maternal and Newborn Health as it pertains to high risk pregnancies and critically-ill and low-birth-weight newborns;
- Major Trauma and Burns, including caring for those who are critically injured as well as those who have severe burns.

These four areas are where Sunnybrook has an international reputation for innovation and significant research, patient care and educational acumen. Patients from across the province come to Sunnybrook to receive care in these areas and health professionals from around the world come to learn about the Hospital's research and clinical work in these areas. In addition to the four Strategic Priorities, Sunnybrook has seven programs, that have focused areas of clinical services and academics; Brain Sciences Program, Holland Musculoskeletal Program, Odette Cancer Centre Program, Schulich Heart Program, Women & Babies Program, Trauma Emergency & Critical Care Program and the Veterans & Community Program.

By defining its priority areas, Sunnybrook's Strategic Focus ensures the organization is sufficiently nimble to weather economic storms and has a definitive road map for where the Hospital wants to invest for future growth and development. This past year, Sunnybrook identified solutions of \$22.3 million that will be implemented in the 2009-10 fiscal year, while investing \$5 million in areas that will achieve the Hospital's vision

to invent the future of health care such as the construction of a new electrophysiology suite to correct abnormal heart rhythms.

A recent report from the Toronto Central Local Health Integration Network found that Sunnybrook is a highly efficient organization but there are a few further opportunities for efficiencies and partnerships with other organizations to align services.

"There seems to be more of a willingness in the system right now to explore partnerships with fellow hospitals, health agencies and others to ensure patient care is as coordinated and as seamless as possible from acute care to rehabilitation and home care," says Dr. McLellan. "In the next year we will continue to look for partnerships with organizations that can complement the services we provide and who can help us improve care for our patients. We will be sticking to our plan and ensuring Sunnybrook is able to do what it does best and be there for people when it matters most."

Sunnybrook by the Numbers

- 1,200 beds, including 535 Long Term Care/Veteran beds (our Veterans residence is Canada's largest Veterans facility) and 74 bassinets
- 125 critical care beds, including 41 neonatal intensive care bassinets
- 42,000 emergency visits, the highest admission rate of any hospital in the Greater Toronto Area
- 4,000 births, one quarter of which are high risk, and Sunnybrook cares for one in five babies born in the province who weigh less than three pounds
- 6,500 heart procedures
- 8,800 MRI hours
- Over 2,100 hip and knee replacements — The Holland Orthopaedic & Arthritic Centre is the largest centre of its kind in Canada
- 10,000 staff

Sunnybrook One of The GTA's Top Employers for 2009

Sunnybrook Health Sciences Centre has been selected from an extensive list of entrants as one of Greater Toronto's Top 75 Employers for 2009.

Greater Toronto's Top 75 Employers is an annual competition organized by Mediacorp, the editors of Canada's Top 100 Employers. This special designation recognizes Greater Toronto Area employers that lead their industries in exceptional workplaces.

"It is an honour to be named among the city's top working environments," says, Dr. Barry McLellan, president and chief executive officer of Sunnybrook. "I am so proud of our dedicated staff, physicians and volunteers who play such an important role in ensuring the hospital's overall success. This achievement is a testament to their unwavering commitment and it confirms what we have felt for a long time: Sunnybrook is an incredible organization to come to work at every day."

To be considered for this award, Sunnybrook participated in an extensive application pro-

cess, describing its business, workforce, physical environment, work and social atmosphere and health, financial and family-friendly benefits. The hospital also detailed compensation, vacation and personal day policies, internal communications, performance management, continuing education, and professional and community development.

"Sunnybrook is an incredible place to work for so many reasons but we are particularly proud of our numerous programs supporting staff wellness and safety," says Marilyn Reddick, vice-president of Human Resources. "We will continue to improve them in the future and provide the support and resources needed to help our staff balance their personal and professional priorities."

Winners of this year's Greater Toronto's Top Employers were announced in a special section of the *Toronto Star* on Oct. 18, 2008.

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Some of the reasons why Sunnybrook was selected as one of Toronto's Top 75 Employers for 2009:

- Greening initiatives, such as the Earth Matters symposium that involved staff and affected change throughout Sunnybrook;
- Staff Quality and Life Program, which includes a variety of staff safety, wellness and health initiatives;
- Staff recognition and celebrations, lauding staff for their contributions and celebrating achievements together;
- Working environment includes beautiful grounds, parkland setting with walking paths, and a fitness centre.



Sunnybrook volunteers make a difference when it matters most



For more information about Volunteering at Sunnybrook please call (416) 480-4129 or visit www.sunnybrook.ca

Committed Donors Michael and Marilena Latifi see the Impact of their Support for the Women & Babies Program



Ed Bush, of Corporate Planning and Development, with Michael and Marilena Latifi on a tour of the M-Wing construction site

In recognition of the Latifis' ongoing commitment to Sunnybrook, the new high-risk birthing unit will be named Sofina Foods Inc. and the Latifi Family High Risk Operative Birthing Suite

Michael Latifi, president of Sofina Foods Inc., and his wife, Marilena, are generous donors to the Women & Babies Program, and in March they saw first-hand the impact of their support.

Dr. Andrew Shennan, chief of the Women & Babies Program, gave the Latifis a tour of the new two-floor facility, which is currently under construction at Sunnybrook's Bayview Avenue campus. Scheduled for completion by fall of 2010, the state-of-the-art facility will be equipped to deliver and care for the 4,250 babies born each year at Sunnybrook, as many as one in four of whom are high risk.

The new facility will boast the most advanced medical technology in a warm, family-centred environment, and will provide Sunnybrook's world-renowned medical staff with the innovative resources they need to give the very best care to many of Ontario's most critically ill babies and their mothers.

Family and community are very important to the Latifis, who have four children of their

own. These values were carefully considered when deciding where to direct their philanthropy. It was clear to Michael and Marilena that the work of Sunnybrook's Women & Babies Program is perfectly aligned with the community-oriented vision of Sofina Foods Inc.

"Sofina Foods Inc. is committed to supporting the communities in which we live and work. By supporting the Women & Babies Program, we are contributing to the well-being of our entire community," says Michael.

Last year, the Latifis also raised an incredible \$224,000 for the Women & Babies Program through two events in support of Sunnybrook: the Sofina & Amici Golf Classic and the Latifi Ace Invitational Tennis Tournament.

In recognition of the Latifis' ongoing commitment to Sunnybrook, the new high-risk birthing unit will be named Sofina Foods Inc. and the Latifi Family High Risk Operative Birthing Suite.

The generosity of donors such as Michael and Marilena will give every baby the best possible start, when it matters most.

BS



Kevin Goldthorp, CEO of Sunnybrook Foundation, Dr. Andrew Shennan, chief of the Women & Babies Program with Marilena and Michael Latifi at the cheque presentation ceremony

“

The fact that my wonderful kids are alive today is a true miracle.

Wendy with Jenna 14 months and Dylan age 4, Neonatal Intensive Care Unit Patients

”

Women & Babies Program: Home to the second largest high-risk birthing centre in Ontario

Wendy almost lost her son at three-weeks-old. Just twenty eight weeks into her second pregnancy she was rushed to Sunnybrook with serious complications. The NICU staff made all the difference, they saved Dylan's and Jenna's life.



Building a new home for the Women & Babies Program

The Women & Babies Program will occupy two new floors at the Bayview Avenue campus by mid-2010. This new and spacious facility will offer women and their families the most innovative care in a warm and nurturing environment.

**Make a donation at
www.sunnybrookfoundation.ca
or call 416-480-4483**

 **Sunnybrook**

The ABCs of Nursing

Sunnybrook Nursing Education Partners with U of T's Lawrence S. Bloomberg Faculty of Nursing

This past year, Nursing Education at Sunnybrook partnered with the Lawrence S. Bloomberg Faculty of Nursing at U of T to offer the Agency Based Clinical (ABC) Placement, which creates new learning opportunities for students at Sunnybrook.

ABC Placement offers the opportunity for students to complete the majority of their clinical placements at Sunnybrook during their two-year program. Depending on the focus of a specific course, practice will take place on different units within the hospital. For example, in their entry year, students will complete clinical experiences in perinatology, the Veterans Centre, mental health and medicine and/or surgery. In their senior year, students will practice on other units such as neurosurgery and trauma, and in primary health-care settings that might include outpatient clinics.

"We are thrilled to have these students with us for the next few years," says Sue VanDeVelde-Coke, executive vice-president of Programs and chief of Nursing & Health Disciplines at Sunnybrook. "There truly is a continuum of life and patient care at Sunnybrook. Students can apply themselves in any specialty. We have the largest number of critical-care beds in Canada and have specialties such as oncology, cardiac, trauma, musculoskeletal, medicine and obstetrics, and over 500 long-term care beds. In addition, there are ongoing opportunities for learning, specialized training, continuing education and career ladder." "

The ABC Placement format is a fairly new model for clinical education that has been very successful in other countries. It was implemented at the University of Toronto two years ago and U of T nursing students completed their first program this past June at St. Michael's Hospital and Mount Sinai Hospital. During the placement a small number of students are assigned to a U of T – affiliated

teaching hospital and are designated as the ABC group for that hospital. Their professional development takes place directly in health-care settings where they apply content learned in the classroom and labs to patients, families and communities under the supervision of nursing clinical instructors and nurse preceptors.

"We are pleased with how quickly this came about. Sunnybrook came on board enthusiastically and willingly assisted with the student placements," said Mary Ann Fegan, co-ordinator of clinical education at U of T's Faculty of Nursing. "This is an important opportunity for students to get to know an organization, build their confidence and build their learning over the two years. And the hospitals involved are enthusiastic and keen to be involved with building relationships with our students and supporting their learning over time."

There are significant advantages for students in the program. They become familiar with the hospital setting and therefore experience reduced stress and anxiety, reduced time acclimatizing to new settings, hospital-specific policies and procedures, charting and medication delivery systems, and resources for patients, families and students. They are comforted knowing they will be at one hospital most of the time, not having to worry about their clinical placements. Students also have enhanced opportunities to participate in interprofessional activities.

"These students truly feel that they are part of our Sunnybrook family," says Shalimar Santos-Comia, director of Nursing Education and eLearning. "Their confidence level in being present and practicing on-site for the extended time frame, truly experiencing how Sunnybrook lives our mission, vision and values are all significant benefits to both the students and to Sunnybrook."

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• The New Wave in Nursing Education: Sunnybrook Interactive

• Nurses at Sunnybrook can now go online to learn about everything from blood transfusions and patient safety to pandemic planning and hand hygiene in an interactive way. Nursing leaders embarked on an eLearning journey in 2004 with the purchase of a Learning Management System, which stores in-house built content in an online format. This approach to teaching saves educators time so they can be more available to patients and their families and staff. In addition, staff nurses can access eLearning 24 hours a day and seven days a week.

• This online approach represents how millennial nurses and new grads learn, work and even socialize. They expect components of nursing education and development to be offered online, as well. At Sunnybrook, the in-house-built-content is constructed by and reviewed by front-line nurses before it gets posted online.

• Sunnybrook shares courses created with other Toronto Academic Health Sciences Network (TAHSN) organizations and also receives content from them. Other organizations are interested in joining up for partnerships, too.

Sunnybrook's Odette Cancer Centre Offers Less Invasive Treatment for Men Diagnosed with Prostate Cancer



To care for men with prostate cancer, Sunnybrook's Odette Cancer Centre Prostate Cancer Group (part of the Genitourinary Cancer Care Team) brings together one of the largest, highly specialized teams of its kind in Canada. The Group offers less invasive treatment approaches, which include:

Active Surveillance Approach

Low-risk prostate cancer patients are carefully monitored on an ongoing basis. If the cancer starts growing indicated by a rapid rise in PSA (prostate specific antigen) or grade progression on repeat biopsy, patients are offered surgical or radiotherapy intervention. Dr. Laurence Klotz is leading an international, multi-centre trial called Surveillance Therapy Against Radical Treatment to further validate this approach which is aimed at reducing over-treatment and radical treatment side-effects in men with low-risk prostate cancer.

Image-Guided Radiation Therapy Approaches

Sunnybrook's Odette Cancer Centre Prostate Cancer Group also offers innovative image-guided radiation-therapy treatment options for patients diagnosed with low, intermediate and high-risk prostate cancer, as well as those who develop recurrence after surgery.

For example, patients with intermediate or high-risk prostate cancer might be offered a combination of high dose-rate brachytherapy and a short course of external beam radiotherapy. The High Dose Rate brachytherapy Program is the largest in Canada with the most experienced multidisciplinary team in the field.

Sunnybrook's Odette Cancer Centre is a leader in Canada in hypofractionated (fewer doses at a higher dose per fraction) image-guided radiation therapy, and has developed a large number of treatment protocols to

use this approach to benefit patients, and allow for greater capacity in the health-care system.

Treatments are delivered with higher precision and at higher doses per day. For example, for patients with intermediate-risk prostate cancer, Dr. Gerard Morton is leading a trial using a combination of high dose rate-brachytherapy and hypofractionated external beam radiation therapy. Dr. Patrick Cheung is conducting research with high-risk patients on the use hypofractionated external beam radiation therapy,

Overall results of hypofractionated treatments and treatment combinations to date show fewer treatments are needed, and patients experience less acute toxicity and report better quality of life. Though this early data also shows promise for more effective control of the disease, validation continues through further follow-up.

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Dr. Laurence Klotz and Tom LePoidevin

Infection Reduction “In Hand”

Sunnybrook Leads Provincially in Hand Hygiene Education and Compliance



Cleaning your hands is the single most effective way to reduce the spread of most infections.

With its strong leadership focus on safety, Sunnybrook continues to support Ontario's initiatives in hand-hygiene education and compliance.

“We started about four years ago to look at hand-hygiene practice and ways we could enhance and sustain compliance,” says Sandra Callery, director, Infection Prevention and Control Program at Sunnybrook. “We carried out audits at the time to research the process, and conducted interviews and focus groups to better understand barriers to hand hygiene. We also drew from a substantive literature review to include hand-hygiene strategies from the World Health Organization.”

“We developed an evidence-based hand-hygiene compliance program, which we validated in consultation with health-care providers and other professionals,” says Callery.

Sunnybrook's Infection Prevention and Control team implemented the following key components for a successful program:

- At point of care, and key entry and exit points, placement of a hand-hygiene product (an alcohol-based hand rub);
- Auditing feedback with individual health-care professionals to develop a culture of change and continuous improvement in compliance;
- Intensive refresher education and learning modules as part of core competency training and certification for health-care professionals and students;
- Auditing tool to measure actual compliance rates.

“Over the past year, hand-hygiene compliance at all Sunnybrook campuses has moderately increased overall by 34 per cent,” says Dr. Mary Vearncombe, medical director of Infection Prevention and Control at Sunnybrook, “and though there is room for improvement, we acknowledge the continued and substantial efforts of our staff.”

“On a day-to-day basis, we see compliance steadily on the increase,” says Callery, “and we know studies indicate even a 20 per cent increase in hand-hygiene compliance can reduce health care–associated infections by up to 40 per cent.”

Sunnybrook has closely analyzed hand-hygiene practice and has helped inform the Ministry of Health and Long-Term Care's “Just Clean Your Hands” campaign to health-care professionals.

NCS

Help protect yourself and others: clean hands protect lives.

As a patient or visitor to a hospital, you, too, can help prevent the spread of germs. Think about the times you would clean your hands at home, such as:

- Before and after eating;
- After going to the washroom;
- After sneezing or coughing.

By cleaning your hands at these times and even more often when you are in a hospital, you can help protect yourself and others.

Sunnybrook recently launched a hand-hygiene campaign encouraging best practices

Improving Access to Cutting-Edge Vascular Care

Schulich Heart Centre a Leader In Minimally Invasive Endovascular Surgery

“Because of the advanced techniques available at Sunnybrook, I was able to have the surgery I needed and can look forward to seeing my daughter get married this year”



In November 2006, Tony Vandermale paid a visit to his doctor to investigate the source of the back pain he had been experiencing.

“I was fairly sure the pain was caused by my reoccurring kidney stones but I wanted to be sure,” recalls Vandermale. “Through the examination, we discovered that I actually had an aneurysm.”

An aneurysm is a weak point in a blood vessel wall that swells like a balloon and can burst, leading to uncontrolled bleeding and even death. One option for treatment is to surgically replace the damaged portion of the aorta (the largest artery in the body) with an artificial graft through a large incision. Unfortunately, Tony had pre-existing medical conditions and was not well enough to withstand this life-saving surgery.

“We knew that without surgery, we would have been living in limbo waiting for Tony’s aneurysm to burst,” says Nellie Vandermale,

Tony’s wife of 45 years. “Once that happens, there is only a 10 to 15 per cent chance of survival, which is a pretty difficult thing to live with every day.”

Every day in Ontario, three people die from a ruptured aneurysm. Vandermale was spared that fate when he was referred to Dr. Andrew Dueck, an endovascular surgeon at Sunnybrook’s Schulich Heart Centre. Dr. Dueck had some good news for him: Vandermale was actually a perfect candidate for the cutting-edge endovascular surgery being preformed at Sunnybrook.

“In the past, we would have to use drugs alone to treat patients like Tony who are not good candidates for traditional endovascular surgery,” says Dr. Dueck, who is also an assistant professor in the Division of Vascular Surgery at the University of Toronto. “Now, we are able to insert the stent-graft through a tiny incision at the top of each leg and attach it to the weak part of the aorta to prevent the aneurysm from rupturing. This type of

minimally invasive procedure is much easier on the body and safer for people with pre-existing medical conditions, making repair an option for many patients who would have had to go without.”

In addition to improving access to the best vascular care, advantages of this surgical technique include reduced pain and less need for postoperative pain medication, as well as smaller scars and a shorter stay in the hospital. The total recovery time is about one or two weeks, compared to six weeks with more invasive surgery.

“Because of the advanced techniques available at Sunnybrook, I was able to have the surgery I needed and can look forward to seeing my daughter get married this year,” says Vandermale. “That’s the greatest advantage I can think of.”

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Tony Vandermale, who underwent innovative endovascular surgery to treat an aneurysm

Anesthesiologist Leads Innovative Efforts in Pain Control

Preventive Analgesia Reduces Pain for Surgery Patients



In January, Richard Atkinson, 73, was discharged from the Holland Orthopaedic & Arthritic Centre campus at Sunnybrook after total knee replacement surgery on his left knee. In July 2008, Atkinson had undergone knee replacement surgery on his right knee at the Holland Centre. For both procedures, he praises the medical staff at Sunnybrook for a smooth and painless experience.

"There has never been a problem," Atkinson says. "After my right knee was replaced, I was doing things I wasn't supposed to be doing! With each day, I am improving. I didn't need any Percocet [a pain reliever] after the first evening at home, which was just five days after surgery."

Discomfort after surgery is a normal part of the healing process for most patients. However, more than 30 per cent of all patients suffer severe pain after surgery, which can lead to poor recovery and chronic pain. Uncontrolled pain can also potentially produce damaging effects on the heart and lungs.

Dr. Colin McCartney, an anesthesiologist at Sunnybrook, leads a team of experts to promote the latest innovations in pain management to improve the post-operative experience and help patients return to their daily activities sooner. Through a unique method

called preventive analgesia, patients are given a combination of pain medications before surgery and for several days after surgery in order to reduce the level of pain they might typically experience.

"It is my responsibility to facilitate implementation of best practice and to investigate new and better ways of controlling post-operative pain," says Dr. McCartney, director of Regional Anesthesia Research and Education at the Holland Centre, and an associate professor at the University of Toronto. "Preventive analgesia has been shown to reduce pain and drug-related side-effects by decreasing pain signals from the surgical site. As a result, this technique has been shown to reduce the risk of developing acute and chronic pain after surgery."

At the Holland Centre, one of the largest hip and knee joint replacement centres in Canada, every patient is evaluated by an anesthesiologist in the preoperative clinic about two weeks before surgery. At this time, aspects of anesthetic care are discussed so that patients can properly evaluate the benefits and risks of the common approaches to pain relief. Nerve block techniques, commonly used at the Holland Centre because they offer superior pain relief, are often used instead of general anesthesia, and this is discussed in depth with the patient. The pa-

tient is then made aware of the preventive pain medication regime that they will be prescribed when they are admitted to the hospital. Prolonged pain relief is provided by applying a local anesthetic around the nerves that supply the surgical site. This treatment is stopped two to three days after surgery when the patient requires a less potent pain reliever.

A month prior to his total knee replacement surgery, Atkinson began a regimen of extra strength Tylenol and ice to manage the sore knee. He consulted with his anesthesiologist three weeks prior to surgery, who provided an individualized assessment and encouraged Richard to continue his existing pain-control regimen. On the day of surgery, Atkinson recalls being wheeled into an area separate from the operating room prior to surgery where he was administered analgesic medications and nerve blocks.

Despite its clear benefits, preventive analgesic methods, including nerve blocks, are the exception rather than the rule in many hospitals. However, with other staff and scientists at the Holland Centre, Dr. McCartney is investigating how to promote a wider usage of preventive analgesia in medical organizations across Canada.

Fiona Webster, a knowledge translation scientist at Sunnybrook, is working with Dr. McCartney to understand the barriers and facilitators of best practices in pain management. "We will be studying these issues empirically in order to help us develop effective strategies that will support practice change both here at Sunnybrook and provincially."

When Shirley Atkinson helped her husband move around after his surgery, she could not help noticing how quiet and calm the patient wards were. As a former nurse, she was very impressed by the innovations and improvements in patient care.

Adds Richard: "I hope I don't have to come back for more surgery but if I do, I hope everything is exactly the same."

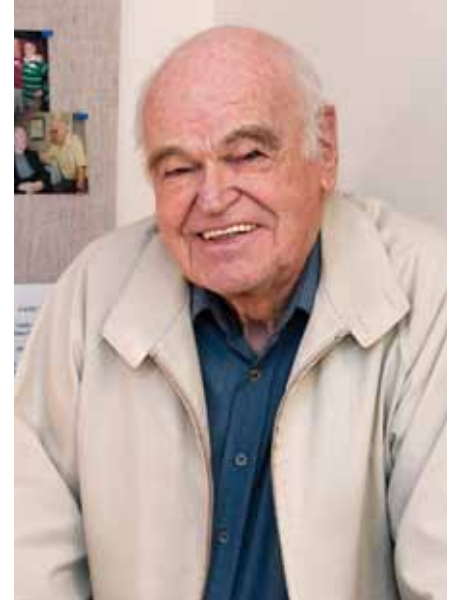
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Dr. Colin McCartney and Fiona Webster

Veteran Profile

Murray Westgate Second World War, Royal Canadian Navy

After six years devoted to the war, Westgate took up acting. His face became synonymous with *Hockey Night in Canada* broadcasts for 16 years



It was Murray Westgate's "nice guy" look that landed him a legendary role that many Canadians still remember: that of Imperial Oil's friendly gas station dealer and original pitchman.

In 1952, gas was 25 cents a gallon. Hockey fans tuned in faithfully to the new box called a television, and Westgate's Imperial Oil pitchman sang the song "Happy Motoring" along with the famous slogan "Put a tiger in your tank!" His face became synonymous with *Hockey Night in Canada* broadcasts for 16 years.

For Canadians from coast to coast, Saturday Night was special. First there was the Jackie Gleason Show followed by *Hockey Night in Canada*. During *Hockey Night*'s intermission, viewers watched the *Hot Stove League* and Westgate, who wore the spotlessly clean Esso uniform consisting of a zippered jacket and pants, a blue shirt, dark bow tie and cap.

From performing in high school plays at Central Collegiate in Regina, to working throughout the west for CBC Radio, to act-

ing in productions at Vancouver's Everyman Theatre, to a multi-faceted career that spanned television and stage, Westgate was definitely born to perform.

Westgate recalls his favourite television experiences: "*The Discoverers: The Story of Dr. Banting* in which I played Dr. Banting alongside Canadian actor John Drainie. I also really enjoyed the plays *The Gin Game* and *On Golden Pond*."

Along with acting, Westgate is also proud of his service in the Second World War and for the last four years, he has lived at the Sunnybrook Veterans Centre. In 1939, he joined the Royal Canadian Navy and was posted to Halifax where he trained as a telegraphist, learning Morse code in order to communicate by radio lines while at sea. Westgate devoted six years of his life to the war effort – three on a British ship on convoy duty in the North Atlantic sailing to the strategic harbour of Gibraltar.

At Sunnybrook, Westgate, 91, enjoys the occasional bingo game, and has taken a few guitar lessons. Every day he tries to take a

stroll around the campus. "I'm a big news junkie. I love *Charlie Rose* and watch him daily on PBS. I'm also big *Seinfeld* fan," he says.

Westgate was married to CBC Radio actress Alice Hall until her death in 1983. Hall was well known for her work in dramas such as, *The Craigs and Maggie Muggins*. Their two daughters live in Burlington, Ontario, and visit often along with Westgate's four grandchildren.

A letter dated April 30, 1979, and signed by former prime minister Pierre Trudeau hangs on the wall in his room. The letter congratulates Westgate on receiving an ACTRA award for best supporting actor in the play called *Tyler*. "I've had a great life with wonderful opportunities, things fell my way," says Westgate. "And now Sunnybrook is the best place I could possibly be."

SF

Murray Westgate, as the friendly gas station attendant and Imperial Oil's original pitchman. Westgate is now a resident in the Sunnybrook Veterans Centre



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