Sunnybrook
HEALTH SCIENCES CENTRE

Sunnybrook Magazine: Information for Life | Spring/Summer 2006

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SUNNYBROOK HEALTH SCIENCES CENTRE MAGAZINE

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Sunnybrook
HEALTH SCIENCES CENTRE

UP FRONT

FEATURES












A message from Leo Steven, President & CEO and Virginia McLaughlin, Chair, Board of Directors

It is our pleasure to welcome you to our newly named organization, **Sunnybrook Health Sciences Centre**, and the exciting future that lies ahead for the hospital.

By providing innovative and compassionate care, offering rewarding educational experiences and discovering the clinical best practices of tomorrow through our world-class research today, Sunnybrook is known as the place that is there for people when it matters most.

In fact, "When it Matters Most" is our new slogan, and speaks to what the 10,000 staff, physicians and volunteers at Sunnybrook do best. It means that staff are there for patients and their families, students and colleagues, and it applies to every part of the organization. The slogan articulates why the hospital is such a special place. When people need Sunnybrook most, it is there for them.

These are very exciting times for Sunnybrook Health Sciences Centre. The expansion of the Emergency Department is about to get underway this spring. The four-floor addition on M-wing is moving ahead and ground-breaking is expected this fall. It is hoped that the timelines for the relocation of the Perinatal and Gynaecology (P&G) program will be accelerated with the new home in M-wing by the fall of 2008. Planning for expanding the capacity of the Holland Orthopaedic & Arthritic Centre is moving ahead of schedule and the project will begin in the very near future.

As we move our academic mission forward and strengthen our full affiliation with the University of Toronto, we will be building on that success, literally. In addition to the Perinatal and Gynaecology program, the M-wing development will house new facilities for leading-edge research in cardiac imaging and intervention, Canada's most comprehensive breast cancer centre, the Toronto Angiogenesis Research Centre, and world-leading research programs. Every year Sunnybrook continues to provide learning opportunities for more than 2,600 students and conducts more than $80 million in research.

The commitment to women's health and the care of veterans will continue to be a priority and strategic programs have been defined in cancer, cardiovascular, musculoskeletal, perinatal and gynaecology, neurosciences, aging and population health, and trauma and critical care. These programs are leaders in their field and are helping Sunnybrook achieve the vision of transforming health care.

We would like to thank you for your support and partnership as we move forward as a new and vibrant organization. You, our community, are and will continue to be, an integral part of how we will achieve success.

Leo Steven
President and CEO

Virginia McLaughlin
Board Chair

Sunnybrook Health Sciences Centre: When it Matters Most

Sunnybrook is there for you when it matters most. Our programs in cancer, cardiovascular, musculoskeletal, perinatal and gynaecology, neurosciences, aging and population health, and trauma and critical care have more than one million patient visits each year.

Sunnybrook is fully affiliated with the University of Toronto and each year offers rewarding educational experiences for more than 2,600 students and is home to 600 scientists who annually conduct over $80 million in research.

Sunnybrook Health Sciences Centre has a strategic emphasis on programs in women's health and aging and is proud to be home to Canada's largest veterans' residence, which cares for more than 500 of our country's war heroes.

Sunnybrook

when it matters MOST

Realistic expectations and support network crucial for new moms

Giving birth for the first time is a momentous event in any woman's life, but it's followed by an even bigger life transition – taking the baby home and caring for it 24/7.

The postpartum period is a challenging time that requires some advance planning and education, says Anne Archer, co-ordinator of Sunnybrook Health Sciences Centre's Childbirth and Family Life Preparation Program. "We encourage women to have realistic expectations, which makes it more likely that they'll have a satisfying experience. We also encourage them to look for resources and supports."

If women do not live near their extended families, Archer advises them to look to the community for mothers' groups and public health programs. Help in the home during those early weeks after a baby's arrival is essential, whether it is from a partner, friend or relative. Assistance with cooking, cleaning and errands is best, says Archer, because it frees new mothers to focus on their most important task: bonding with and caring for their babies. Having someone watch the baby while you nap is also a good idea. Self-care is integral to baby care: "'Mother the mother so she can mother the baby' is a philosophy that we strongly endorse," she says.

The "baby blues" are common in the first few days after giving birth, characterized by sudden mood changes and crying. Yet when these symptoms and others – such as sadness, overwhelming fatigue and loss of interest in daily activities – continue beyond about two weeks, women should seek help for possible postpartum depression.

New mothers often get a lot of unsolicited advice about baby care, especially when it comes to the best strategies to soothe an infant. The theory that babies should "cry it out" is not based on good science, says Archer. Touching and holding a baby as much as possible, including skin-to-skin contact, actually contributes to brain development.

Breastfeeding can provide a frequent source of that close contact, in addition to giving babies optimum nutrition and immunity. All women with healthy babies are encouraged to try breastfeeding within hours after birth and then continue for at least the first six months. "The more educated women are about the benefits, the longer they tend to breastfeed," says Archer.

Self-education through baby-care workshops, books and talking with other mothers can go a long way towards easing the transition into motherhood, yet there are always unforeseen challenges. "We live in an information oriented society and women want to know everything," says Archer. "But there are some things you just have to live through."

Baby-care workshops are empowering, says new mom.

"I wanted to make sure that my husband knew how to change a diaper," jokes Jennifer Moorcroft, who attended the Sunnybrook baby care workshop with her husband, Kevin Hooper, before the birth of their daughter earlier this year. The 36-year-old editor says the workshop not only gave them practical information about everything from bathing infants to recognizing different types of crying, but it also boosted their confidence at a critical time. "The instructor reassured us that we would in fact be able to cope with a newborn. She was very encouraging, and the time we spent at the workshop was empowering."

Moorcroft also liked the fact that the workshop included the husbands and partners every step of the way. "They were never left out of the discussions about adjusting to life with a baby." She recommends some kind of baby-care education for any expectant parent because, after baby comes home, they need all the help they can get. "Life with a newborn is quite chaotic. You can't truly understand it until you experience it, but you can turn to others to help you prepare as much as possible."

When to call your baby's doctor

New parents are always on the alert for any signs that their new bundle of joy might not be well. Apart from common concerns such as diaper rash, these are some symptoms that merit a trip to the doctor's office during the first few weeks:

- A sudden change in urination and bowel habits
- Difficulty waking your baby up
- Fever
- Vomiting more than once after a feeding
- Diarrhea (if breastfeeding, more than 10-12 bowel movements in 24 hours; if bottle feeding, more than six)
- Not feeding at least six times in 24 hours

Mothers should also not hesitate to follow their instincts, says Archer. "We instil in them the idea that they know their baby best, and if they think something is wrong they should follow up on it."

By Megan Easton

Expansion of Emergency Department to ensure continuation of leading-edge care

The Emergency Department at Sunnybrook Health Sciences Centre will now be able to grow to accommodate increasing patient volumes thanks to a generous donation from Gulshan and Pyarali G. Nanji who are the lead donors towards the capital expansion of the Emergency Department.

The "G. & P. Nanji Emergency Response Centre" will be operational by the fall of 2008 and feature examining rooms for paediatric patients, ear, nose and throat problems, orthopaedics and mental health consultations, and other non-life-threatening emergencies.

"We chose Sunnybrook's Emergency Department because we wanted to contribute to an organization that has a direct, positive impact on individuals in the community," said Mr. Nanji. "We are aware of the challenges facing the Emergency Department with respect to volumes and we believe our gift will help ease waiting times." The gift represents the largest individual contribution to the hospital from a member of the Ismaili community.

Currently, the department cares for over 48,000 patients each year, arriving by walk-up, land and air ambulance, and referred by more than 80 hospitals across Ontario.

"The expansion of our Emergency Department will create a state-of-the art trauma centre, and will accommodate our projected growth to more than 54,000 emergency patients and their families in years to come," says Dr. Fred Brenneman, Chief of the Trauma Program. "The G. & P. Nanji Emergency Response Centre is a central component to achieving our ambitious goal and will improve patient care at the hospital for generations to come."

The Nanjis were born in Uganda, settling in Canada in 1972. Though citizens by birth, the regime of then dictator Idi Amin stripped them of their citizenship and their assets, and then declared them stateless refugees.

The Canadian Government, then under the late Prime Minister Pierre Elliott Trudeau, came to their rescue and the Nanji family, together with other Ugandan Asians in the same predicament, was airlifted to humanitarian grounds.

The Nanji family will never forget the generosity of the Canadian Government and the compassion of Mr. Trudeau. "We attribute our success to the opportunities offered to us by our adopted country," said Mr. Nanji. "We believe in charity and are delighted to give something back to our community through the Hospital."

The Nanjis are also patrons of the Aga Khan University and Hospital.

Sunnybrook Health Sciences Centre, in the early stages of a $300 million capital campaign, is deeply honoured by the support and kindness of the Nanji Family and admire their commitment to extraordinary health care.

Photo: The Nanjis with Sunnybrook President and CEO Leo N. Steven.

By Stephen Williams

Age-related macular degeneration:

The looming crisis

You may never have heard of it, but the fact is you could have age-related macular degeneration (AMD) and not even know it.

AMD is the leading cause of severe and irreversible vision loss in the Western world. Over 33 per cent of Canadians aged 55 to 74, and 40 per cent over the age of 75 will develop AMD according to the Canadian National Institute for the Blind (CNIB).

With the demographic shift in population due to the baby boomers, the prevalence of age-related vision loss is increasing dramatically in Canada. Studies predict that an estimated 2.1 million Canadians have AMD and this number is expected to triple in the next 25 years.

"This is an exciting time to be involved in the care and research of patients with macular degeneration," says Dr. Peter Kertes, vitreoretinal surgeon, Department of Ophthalmology at Sunnybrook Health Sciences Centre and associate professor at the University of Toronto. "We have a great deal more to offer our patients today than we did even a year ago. We have come a long way and have a long way yet to go."

This mysterious degenerative disease affects the macula, a small area at the very centre of the retina, responsible for the fine, detailed, central visual tasks we take for granted every day. While the retina enables you to see the page of a book, the macula allows you to see the printing on the page, so a person with severe macular degeneration may see a page with a black or gray spot in the centre.

Age is the most important risk factor; however, not everyone over 50 will get AMD. Other risk factors for the condition include white race, family history, and female gender. Some studies have suggested that high blood pressure, prolonged sun and/or light exposure, and a diet deficient in fish and green leafy vegetables may also increase your risk of vision loss from AMD.

Smoking is also a strong, proven risk factor and may be the only controllable risk factor. Smokers are six times more likely to develop AMD than non-smokers. It seems to be clear that the more you indulge in unhealthy choices, the greater your chances of developing AMD become, according to AMD Canada.

AMD takes two forms: dry and wet. Dry AMD is the most common form and accounts for 85 to 90 per cent of all cases. It is painless, progresses very slowly, is less severe and can take several years before you even realize there is a problem. Dry AMD usually begins with the appearance of drusen, small white or yellowish deposits that accumulate below the retina.

As the drusen accumulate, the photoreceptor cells above them are damaged. This disruption can cause distortion, or "blind spots" in the central visual field. Self-diagnosis in the first eye can be delayed, because if you were developing AMD in your left eye, the right eye, combined with the brain, would continually compensate to correct your vision until the disease had significantly compromised vision in the left eye.

Wet AMD occurs through a process called choroidal neovascularization (CNV), when new and abnormal blood vessels spontaneously begin to grow beneath the retina. Blood and fluid leak under the retina separating and lifting it like a blister and disrupting the photoreceptors, leaving them unable to normally transmit visual signals to the brain, resulting in distortion of images, or "blanks" or "blind spots".

Wet AMD is very aggressive, but accounts for only 10 to 15 per cent of all AMD cases but 85 to 90 per cent of the severe visual loss associated with AMD. While there are several treatments available that have been shown to slow deterioration, prevention through changes in lifestyle combined with specific preventive vitamin therapy for high-risk patients and monitoring can help preserve your vision.

People 50 and older should be examined yearly by their eye care professional or immediately with atypical visual symptoms. Early detection is the best way to fight this degenerative disease.

For more detailed information on age-related macular degeneration you can visit the CNIB website at www.cnib.ca or the Age-Related Macular Degeneration of Canada website at www.amdcanada.com.

Below: Vitreoretinal surgeon Dr. Peter Kertes looks for signs of AMD.

By Elayne Clarke

Lung Cancer: *The statistics*

By Jennifer White

Lung cancer remains the leading cause of cancer death for men and women, killing more people than breast, prostate and colorectal cancer combined.

"The rate of women diagnosed with lung cancer has been rising steadily for the last few years; whereas, the incidence in men continues to be on the downfall," says lung cancer expert Dr. Yee Ung from Toronto Sunnybrook Regional Cancer Centre, the comprehensive cancer program at Sunnybrook Health Sciences Centre. "This is attributed to the changing patterns of smoking behaviour between men and women."

The majority of people diagnosed with lung cancer are former or life-long non-smokers. Despite having quit smoking for years, former smokers are still at risk of developing lung cancer. About one in seven women who develop lung cancer have never smoked. Researchers are currently investigating why this might be. "It could be related to having been exposed to second-hand smoke or genetic factors that may make some women more susceptible to the development of lung cancer," says Dr. Ung.

If lung cancer is detected early and surgery is possible, the five-year survival rate can be as high as 75 per cent. The unfortunate reality is that most lung cancer patients are diagnosed at the later stages of the disease where the median survival is only 8 to 12 months in patients with metastatic lung cancer.

"What makes this disease so deadly is that most patients do not develop symptoms until the disease has spread," says Dr. Ung. "Once the cancer has progressed outside of the lungs, we can not cure it and our only means of treatment is to manage the patient's symptoms."

Dr. Ung recommends maintaining regular check-ups with your family physician and reporting any prolonged symptoms such as shortness of breath, coughing, hoarseness, weight loss and loss of appetite or coughing up blood.

If the cancer is found early, cancer treatments are offering patients new hope. Treatment options for lung cancer may include surgery, radiation therapy, chemotherapy and novel targeted therapies that attack specific features in cancer cells.

"With new and emerging therapies available for lung cancer, it is important that a team approach consisting of surgical, radiation and medical oncologists is taken by your doctors so that the best treatment plan is made," says Dr. Ung.

If you do smoke, it's never too late to quit. "The body begins to repair itself the moment you quit smoking. The sooner you quit, the greater the health benefits," says Dr. Ung. "Within ten years of quitting, the risk of lung cancer drops to approximately half that of a smoker."

What is lung cancer?

Lung cancer starts in the cells of the lung. The lungs are in the chest, on either side of the heart. The right lung has three compartments or lobes and the left lung has two lobes. Air is inhaled through the nose and throat and flows past the voice box (larynx) into the windpipe (trachea). The windpipe divides into two tubes, the left and right mainstem bronchi, which supply air to each lung. Within the lung, the tubes get smaller and smaller (bronchioles) until they reach air sacs (alveoli). The alveoli's job is to add oxygen to the blood and to take waste gases out. The waste gas is removed from the body as we exhale.

There are two main types of lung cancer:

- non-small cell lung cancer (the most common)
- small cell lung cancer

There are three major types of non-small cell lung cancer:

- adenocarcinoma
- squamous cell carcinoma
- large cell undifferentiated carcinoma

Treatment may involve some combination of surgery, radiation and chemotherapy.

Small cell lung cancer:

Treatment usually involves some combination of radiation and chemotherapy.

Source: The Canadian Cancer Society

A new way to manage your health information:

The Continuity of Care Record

When you think about it, many of our daily activities involve information management. We use automated banking machines for account updates and bill payment, we book plane tickets online, and in some stores we can even check out our own groceries. As information technology becomes more and more common and interactive, the ability and expectation for the health care system to move in this direction makes sense.

In many industries, the key to making information systems useful and successful is to make the consumer a key partner in the process. In March, Sunnybrook Health Sciences Centre launched a service for an electronic Continuity of Care Record (CCR) system. The system allows patients to create and manage their own personal health record, meaning patients have online access to things like their medication history, appointment schedule and test results. The groundbreaking model is designed to streamline the way health record information is delivered and exchanged between health care providers and patients.

"We are beginning to accept that the patient is a key stakeholder in the way we deliver care," says Sam Marafioti, Chief Information Officer at Sunnybrook. "Once the consumer is empowered they will change the way health care is delivered."

More and more, patients are taking a greater interest in managing their own health and health care information. Many are researching and gathering disease-specific information, and participating in their treatment decisions. According to Sarina Giraldi, director, eHealth Strategies & Operations, Information and Communication Services, this indicates a new type of consumer and a need to meet new expectations.

"The patient will always have the greatest interest in their own health care and that of their family," says Giraldi. "In order for the consumer to be more effectively involved in managing their health care, it's time to put the necessary information in their hands."

Sunnybrook's CCR initiative involves patients from Sunnybrook and physicians' offices in the community. These patients and providers will have access to personal health information through a password-protected system, which connects to a patient-specific Sunnybrook portal. It is accessible from anywhere on the Internet, and offers a series of self-managed services such as appointment scheduling, medication refills, patient diary, test results, and email communication. With the patient's consent, it has the ability to share health information with other providers and caregivers from anywhere at anytime. The system is secured by the same encryption technology used by Canadian banks. Sunnybrook will offer online help and arrange training sessions to assist patients with creating their own or a family member's health record.

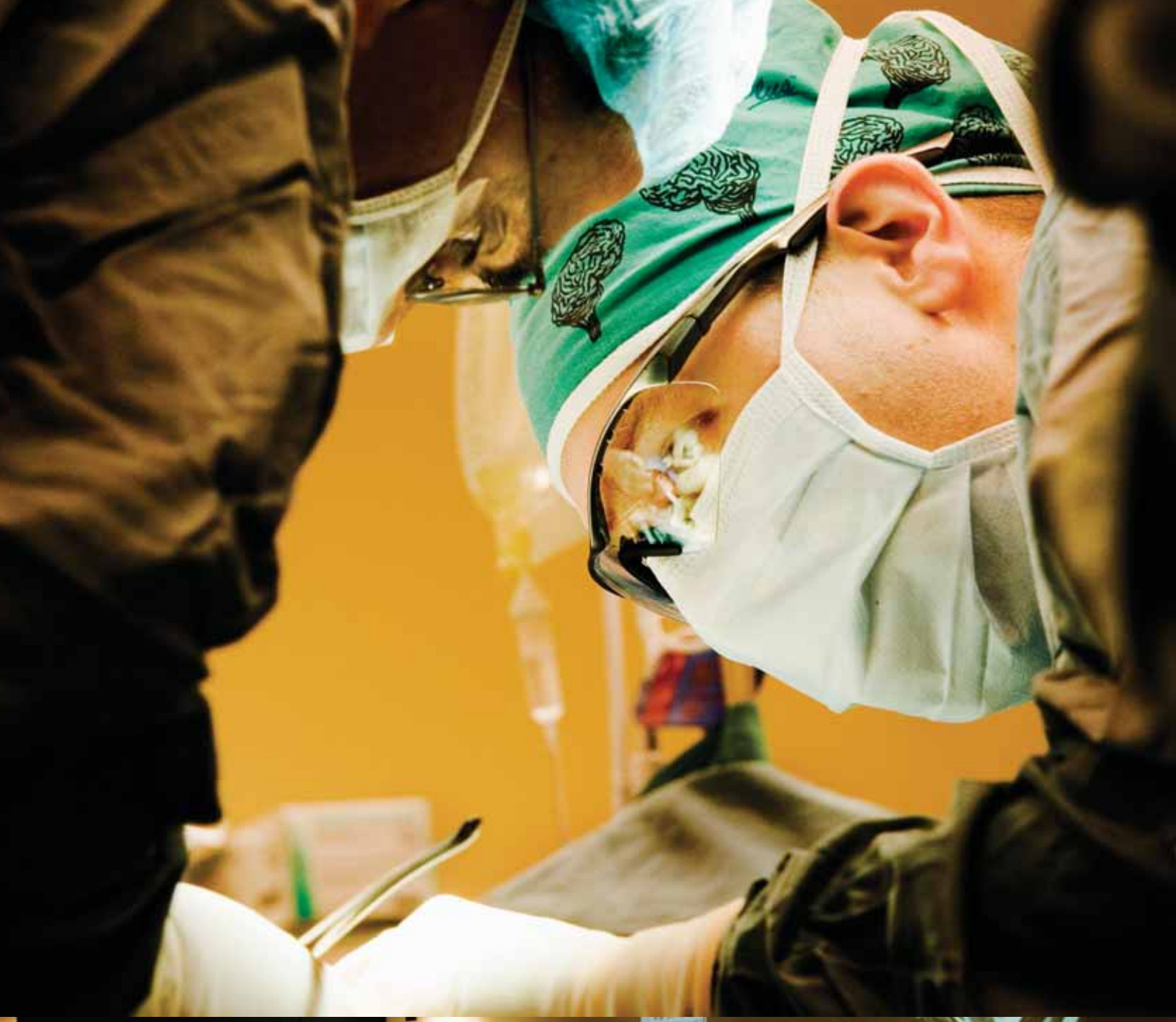
"This concept will change how we think about health care in general," says Giraldi. "It will empower the consumer in many ways, and the set up is very user friendly. Even young children can use it if required. For example, when helping an ill parent or elderly relative."

The idea of electronic personal health records not only empowers consumers, it also eases the strain on the entire health care system by improving clinical workflow. Implementing the CCR will help cut down on telephone tag frustration during the process of referrals and consultations with frequent users, and the need to collect new patient information. Often family physicians must interpret what a patient remembers from their last appointment with a specialist. Linking directly to the information will enable physicians to gain a more thorough understanding of the patient's history, and as a result improve efficiency.

"The CCR demonstrates a culture change in the industry," says Marafioti. "It validates the importance of information management, workflow efficiencies, the power of e-mail communication and ultimately how health care is moving to the convenient 24/7 space."

Below: Veronica Maidman, CCR trial participant, demonstrates the convenience of accessing her health record online.

By Laura Bristow



A glimpse into the life of a surgical resident

By Erin Molloy

Greg Hawryluk's alarm clock starts buzzing at 4:45 a.m. He gives himself enough time to grab some food and hit the shower, two things the 26-year-old neurosurgery resident doesn't take for granted. But, if he needs those extra precious 10 minutes of sleep, breakfast waits.

Greg hops in his car at about 5:30 a.m., and at 6:00 a.m. he reaches Sunnybrook Health Sciences Centre, which he describes as "more of a home than my condo." He makes his way up to the ICU and discusses what has occurred since his last shift the day before.

At 6:15 a.m. he begins his rounds with a team of about three other residents. On these rounds they see all patients on the neurosurgery unit, which usually consists of about 20 to 30 patients. They, "quickly but carefully" examine the patients to make sure their conditions are stable. If they are not, he and his team must find out why.

And "quickly" it is, especially on the three days a week that the residents attend teaching sessions, which normally commence at about 7:00 a.m., just 45 minutes after arriving at the hospital and viewing more than 20 patients. Here, they learn about different neurological conditions and talk about cases involving actual patients. One particular morning the group listened to a lecture given by Sunnybrook Orthopaedic Surgeon Dr. Michael Ford on Minimally Invasive Approach to Metatastic Spinal Cord Compression.

Although it is only 7:00 a.m., cake is being served. Looking around the classroom there is not a hand that isn't holding a coffee. The students sit chewing and sipping, as for most, this is their first bit of "nourishment" for the day. Each student sits and listens attentively, all with the same serious, but captivated, expression on their face. Every now and then this expression is broken by a yawn and an eye rub.

As the session concludes, and the floor is opened for questions, Greg is the first to raise his hand. Despite the fact that he's tired, he is clearly alert as one question is followed by another. Anyone can hear the sheer eagerness and interest in his voice.

"I am tremendously privileged to do neurosurgery," Greg says. "It is very important medicine because for patients who are having neurosurgery, it is probably the biggest thing that has ever happened to them in their life."

At 8:00 a.m. the operations begin. Although it can be a struggle to make it on time, it is important not to be late because as a resident, Greg must first meet with patients and learn about them in order to assist with their procedures.

He will then continue operating for the entire day, which translates into two or three operations. Greg describes the days that he's on-call as a constant juggling act: living on a minute-by-minute basis, running sometimes on no sleep, with a lot of people fighting for his attention. He describes getting more pages than he can answer, and the difficulties in striking a balance between clinics, surgery, stabilizing sick patients and assessing new ones.

The days Greg is not on-call he can leave the hospital between 6:00 and 8:00 p.m., a mere 12 to 14 hour shift, compared to the 30-hour shifts when he is on-call. However, when Greg finally gets to go home, he rarely gets to sit back and turn on the TV. If he doesn't fall asleep right away, he is either studying, researching or preparing presentations for the next day. On average he gets about four hours of sleep per night. This leaves him with little to no time for his personal life, and things like marriage and having children must be put on hold. However, Greg claims that he tries to have fun by making a point to go out with friends one night per month.

"It does take time to adapt when you're a junior resident," he says. "But you know what you're getting into. We see the demands of a surgical residency in medical school. Besides, we've all been working hard since well before then. I like working hard."

In July of this year, Greg plans to take a break. By that time he will be halfway through his residency training, and he will be starting research for his PhD in spinal cord injury, which he will complete in approximately three to five years.

"After being exposed to neurosurgery as a medical student I fell in love with it," he says. "This is really gratifying work!"

Photos: Greg Hawryluk, neurosurgery resident

Living life at full throttle:

Former R.C.A.F. squadron leader has defied the odds more than once

As a squadron leader during the Second World War and an outstanding pilot for most of his professional life, Harold (Hal) Orville Gooding was always in control.

He joined the Royal Canadian Air Force in 1941 and as the squadron leader of No. 440, City of Ottawa (beaver squadron), he led a wave of 12 Typhoon fighter bombers over the northern coast of France in the D-Day attacks on Sword and Juno beaches.

He flew three trips that day. The invasion was an unimaginable assault, which led to the Allied victory and the end of the Second World War. In recognition of his skill and bravery, he was awarded the Distinguished Flying Cross (DFC) and the American Air Medal.

After the war, Hal returned to Ottawa and flew members of Parliament around the country for the Ministry of Transport. He then worked with Imperial Oil for more than 30 years, in both Calgary and Toronto, flying crews and supplies to remote drilling locations, and later becoming an aviation manager and finally Manager of Reservations & Transportation.

In 1999, a serious health scare threatened Hal's independence. He left his Florida condo and set off to the airport to pick up his wife, Doris, who was flying in from Toronto. On the way, Hal became confused and lost his way. Instead of arriving at the airport, he drove southbound to Miami and for the next 24 hours, he was missing. It was just as though he had vanished into thin air.

His family feared the worst. "We had no idea what had happened and we were worried sick," says his daughter, Tracy Roberts, who received the news that her father had been located, as she was boarding a plane headed for Florida.

When Hal returned to Toronto for a full physical exam, an MRI test revealed that he had a benign brain tumour behind his right eye socket. The pressure behind his eye was causing his confusion and inability to navigate the roads while in Florida.

The next couple of months were extremely difficult. Following surgery at Sunnybrook to remove the tumour, Hal was left bedridden and could not move for two months. The surgery went well, but he was on a feeding tube, and suffered a small stroke while convalescing in hospital. Things did not look very promising.

In March 2000, Hal was moved from the acute care side of the hospital to the veterans' residence in Kilgour wing. "He really didn't have much will to do anything. We just took it one day at a time," recalls Tracy.

He started daily physiotherapy and small goals were set for him, and after 10 months he was off the feeding tube. Hal now had a will to live and each time he was challenged he would accomplish the goal and another one would be set.

On June 6, 2004, in front of more than 1,000 fellow veterans, staff and family members, Hal met another major challenge. Decorated in medals, he gave the key address at a celebration marking the 60*th* anniversary D-Day.

Hal recounted with great detail what had happened during the early morning of D-Day: "My view from the cockpit crossing the Channel was a panoramic scene as awesome as it was unforgettable. From my privileged seat 2,000 feet above sea, I could now begin to appreciate the magnitude of this epic event below."

Today, at age 86, Hal still resides in the veterans' residence. Hal enjoys several recreation and creative arts therapies such as woodworking, pottery, enamelling, dinner club, horticultural therapy as well as Royal Canadian Legion trips and community outings. "He's a new person now," says Tracy. "Dad loves the people here, his comrades, and all the members of his health care team."

Top photo: Squadron Leader Harold (Hal) Gooding, age 24, in front of a Typhoon fighter-bomber. Below: Hal Gooding with his primary nurse, Krystyna Siemiatkowska, at the Veterans' residence at Sunnybrook.

By Sally Fur

Peer navigation for young women with breast cancer

Providing the support and navigation tools to face breast cancer with dignity

Michelle Hobor was just 31 years old when she was diagnosed with breast cancer. At the time, the married mother of two young children was nursing her four month old. "I thought I had a blocked milk duct. Like most women my age I wasn't thinking about breast cancer."

According to the Canadian Cancer Society, 21,600 women will be diagnosed with breast cancer this year. Only five per cent of these women will be under the age of 40 and two per cent will be under the age of 35.

For young women, the diagnosis comes at a pivotal point in their lives, leaving them to face unique psychosocial and practical challenges. While there are issues and experiences that are common to all women with breast cancer, many find themselves separated from the broader cancer population because of their stage of life and relatively young age. They feel isolated from their peers who have not experienced such a traumatic life disruption.

Dr. Karen Fergus, psychologist, has been running support groups for young women with locally advanced and inflammatory breast cancer at the Locally Advanced Breast Cancer Clinic (LABC) at Toronto Sunnybrook Regional Cancer Centre (TSRCC), the comprehensive cancer program at Sunnybrook Health Sciences Centre. She found that support services targeted specifically to young breast cancer patients were sorely lacking.

"The women we see are faced with a number of difficult life decisions over a short period of time," says Fergus. "Hopes of conceiving a child may be shattered and careers are put on hold. They worry about how the illness affects their body image and sense of womanhood and how it will influence new or future intimate relationships."

To provide these women with support and navigation tools to face cancer with dignity, she and Barb Fitzgerald, an advanced practice nurse at TSRCC, initiated Canada's first peer navigation service for young women with breast cancer in collaboration with Wellspring and Willow Breast Cancer Support and Resource Services.

The service allows newly diagnosed young women to share their concerns with a trained survivor, who is similar in age and stage of life. The two can talk confidentially over the telephone or face-to-face.

"When you first hear you have cancer, you think 'I'm going to die,'" says Michelle. "Wellspring matched me with a young woman who had two small children when she was diagnosed with breast cancer. Just talking to someone that I can relate to on the other side is very comforting."

Since her diagnosis in November 2005, Michelle has had a modified radical mastectomy and received chemotherapy. She is currently receiving radiation.

The service, launched last fall, is a one-year pilot project made possible by Rethink Breast Cancer, an organization dedicated to helping young women. Since then, it has matched more than 20 young women with a team of trained volunteers. Based on its success to date, there is hope that the program will continue.

It is currently open to any woman around the age of 40 or younger, with breast cancer, living in the Greater Toronto Area. To learn more, please contact Wellspring at 416.480.4440 or Willow at 416.778.5000.

Making sense out of chaos

Laurie Dudo was 27 years old when she was diagnosed with breast cancer in February 2003. Realizing the need for programs like the peer navigation program for young women with breast cancer, she jumped at the opportunity to volunteer when she was asked to be a peer navigator.

"These women have just been diagnosed and are going through treatment. They don't know what to expect or what to do. Just having someone to provide a listening ear, someone who understands what they are going through, and to help guide them through the resources can mean so much."

Volunteers complete a specialized training program tailored to younger women's issues. They are monitored under close professional supervision and the team meets regularly to debrief and discuss how to solve problems. Continuing education talks are offered to volunteers and users of the service.

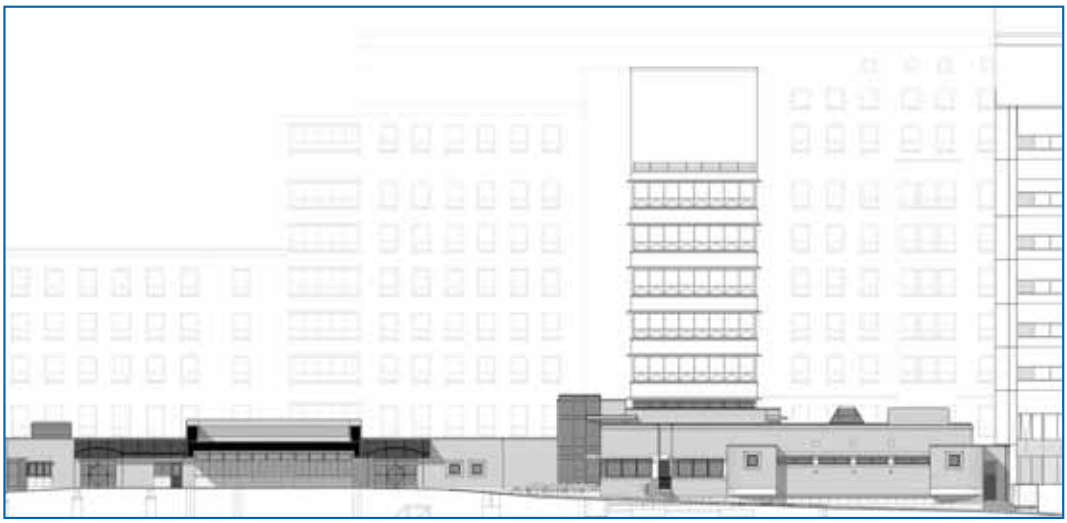
"Becoming a volunteer has really helped me. Emotional and physical recovery do not run parallel," says Laurie. "When you are diagnosed the doctors put you on a treatment plan and this is what you focus on. It's only when you've made it through the process that you have time to reflect on what you've gone through. Now I feel like I am turning my pain into power."

By Jennifer White

Above: Laurie Dudo and Michelle Hobor at Wellspring

Sunnybrook improves care and aims to decrease patient wait times

Working hand in hand with the Government of Ontario, Sunnybrook Health Sciences Centre is taking steps to decrease wait times, create a critical care central and improve health care for women and babies.



Patients and visitors to Sunnybrook will soon start to notice the capital projects linked with these steps to transform health care for patients in Toronto, the greater Toronto area (GTA) and across Ontario. Expansion plans for the Emergency Department and Regional Trauma Centre will have a lasting impact on services for more than 40,000 patient visits per year. The project will create a state-of-the-art department, which will double its current size, add a CT scanner, and increase stretcher capacity from 27 to 48 bays.

"The Emergency Department has long since outgrown its environment and needs this expansion to continue to meet the growing needs of the many communities we serve," explains Leo Steven, president and CEO of Sunnybrook. "Originally designed for 20,000 visits per year, department staff and physicians are now treating more than double this volume, including those patients needing care for traumatic injuries, burns, stroke, cardiovascular disease, cancer, neurological disorders and other serious conditions."

Expanding the department will also provide much needed space for the Regional Trauma Centre. As a result of the trauma services, patients arriving at Sunnybrook often tend to be acutely ill. The Regional Trauma centre is Canada's first and largest, and each year it cares for more than 1,200 patients who arrive by air and ground ambulance from more than 80 hospitals across the province.

In addition to emergency and trauma services, by spring 2009 or sooner, the Perinatal and Gynaecology (P&G) Program currently located at Women's College Hospital will be transferred to a new facility at Sunnybrook. The program will occupy two of the new four-floor development on top of the existing M-wing at the Bayview Campus. The new P&G home will house a new Neo-Natal Intensive Care Unit and labour and delivery suites.

Sunnybrook delivers about 4,000 babies each year and of these births, one in four is considered "high-risk." The hospital is one of only two in the GTA serving high-risk mothers and critically-ill newborns in its level three Neo-Natal Intensive Care Unit. The new facility will create more space for these critically ill newborns, as well as comfortable birthing facilities for women.

The additional floors on M-wing will also house the future home of the Comprehensive Breast Cancer Research Centre. The centre, funded by the Canadian Foundation for Innovation and the Ontario Research Fund, teams basic, imaging and clinical scientists to understand and eliminate breast cancer in a unique multidisciplinary program. Areas of focus include developing and applying diagnostic and interventional imaging techniques, as well as developing and expanding a tumour and tissue databank. The new space on M-wing will also house Sunnybrook Research Institute programs, which will test the effectiveness of cancer therapies, including anti-angiogenic agents.

An exciting component of Sunnybrook's plan to transform health care includes the great progress on the development of the Centre of Excellence in arthritis and hip and knee replacements at the Holland Orthopaedic & Arthritic Centre. The Holland Centre performs the largest number of hip and knee replacements in Canada, and has already increased its volumes this year. Over the next few years, the centre will more than double its number of cases from 1,800 procedures a year to 4,100. The centre will build on its already stellar reputation for educating health care professionals, conducting breakthrough research, and caring for patients with orthopaedic and arthritic disease.

From emergency and trauma services, to mothers and babies, to ground-breaking research on breast cancer, to improving the lives of those needing hip and knee replacements, Sunnybrook is committed to being there for patients when it matters most.

Illustration: G + G Partnership Architects

By Marie MacPherson

Preparing for a pandemic:

What to expect and how to protect yourself

With predictions of a worldwide outbreak of influenza being a matter of when, not if, Sunnybrook Health Sciences Centre has been leading the way in Canada by developing strategies to deal with large numbers of ill patients with limited hospital resources.

"We now have a plan in place in the event of worldwide pandemic influenza," says Dr. Mary Vearncombe, medical microbiologist and medical director, Infection Prevention and Control at Sunnybrook. "Although we cannot predict when the world will see the next pandemic, there is a consensus among infectious disease experts that we are closer now to the next pandemic than we have ever been before."

Sunnybrook's pandemic plan outlines how the hospital will care for patients who become very ill with influenza in addition to patients who are traumatically injured, require cancer care, perinatal care, urgent surgery and medical attention. It includes looking at strategies to optimize beds and personnel, such as potentially discontinuing some non-urgent activity and redeploying staff to areas of the hospital where they are needed most. The document will continue to evolve as we move into the future.

With predictions of an outbreak, people can prepare themselves by knowing what to expect during a pandemic and learning about the basic precautions to keep their families safe.

Understanding pandemics: What should I expect?

A pandemic influenza is an outbreak of influenza that spreads rapidly around the world. Flu pandemics arise when a new strain of the virus which is easily transmittable from human to human emerges, and against which people have little or no immunity.

Although experts expect that the symptoms of pandemic influenza will be similar to that of the seasonal flu - fever, headache, muscle aches, sore throat, cough and profound fatigue - they will not be sure until they see the pandemic viral strain.

Potentially everyone will be at risk of becoming ill. Certain groups of the population, such as adults over 65 with high risk medical conditions, children and infants, may be at greater risk than others, but that will not be known until the pandemic emerges.

The outbreak will occur in waves. Experts anticipate the first wave to last six to eight weeks and may be followed by one or two more waves, possibly of stronger severity. When the pandemic reaches Canada, the federal, provincial and local health and administrative authorities will deploy pandemic response plans.

Vaccines will not be available for the first wave because current technology allows us to develop effective vaccines only after the actual pandemic strain is identified. Once the strain is identified it will take up to three to six months to develop a vaccine.

Experts predict that between 15 and 35 per cent of the Canadian population, or between 4.5 and 10.6 million people, will be ill in a mild to moderate pandemic. Of these, some 34,000 to 138,000 will require hospitalization.

How can I protect myself and my family?

During an outbreak of pandemic influenza the same measures that protect the spread of seasonal influenza will be essential.

- Get a flu shot every year.
- Wash your hands frequently with soap and running water for at least 15 seconds or use an alcohol-based hand sanitizer.
- Keep at least one metre away from people who are coughing or sneezing.
- Stay home from work if you are ill.
- When you cough or sneeze cover your mouth and nose with a tissue, throw the tissues directly into the garbage, and wash your hands or use an alcohol-based hand sanitizer immediately.

Above: Dr. Mary Vearncombe

By Jennifer White

Gastrointestinal Health 101

We've all seen them. The images jump out at us from the TV and pages of magazines. A person's backside is the main focus, with wording encouraging us to overcome our fear and embarrassment of colorectal screening.

So what exactly do we need to be screened for?

Colorectal screening can help identify disorders of the colon, rectum, and occasionally, the end of the small bowel (terminal ileum) which can have a negative impact on our overall daily health as well as protect us from potentially fatal diseases such as cancer.

"People suffering from gastrointestinal diseases often feel miserable and very sick," says Dr. Lawrence Cohen, interim director of the Division of Gastroenterology and director of Medical Endoscopy at Sunnybrook. "Everyone who has had an episode of diarrhea, nausea and vomiting from travel or after a night of debauchery will attest to the truth of this matter. Now imagine that feeling every day of your life while interacting with co-workers or at home with family."

"Gastrointestinal disorders can occur from the mouth to the anus, quite a large part of the human body that requires our attention," says Dr. Cohen, also an associate professor of Medicine at the University of Toronto. "These are chronic illnesses that disrupt one's day-to-day life considerably, making everyday scenarios very uncomfortable and sometimes impossible. With current therapy and care, most conditions are not fatal, but they are essential to treat for an individual to go on with their life."

Types of gastrointestinal disorders

Inflammatory Bowel Disease (IBD): There are two main disorders associated with IBD: Crohn's Disease and Ulcerative Colitis. Symptoms of Crohn's include weight loss, diarrhea, a sick feeling including weakness and fatigue, an ill appearance, and fevers or night sweats. Blood in the stool, however, is a hallmark of colitis.

Cancers of the GI tract: Cancers can develop anywhere throughout the gastrointestinal tract. There are various symptoms and sometimes a lack of them that vary from individual to individual. Identifying risk factors (many are listed below) and participation in early screening is important to detect cancers of the GI tract, such as colorectal cancer, which is a cancer in the lower part of the tract. Surgical and medical oncologists help to manage cancers of the GI tract with various treatment therapies.

Dyspepsia/Indigestion: This condition is very broad and is separated into two main types of symptoms: acid-mediated, such as heartburn, reflux and discomfort in the upper abdomen; and motility-like symptoms such as bloating, constipation, diarrhea and flatulence, issues indicative of IBS.

Liver/gall bladder/pancreas: Conditions such as the formation of gallstones, acquisition of hepatitis and development of pancreatic disorders can be very debilitating and clinically challenging.

What should you do?

If you are concerned, consult with your doctor and get assessed. Your family doctor will provide a physical examination and will initially send you for tests such as blood work and x-rays, after which you will be referred to a gastroenterologist or surgeon.

There are various treatments available for the different disorders and diseases of the GI tract. Please consult your doctor on your individual needs.

The following websites are good sources for up-to-date information on gastrointestinal disorders:

www.badgut.com (Canadian Society of Intestinal Research)
www.ccfc.ca (Crohn's & Colitis Foundation of Canada)
www.liver.ca/Home.aspx (Canadian Liver Foundation)

Red Flags

Be particularly aware of the following - they can be symptoms of underlying disease and illness:

Upper Gastrointestinal problems:
- Vomiting
- Difficulty swallowing
- Recognized weight loss
- Unexplained upper abdominal pain

Lower Gastrointestinal problems:
- Recognized weight loss
- Change in bowel habits
- Visible blood in stool
- Invisible blood in stool you can't see (called occult) that can be found through testing
- Unexplained fevers or night sweats
- Disruption of sleep by abdominal pain and/or bathroom trips

Risk Factors

Consult with your doctor if you:
- Are over age 50
- Recognize any of the symptoms listed above
- Have a strong family history (first-degree relatives) of colon cancer or genital urinary cancer and are in your early 40's. The more relatives who have had a related cancer, the higher your risk
- Have had previous cancer, either polyp or a urinary cancer
- Have a long-standing history of inflammatory bowel disease (IBD)

By Nadia Norcia

Enabling seniors one step at a time

No one ever says that growing old is easy. However, it's a fact of life. Seniors are the fastest growing population in our community and with many complex medical and social issues, they are the main focus of the W. P. Scott Geriatric Day Hospital at Sunnybrook Health Sciences Centre.

The Geriatric Day Hospital is an outpatient program that provides assessment, treatment and rehabilitation of seniors. The goal of the program is to enhance independence and quality of life for seniors living in the community. Seniors attend the program for a three to five month period.

All health professionals in the program have specific expertise in geriatrics and as a team they provide an interdisciplinary approach in the care of seniors. The Day Hospital team consists of physiotherapists, occupational therapists, recreational therapists, speech language pathologists, social workers, registered nurses and a physiotherapy assistant. Psychological services are also available on a consultative basis. According to patient care manager, Betty Matheson, the staff see about 20 patients per day.

The team are experts in dealing with a variety of complex health issues, such as balance and falls prevention and physical functioning, self care (activities of daily living), memory and cognition, communication, swallowing, nutrition and weight loss, emotional and/or social concerns, helping seniors live safely in their own home, leisure pursuits, bowel and bladder dysfunction, coping with multiple chronic illnesses, family and/or community supports, and relieving caregiver burden.

Seniors may be referred to the ground floor, H wing location from the community, from inpatient units or from the many specialized geriatric services of the Regional Geriatric Program of Toronto. "Our goal here is enablement, helping seniors remain in their own homes by maximizing function and independence," says Dr. Barbara Liu, one of the two geriatricians who work in the Day Hospital. Dr. Liu is also the director of the Regional Geriatric Program of Toronto, which is based at the Sunnybrook campus.

After the initial assessment, a plan of care is then developed with a focus on the specific needs and goals of the patient. At the completion of their program, patients are referred to a community program for continued care and follow up.

The Geriatric Day Hospital also offers an eight week Living Well information and support program, which enables older adults to get the most out of life by addressing their health and social concerns. Conducted on Friday mornings in a group setting, participants are encouraged to discuss strategies for coping with aging, exchange ideas, and share experiences.

The program is facilitated by several health care professionals including an occupational therapist, a physiotherapist, a recreational therapist, a registered nurse, a social worker, a speech language pathologist and invited speakers. There is no cost to participants.

If you would like more information on the Geriatric Day Hospital please call the referral office at: 416-480-6888 or visit the website at www.sunnybrook.ca.

Above: Patient Marjorie Katz with Recreation Therapist Mary Anderson and Physiotherapist Assistant Chris Atherton

By Sally Fur

Healing the heart without opening the chest:

Sunnybrook Health Sciences Centre – a Canadian leader in minimally invasive surgery

By Megan Easton

There is a new, less invasive surgical option for correcting an irregular heartbeat that does not respond to conventional treatment, and the Schulich Heart Centre at Sunnybrook Health Sciences Centre is the only place in the country to offer it. Not only does it allow a shorter hospital stay and quicker recovery, but recent evidence suggests that its success rate is very close to traditional open-heart surgery.

Dr. Gideon Cohen, a cardiovascular surgeon at Sunnybrook, was the first to perform the procedure in Canada in 2004. It is designed to treat a condition called atrial fibrillation, a common type of heart rhythm disorder associated with an increased risk of stroke and heart failure. While some patients find relief with standard treatment options such as medication, lifestyle changes or pacemakers, others are left with no option but surgery.

The leading-edge minimally invasive surgery is a variation on the "Maze" procedure. The traditional Maze involves opening the chest cavity, stopping the heart using a heart-lung machine and creating a "maze" of controlled incisions in the heart. In the modified Maze, instead of using a scalpel the surgeon uses freezing, radiofrequency waves, lasers or microwaves to generate controlled burns in the heart. In both cases, scar tissue forms and blocks the electrical circuits responsible for producing an abnormal heart rhythm. While the traditional Maze is still considered the gold standard surgical treatment for atrial fibrillation, it is only performed on patients undergoing other open-chest procedures such as bypass surgery.

For more than two years now, Dr. Cohen has been performing the modified Maze in a minimally invasive way as a stand-alone procedure. There is no opening of the chest or stopping of the heart. Rather, he makes three small incisions on each side of the patient's chest to insert a tiny camera and specialized surgical instruments capable of generating microwaves.

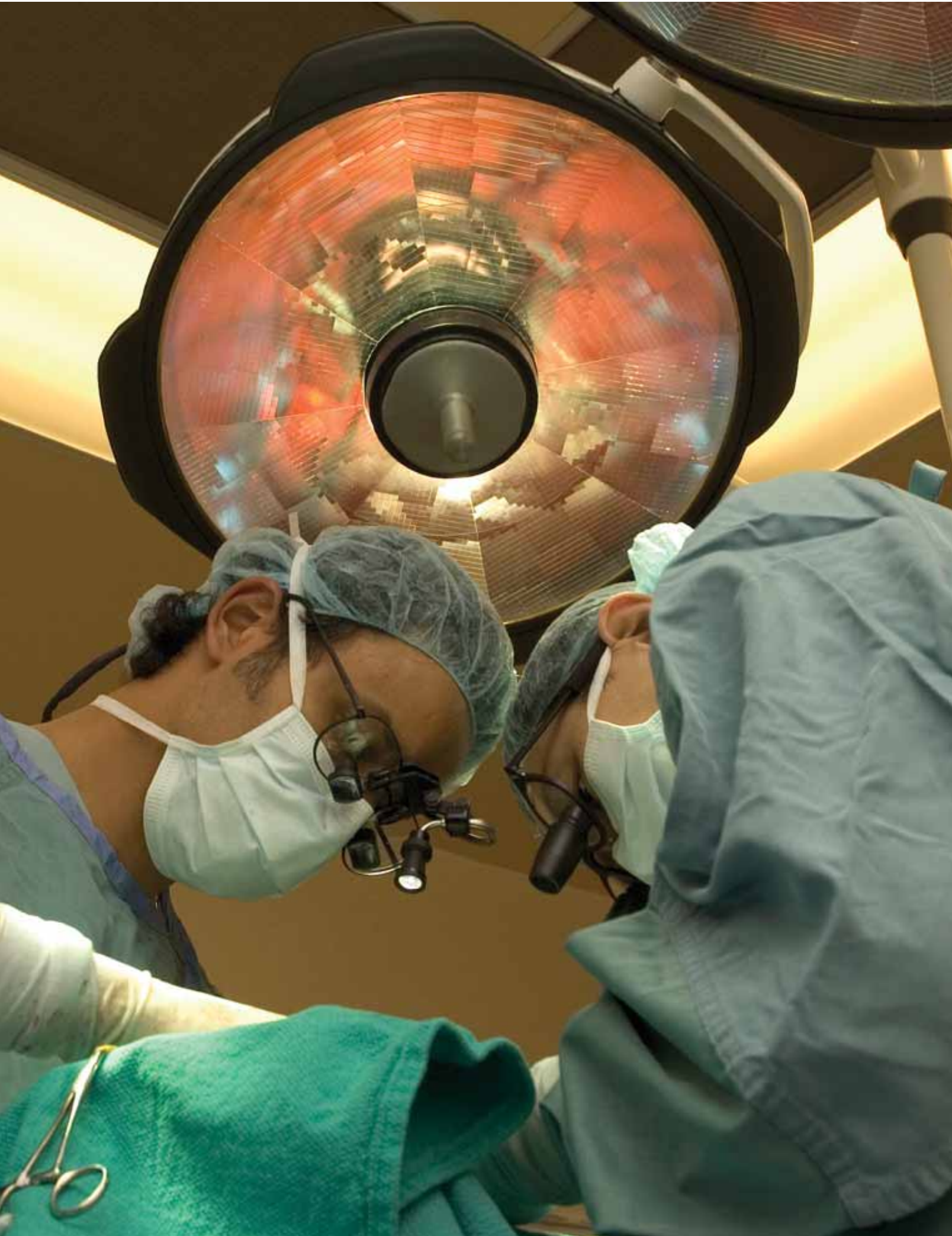
Approximately 50 patients have undergone minimally invasive Maze surgery at Sunnybrook since 2004, and the success rate to date is about 80 per cent, compared to 90 per cent for the open-chest Maze. Patients are obviously attracted to the less invasive nature of the procedure, and Dr. Cohen receives referrals from all across North America. Yet he cautions that not everyone is a candidate for the procedure. For example, those with paroxysmal atrial fibrillation – an irregular heart rhythm that comes and goes – are better suited to the minimally invasive option than those with chronic atrial fibrillation.

Dr. Cohen has trained a handful of surgeons from across Canada in the minimally invasive Maze, but he is still the only one performing it at Sunnybrook. For the moment, he says, its technical demands have limited its application.

Quick facts about atrial fibrillation

- Atrial fibrillation affects approximately 400,000 Canadians
- The annual risk of sudden death in patients with atrial fibrillation is between four and 10 per cent
- The risk of atrial fibrillation increases with age and it is estimated to affect three to five per cent of people over the age of 65
- Atrial fibrillation often has no symptoms, but it can result in palpitations, fainting, dizziness, feeling overtired or chest discomfort
- Atrial fibrillation is associated with a variety of conditions, including high blood pressure, coronary artery disease and heart valve disease
- Approximately 15 to 20 per cent of strokes in people over age 70 are caused by atrial fibrillation

Right: Dr. Gideon Cohen and Dr. Senri Miwa



No tan is a safe tan:

Protect your skin from the sun's damaging rays

Public health experts have been warning us about the dangers of sun exposure for decades, yet the incidence of skin cancer is on the rise in this country. Dermatologists and public health experts are concerned that some Canadians just aren't getting the message.

"People are still not applying sunscreen when they go outside, and a lot of young people are using tanning beds," says Sunnybrook Health Sciences Centre dermatologist Dr. Kucy Pon. She says youth are the worst offenders when it comes to ignoring sun safety. They like the look of a tan and go to tanning salons to get a "base" before tropical holidays, despite the fact that no tan is safe and even a dark tan offers no more protection than an SPF 2 to SPF 4.

"They don't really see the effects of sun damage on their skin yet because they're young. They don't see the wrinkles, the sunspots, the broken capillaries – all those signs that eventually come when we're older to tell us that we've had too much sun. Young people think that they're invincible."

There are plenty of products on the market today to make saving your skin a breeze, says Dr. Pon. Facial moisturizers with built-in sunscreen offer dual benefits to the skin in one easy step, for example. For people who don't like the feel of a cream on their skin, there are spray-on sunscreens. Wide-brim hats and specialized sun protective clothing are simple, mess-free options. "The fabric is chemically treated to block out the sun's rays, and they're getting more fashionable than they used to be."

Recently, there has been some debate in the media about the need for unprotected sun exposure for the production of vitamin D. While it is true that sunlight helps manufacture vitamin D in the skin, it is likely that just a few minutes of sunlight a day are sufficient. Food and supplements can also provide this essential nutrient. "Right now we don't know exactly how much sun people actually need to make vitamin D – the jury is still out," says Dr. Pon. "But we do know that the sun contributes to skin aging and skin cancer. So the message for now is everything in moderation."

Early detection and screening of skin cancer

Check your skin regularly, and make sure you don't ignore those hard-to-reach places such as your back, ears and the back of your neck. Get someone to help if you need to. Here is what to watch for:

- A sore that doesn't heal
- A birthmark or mole that changes shape, colour, size or surface
- Any new growth on your skin
- Any patch of skin that bleeds, swells, itches, oozes or becomes red and bumpy

Above: Dermatologist Dr. Kucy Pon checks for sun damage

By Megan Easton

Is it HOT in here?

The latest on menopause and hormone therapy

By Megan Easton

The experience of menopause is different for every woman, and so is the decision whether to take hormone therapy.

Recent years have brought controversy to the issue of hormone therapy. In 2002, a large-scale study called the Women's Health Initiative (WHI) reported that women on combined estrogen/progestin hormone therapy had a slightly higher risk of breast cancer, heart attack and stroke. Prior to these findings, it was thought that hormone therapy actually offered menopausal and post-menopausal women some protection against heart disease. The WHI results shocked and scared millions of women around the world into quitting hormone therapy "cold turkey."

"In the years since then there's been some movement back to where we were before WHI, with women resuming hormone therapy often at a lower dose than previously prescribed, but there's still a lot of fear out there," says Sunnybrook Health Sciences Centre certified menopause educator Judith Manson. In an effort to alleviate women's concern and confusion, the Society of Obstetricians and Gynaecologists of Canada (SOGC) recently issued updated guidelines for physicians on managing menopause. Dr. Jennifer Blake, head of Obstetrics and Gynaecology at Sunnybrook, co-chaired the multidisciplinary panel of experts that developed the SOGC's 2006 Menopause Consensus Report.

Based on all of the available research in the field, the new report says hormone therapy is the most effective medical treatment for the relief of moderate to severe symptoms of menopause. As for how long women should stay on it, the report advises that it is a safe option for up to five years. After five years, it recommends that physicians weigh the potential risks and benefits with their patients annually. The expert panel also emphasized the importance of physicians counselling women about healthy lifestyle choices, especially good nutrition and exercise.

The symptoms of menopause vary in each woman, says Manson, and a lucky few experience nothing but the end of menstruation. But most women go through a range of physical and emotional changes. In her experience, it is hot flashes and night sweats that most commonly drive women to seek relief with hormone therapy. Fluctuating moods can also be a disturbing problem, she says. "It's a roller coaster of hormones, and some women who are used to being in control have real trouble with this."

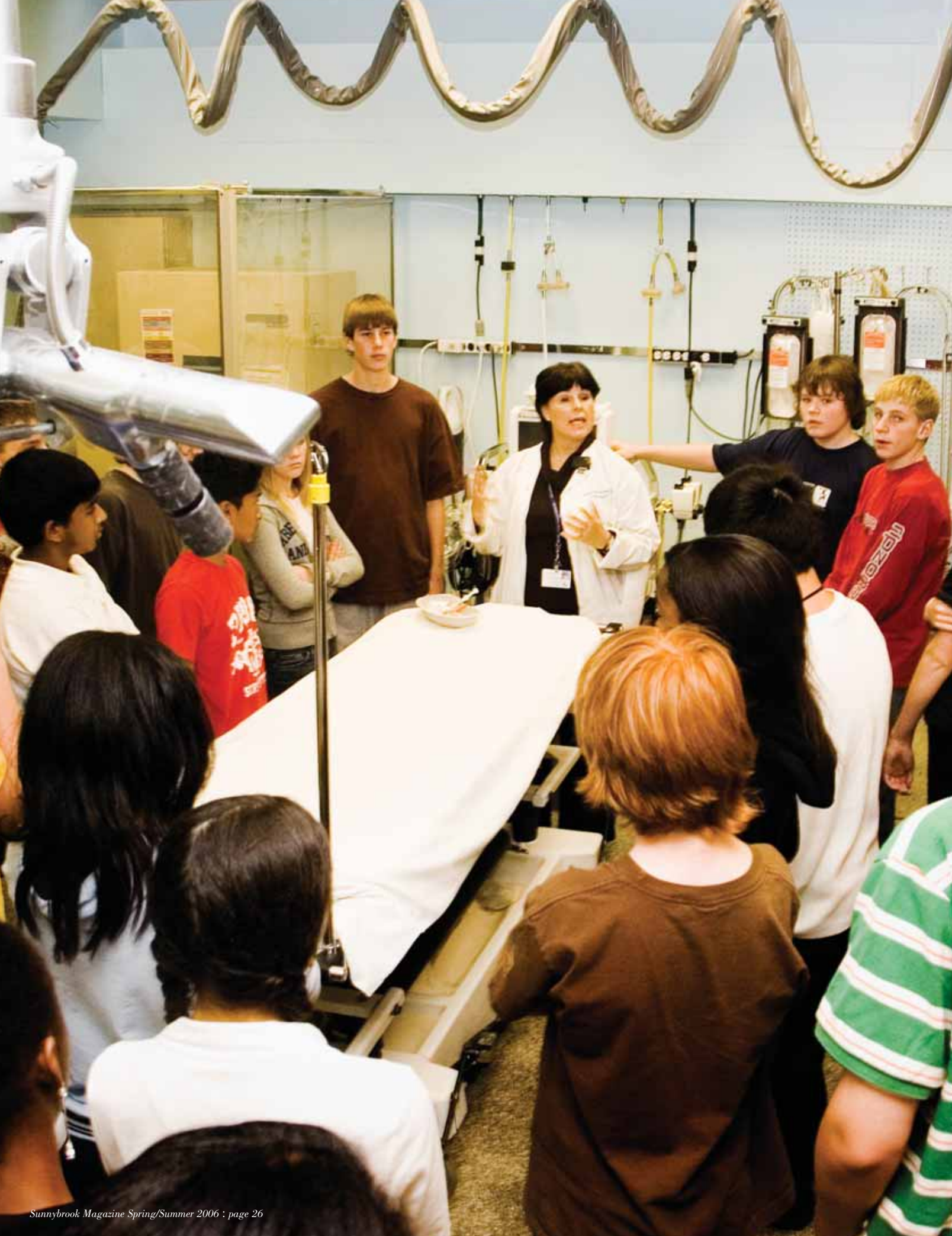
In the end, says Manson, women have to evaluate the available scientific evidence, consider their health care providers' advice, assess their symptoms and decide if hormone therapy is right for them. "It's not black and white. It's a choice every woman has to make, and it may not be an easy one."

Examining the experiences of women after stopping hormone therapy

Family physician Dr. Lisa Del Giudice and her colleagues at Sunnybrook are in the final phase of a research study investigating adverse symptoms and their effects on women's quality of life after withdrawing from hormone therapy. The results of this study may help women make an informed choice about stopping hormone therapy, while providing physicians with information for counselling patients about the benefits and disadvantages of this important decision.

Quick facts from the SOGC 2006 Menopause Consensus Report

- The average age of menopause is 51
- Three out of four women experiencing the menopause transition have hot flashes
- The increased risk of breast cancer after five years of combined estrogen/progestin hormone therapy is similar in magnitude to other lifestyle factors such as reduced breastfeeding, postmenopausal obesity, excessive alcohol or cigarette use and lack of regular exercise
- When a woman's main symptoms involve her urogenital or sexual health, such as vaginal dryness, local estrogen therapy in the form of creams, tablets or intravaginal ring is an effective option



P.A.R.T.Y. on dude…

Not your average party

By Erin Molloy

"…but it was an accident!" These are words any parent of a teenager is familiar with. At Sunnybrook Health Sciences Centre's P.A.R.T.Y. Program the word "accident", or most commonly referred to as the "A" word, is not permitted.

According to Joanne Banfield, P.A.R.T.Y. program coordinator, "an accident is an act of fate, something we have no control over and the reason we don't use this word in the program is that the injuries and injury-related deaths that occur because of bad choices are predictable and preventable." Instead of the "A" word these things need to be called what they are: crashes, collisions, incidents, mishaps, occurrences. They are never accidents - the main premise behind the program.

To many teens a party can mean any combination of the following: food, music, dancing, alcohol, fighting and sex. The P.A.R.T.Y. at Sunnybrook Health Sciences Centre is an acronym, which stands for Prevent Alcohol and Risk-Related Trauma in Youth. This is a far reach from a regular teenager's idea of a party, but it is an effective program that aims at making the good times last, so P.A.R.T.Y. on, dude.

The P.A.R.T.Y. Program is a one-day, in-hospital, injury awareness and prevention program for junior and high school students. For the past 20 years the program has been and still is a vital component of the growing community effort to reduce death and injury in alcohol, drug and risk-related crashes and incidents.

"Students can see how lives can change in less than a blink of the eye and how those lives will never be the same again. By spending a day here, they learn to recognize risky situations and to evaluate choices they make every day," says Banfield. "P.A.R.T.Y. can help students by giving them tools and teaching them how to make better informed choices about the risk in their everyday lives."

The goal of P.A.R.T.Y. is to provide young people with information about traumatic injury that will enable them to recognize potential injury-producing situations, make prevention-oriented choices, and adopt behaviours that minimize unnecessary risk. Twice weekly during the school year, the P.A.R.T.Y. program is offered to groups of 35 to 40 students, accompanied by a teacher or adult leader.

When the students first arrive at the hospital at 9:00 a.m., most have the "at least I'm not in class" attitude, neither thrilled nor unhappy about being there. However, as the day goes on, their slouching turns to upright sitting, more hands shoot up and the overall rate of interest heightens.

"I thought it was very informative and life changing. It really showed the reality of what things can happen to you on a regular day if you are not careful," commented one Grade 10 student on her experience with the program.

Students follow the course of injury from occurrence, through transport, treatment, rehabilitation and community re-integration. They interact with a team of health care professionals and EMS that includes a paramedic, police officer, nurses, physician and social worker. These professionals give brutally honest presentations on basic anatomy and physiology, the mechanics of injury, the effect that alcohol or drugs have on decision making, risk assessment, concentration and co-ordination, the nature of injuries that can be repaired, and those that cannot, and the effect of injury on families, finances and future plans.

The P.A.R.T.Y. team also includes people who are past and present patients from Lyndhurst Centre, Toronto Rehab's spinal cord rehabilitation program, who have been injured; some are still in acute care, others are in rehabilitation, and some have returned home. They provide a personal and real-life perspective on the challenge of dealing with injury and "putting one's life back on track."

"I'm not going to lie. I have experimented with alcohol and drugs, but seeing these traumas makes that voice in my head telling me to slow down seem very right," reports a Grade 11 student. "I will never forget this experience. It could possibly change my fate."

Left: Joanne Banfield speaks to a group of young students during a session of the P.A.R.T.Y. program

Straight facts about superbugs:

Hand washing is still the best protection

Infectious disease experts worldwide are warning of the growing threat of antibiotic-resistant bacterial infections. One of these so-called superbugs – methicillin-resistant Staphylococcus aureus (MRSA) – has traditionally been found only among people with low immunity in hospitals and other health care facilities. More recently, however, MRSA has been popping up in the community, raising fears that the general public is at risk. But there are simple ways to protect yourself.

MRSA and other antibiotic-resistant bacteria are the result of the inappropriate use of antibiotics. Infections caused by these bacteria are hard to treat, requiring ever stronger antibiotics, and can cause serious illness in seniors and the very sick. Once an antibiotic-resistant strain such as MRSA appears, it can spread quickly by direct physical contact and by touching objects contaminated by the skin of an infected person.

"Hand washing is one of the most effective ways to stop the spread of MRSA," says Dr. Andrew Simor, head of Sunnybrook Health Sciences Centre's Department of Microbiology. Sunnybrook recently launched a hospital-wide information awareness campaign on hand hygiene targeted to staff and patients, along with an intensive staff education program focused on hand washing. The provincial government has adopted similar programs for use in health care facilities across Ontario.

"Education by itself doesn't work," says Dr. Simor. "In order to maintain awareness, we've ensured there is constant monitoring and feedback."

MRSA infections in relatively healthy people outside hospitals and health care facilities used to be very rare. Yet community-acquired MRSA infections are already a major problem in the United States, causing skin and soft tissue infections and life-threatening pneumonia, and Dr. Simor predicts that Canada is facing the same danger. "In my opinion, we are on the verge of an explosion of community-associated MRSA. We're already seeing it in many parts of Western Canada and here in Toronto."

There are two factors contributing to the rise of community MRSA infections. One is the spread of the hospital bug to the community, and the other is the emergence of new antibiotic resistance in existing strains of bacteria in the general population. The risk factors so far include inadequate housing, imprisonment and being on a sports team – conditions that lead to close proximity with many people. The overall prevention message in the community is the same as in the hospital, says Dr. Simor: good personal hygiene, avoiding sharing towels and sports equipment, ensuring appropriate use of antibiotics and, of course, vigilant hand washing.

Sunnybrook is a leader in tracking superbug

Dr. Andrew Simor is co-chair of the Canadian Nosocomial Infection Surveillance Program, a collaboration of 39 hospitals across the country in partnership with the Public Health Agency of Canada. Since 1995 the program has operated a surveillance program of nosocomial – or hospital-acquired – infections, including antibiotic-resistant organisms like MRSA. Sunnybrook is the lead laboratory for MRSA surveillance, helping to set national standards for its prevention and developing and disseminating guidelines for dealing with the superbug in Canadian hospitals.

Above: Dr. Andy Simor in the lab with Linh Tran

By Megan Easton

Getting the right blood to the right person:

Improving patient safety in blood transfusions

By Megan Easton

Blood transfusions save countless lives every day, yet it is common for people to feel some apprehension about potential risks when they need a transfusion. Sunnybrook Health Sciences Centre aims to become an international leader in enhancing patient safety in transfusion medicine through the implementation of state-of-the-art quality management programs.

In the past, patients' concerns centred around the possibility of receiving contaminated blood products. Today most people are reassured by the rigorous donor screening and testing methods used to prevent viruses from entering the blood supply, although we will never totally eliminate that risk, says Dr. Marciano Reis, chief of Clinical Pathology at Sunnybrook. "The introduction of nucleic acid testing over the last few years has increased the safety of blood products even further," he adds, referring to a method that can detect viruses in blood earlier after infection than standard tests.

The other worry patients might have regarding transfusions is that they will receive the wrong blood type. The estimate for hospitals worldwide is that incompatible blood is administered about once in every 14,000 transfusions. When this happens, it produces a major transfusion reaction that can be fatal. While zero risk is impossible in any medical procedure, says Dr. Reis, Sunnybrook has been a pioneer in Canada in proposing the introduction of safety measures to reduce the rare chance of this type of error occurring.

Led by Dr. Jeannie Callum, director of Transfusion Medicine, Blood and Tissue Bank, Sunnybrook was the only Canadian hospital to take part in an American study of the Medical Event Reporting System for Transfusion Medicine (MERS-TM) started in 1999. This system collects, classifies and analyzes events that could compromise the safety of any of the many steps involved in blood transfusion, including "near-misses" – errors that are caught in time. By gathering all of this data, MERS-TM facilitates early detection and root cause analysis while guiding efforts to prevent slip-ups. The success of MERS-TM at Sunnybrook over the past six years has led the Public Health Agency of Canada to begin launching the system at hospitals across Canada as a pilot project.

The next advance in transfusion safety at Sunnybrook will be an information technology system known as Positive Patient Identification (PPI). The PPI system uses electronic devices designed to read a bar code on patients' wristbands and cross-reference it with the IDs of their health care personnel and with computer data about the appropriate blood product for each individual patient. It has been tested in clinical trials at Sunnybrook and will soon be in operation. "This will eliminate the most serious potential for errors – misidentification of either patients or their blood samples that must be tested in the blood bank," says Dr. Reis.

Reasons for a blood transfusion

Transfusions replace blood components lost through injury, surgery or illnesses that either cause bleeding or impair the body's capacity to produce certain parts of blood.

Blood components:

Red blood cells are filled with haemoglobin, which carries oxygen throughout the body.

Transfusion of red blood cells may be necessary to prevent damage to vital organs from lack of oxygen.

Platelets are required to prevent or stop bleeding.

Transfusion of platelets may be necessary in patients with low platelet levels or platelets that are not working properly.

Plasma contains substances important for blood clotting.

Transfusion of plasma may be necessary to prevent or stop bleeding in patients with slow blood clotting.

Transfusion Medicine Collaborative

Patient safety is the number one priority in a unique new partnership involving several of Canada's pre-eminent teaching hospitals. The Transfusion Medicine Collaborative includes Sunnybrook, the University Health Network (Princess Margaret Hospital, Toronto General Hospital and Toronto Western Hospital) and St. Michael's Hospital. Together, they will seek to create complementary training programs, common standards of clinical practice and standardized quality management programs. The partnership will also help the hospitals forge a stronger relationship with Canadian Blood Services and create an academic focus of excellence in transfusion medicine in Toronto. The result of all these initiatives will be improved delivery of care, says Dr. Reis, medical director of the collaborative. The partnership aims to eventually expand into a regional model, and a number of community hospitals have already expressed an interest in becoming involved.

Staff, Blood and Tissue Bank (left to right): Ana Lima, Ahmed Coovadia, Lisa Merkley, Eleanor Miller, Dr. Alden Chesney, Connie Colavecchia, Dr. Jeannie Callum, Dr. Marciano Reis

Mental illness common, but often overlooked in youth

By Nadia Norcia

Episodes of mental illness such as depression and anxiety peak at this time of year for teens when they are busy with school exams and making important decisions that will impact their future.

"General depression and various forms of anxiety disorders are very common in youth, when symptoms and episodes first begin to emerge," says Dr. Amy Cheung, youth psychiatrist at Sunnybrook Health Sciences Centre and assistant professor in the Department of Psychiatry at University of Toronto. "On average, up to 20 per cent of all youth experience some form of anxiety and/or depression."

Biochemical changes in the brain are at the root of mental illness. A combination of genetics and environmental factors can play a role when an episode first begins. Some individuals are more vulnerable to these biochemical imbalances because they are genetically predisposed.

Stressful situations or experiences, such as academics or employment and difficulties in relationships, can trigger an episode of mental illness for those youth who are predisposed. Drug use, head injury, or a neurological condition can contribute to changes as well.

Youth with major depression tend to be more irritable, tearful and sad. They do not feel as happy or energetic and lose their motivation to do anything, including daily activities such as going to school or hanging out with friends. However, they can also have a reactive mood, which means they can still enjoy life in some aspects and appear as though they're okay even though they are depressed. Although it seems like a logical assumption when a teen becomes depressed, they often do not have any serious problems in their life.

Once depression affects their thinking, these teens begin to think very negatively, have poor self-esteem and self-worth, often accompanied by feelings of hopelessness and thoughts of death. Some even think about killing themselves. Because many teens suffer unknowingly, the lack of knowledge can contribute to their illness as they feel increasingly isolated and do not have the ability or skills to cope.

This can be confusing for everyone including doctors, family and friends, because many aspects of being a normal teenager – such as staying up late and not wanting to go to school – may resemble the symptoms of depression. And yet for other teens, these symptoms are a sign of a major depression, so it sometimes takes a while for everyone to figure it out.

Due to the often difficult nature of determining if a teen is ill, Dr. Cheung has developed guidelines for paediatricians and family doctors to help them identify and treat youth with depression. With these tools, Dr. Cheung and her colleagues hope many more teens will be identified earlier, be referred to a psychiatrist if needed, and receive treatment earlier, which is always the most beneficial and effective method.

Other symptoms/behaviours of youth depression may include:

- Decreased or increased appetite and accompanying weight loss or gain
- Oversleeping or inability to sleep
- Constant fatigue with low energy
- Lack of concentration
- Lack of motivation; not interested in some things, but may be able to do others (i.e. can surf the web but can't focus at school or work)
- Sudden decline in school work
- Withdrawal from friends or other activities he/she used to enjoy

"If you see any of these symptoms in your teen, it is important to take him/her to see a family doctor or paediatrician to help determine if he/she is ill," says Dr. Cheung.

The Stigma

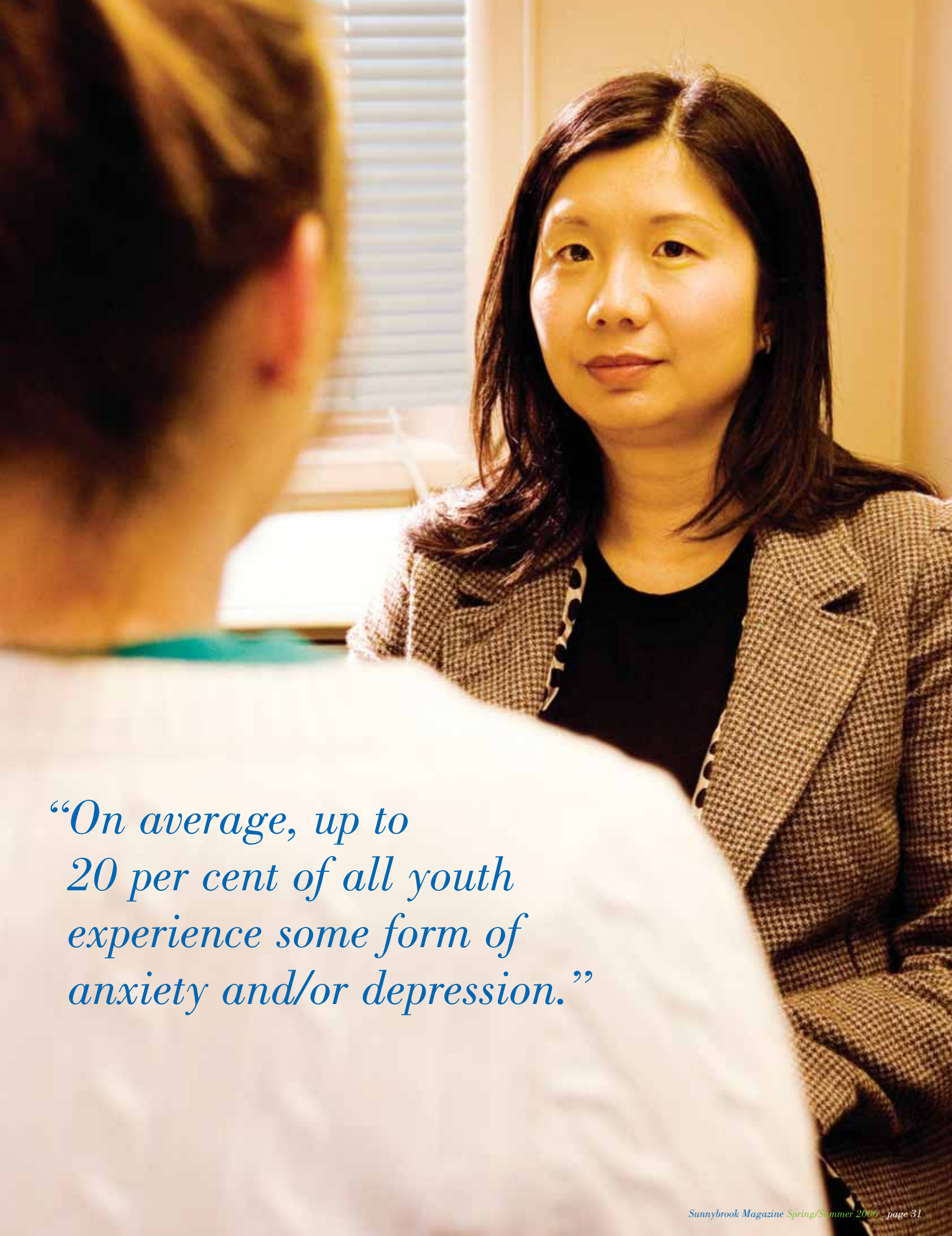
There still appears to be a stigma associated with having a mental illness and parents are often afraid to have their child checked out medically. "It's important for people to remember that these illnesses are very common, and that their children will be much better off getting the help they need," says Dr. Cheung. "People are becoming more accepting of it now, but it is important for parents who often know their children the best, to advocate on their child's behalf."

Each patient requires specialized individual treatment, depending on their needs and their level of illness; it is essential to consult your doctor about options. Treatment often involves therapy to help find different ways of coping to help prevent and catch episodes of mental illness early on, as well as peer and family support, and sometimes medication.

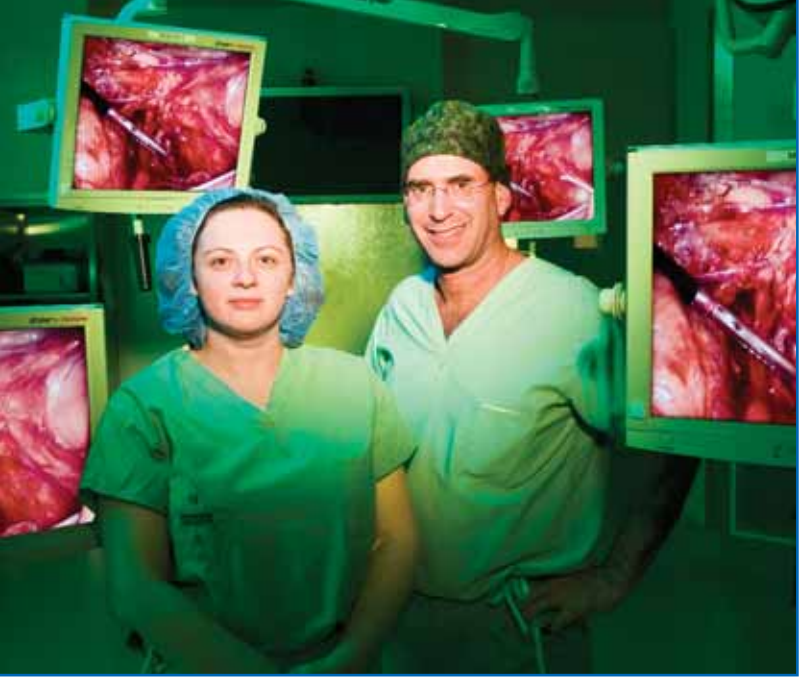
The Division of Youth Psychiatry at Sunnybrook treats adolescents from 14 to 19 years of age in both inpatient and outpatient programs. In addition, a specialized academic and treatment program called Fresh Start, supports youth who are too ill to attend their regular school by preparing them with the skills necessary to return to an appropriate community and/or educational setting.

Sunnybrook is a referral centre for youth with mental illness for all of southern Ontario, and it serves the local community as well, specializing in mood disorders (major depression and bipolar disorder, anxiety, and psychosis).

Right: Youth Psychiatrist Dr. Amy Cheung



"On average, up to 20 per cent of all youth experience some form of anxiety and/or depression."



A new approach:

By Jennifer White

Innovative gynaecological cancer procedures less invasive for women

Surgical oncologists Al Covens and Rachel Kupets at Toronto Sunnybrook Regional Cancer Centre (TSRCC), the comprehensive cancer program at Sunnybrook Health Sciences Centre, are two of only a few surgeons in North America qualified to perform complex laparoscopic gynaecological operations for women with uterine, cervical and ovarian cancer.

"Rather than making a large incision that requires up to six weeks to recover from, we can do the entire operation through four small incisions," says Kupets. "Women are able to go home later that evening or the next day, require little or no pain medication, and move forward with their cancer treatment immediately."

Using a laparoscope, a one-centimetre incision is made allowing for a fibre-optic camera to be inserted directly in to the abdominal cavity. The images are projected onto monitors allowing the surgical team to view the operation field. During the procedure, surgeons are able to determine the extent of the cancer by obtaining tissue samples of the tumour, lymph nodes and surrounding areas for biopsy. If possible, the surgeon will remove the tumour and affected areas.

Complicated gynaecological procedures such as a hysterectomy, the surgical removal of the uterus, can be performed using a laparoscope on an outpatient basis. A traditional hysterectomy, which involves removing the uterus through an abdominal incision, can be painful, require a hospital stay of up to five days, and most importantly can take more than six to eight weeks to recover from. A vaginal hysterectomy can be performed to remove the uterus, however, surgeons are unable to evaluate the ovaries; lymph nodes and the rest of the abdominal cavity. This limits the information they require to make well-informed treatment decisions for women with gynaecologic cancers.

Theresa Robinson, 65, from Whitby, Ontario, is one of Dr. Kupets' patients. After losing her mother to ovarian cancer, Theresa could not shake the feeling that she too might develop the disease. She decided to take matters into her own hands. "I watched my mother die of this disease and I didn't want to go through that," says Robinson.

After a series of appointments and tests doctors found a mass in her fallopian tube. Immediately she was referred to the TSRCC. Three weeks later, just after noon hour on November 4, 2005, Theresa underwent a laparoscopic removal of her fallopian tubes, ovaries, pelvic lymph nodes, and omentum (a fatty apron that hangs off the large bowel). By 7:00 p.m. that same evening Theresa was back at home.

"The surgery left me with no after effects other than a few pinhole incisions that are fading away," says Robinson. "The day after the surgery, I was up and walking around."

On November 23, 2005, Theresa was back in to see Dr. Kupets and was prescribed six sessions of chemotherapy. The cancer was caught very early so her prognosis is good.

TSRCC is performing close to 300 laparoscopic gynaecological procedures a year on women of all ages who have been diagnosed with early cancers. For those who are diagnosed at a later stage other surgical options are more appropriate.

Common signs of ovarian cancer are often overlooked

Ovarian cancer, the most fatal of gynaecological cancers, is killing more than 60 per cent of women who are diagnosed. It affects one in 100 women typically between 40 and 70 years of age.

"There is no useful early screening test for this disease. Women and their physicians must rely on nonspecific symptoms to bring the disease to their attention," says Dr. Covens, who specializes in ovarian cancer at Sunnybrook Health Sciences Centre. "Often these symptoms, which include abdominal pain, swelling of the abdomen, changes in urinary frequency, weight loss or gain, and nausea are overlooked and attributed to common conditions." Dr. Covens suggests that women consult a physician if they are experiencing anything out of the ordinary for a prolonged period of time.

More than 90 per cent of women can be treated effectively when ovarian cancer is found at an early stage. The majority of women are diagnosed later, when the disease has progressed, and survival drops below 40 per cent. The risk of ovarian cancer is slightly increased among women who have a family history of ovarian, breast or colon cancer, have never had children, are over 50, have never used oral contraceptives, or are of Ashkenazi Jewish descent.

The Canadian Cancer Society estimates 2,400 women will be diagnosed with ovarian cancer this year and 1,550 will die from the disease.

Above: Surgical oncologists Dr. Rachel Kupets and Dr. Al Covens are photographed in the MIS suite at TSRCC. Images from a laparoscopic total abdominal hysterectomy to treat uterine cancer in a sixty year old woman are shown on the monitors.

Don't rock the boat:

Stay safe on the water this summer

There is a real sense of freedom and joy that comes with boating, as your watercraft glides across the water. But like driving a car, it comes with risks that we need to be aware of before we set off.

"It's important to understand that there is no real difference between vehicles on the road and vehicles on the water," says Joanne Banfield, manager of the RBC First Office for Injury Prevention at Sunnybrook Health Sciences Centre. "The same rules apply and you can transfer the same strategies to keep yourself safe."

There are about 10 million boaters in Canada; that's 43 per cent of all Canadians over 16 years of age. It is a sport that continues to grow in its popularity. With increased activity comes an increase in incidents. Recent federal legislation has helped reduce the number of fatalities by instating regulations such as a minimum age of 16 years for operating pleasure crafts and a mandatory Pleasure Craft Operator Card (PCO) for all users of powerboats.

Many boaters still take unnecessary risks, however. Risk factors involved with boating include lack of training, alcohol consumption and not wearing personal flotation devices (PFDs). Boaters who don't wear their PFD continue to be problematic, even though it is illegal to operate without one.

Alcohol is still the biggest issue when it comes to boating. "Alcohol is involved in 40 per cent of all Canadian preventable boating fatalities," says Banfield. "The phrase "Don't drink and drive" applies to any type of vehicle. Being impaired, whether it is because of fatigue, drugs or alcohol, is going to increase your risk of a boating incident. Your judgment and reaction time simply aren't as sharp."

Banfield recommends some boating safety tips to keep us afloat. She suggests things such as checking the weather, creating a safety checklist, wearing the right gear, and getting proper training.

"When boaters get back on the water at the beginning of the season, they should take some time to brush up on the rules," says Banfield. "We have much more opportunity to gain experience in a car, but because boating is a seasonal activity, we should ease back into it."

By following safe boating rules, you are not only reducing your own risk, but you are educating friends and loved ones, and therefore reducing their risk.

"Adults must always remember that they are role models," says Banfield. "If we do the right things, our children and teens will learn from our example, and carry on the correct behaviour."

For more information on safe boating, please visit the following websites:

http://www.boatsmartcanada.com
http://www.redcross.ca
http://www.lifesavingsociety.com
http://www.csbc.ca

By Laura Bristow

Dr. Ross Upshur

Family physician highlights primary care with Canada Research Chair

You could say Dr. Ross Upshur is interested in just about everything. His far-reaching areas of research and study on topics such as the impact of SARS and pandemic planning to investigating the environment's devastation on the health of the people of Uzbekistan in Central Asia all come to significantly impact his patients in the Department of Family and Community Medicine of Sunnybrook Health Sciences Centre.

As director of the Primary Care Research Unit at Sunnybrook, Dr. Upshur is actively involved in research and is well known for his work in areas such as primary care, bioethics, medical philosophy, and epidemiological methods. He is also an associate professor in the Department of Family and Community Medicine and Public Health Sciences at the University of Toronto.

Last year, Dr. Upshur was recognized for his work with a Canada Research Chair in the area of Primary Care Research. "Being the first family physician to receive this award demonstrates tremendous opportunity and great value in primary care research. This will definitely have a positive impact on my current and future research," he says.

Dr. Upshur's multidisciplinary research program combines knowledge from epidemiology, ethics, and clinical medicine. His training in philosophy and the history of ideas, as well as in medicine, informed by his seven years in rural primary care practice put him in a unique position to understand and further examine the current system. He plans to study and learn how primary care professionals can provide the best care for patients with many common chronic diseases, such as osteoarthritis, heart disease and diabetes.

"The Canada Research Chair is oriented to understand broader things experienced by care givers, and practitioners," he says. "We want to focus on complex chronic disease management by using medical theory and clinical guidelines. Patients, especially those in the senior population, live with a combination of diseases with multiple complications, he says. "With the baby boomer generation advancing in age, the challenges in this area are enormous. "We are hoping to unravel these issues."

Issues surrounding the welfare of the citizens of Uzbekistan have also captured Upshur's interest as a consultant to Médecins Sans Frontières (Doctors Without Borders). One major project that remains very important to him is called the Aral Sea Project, which brought him to this country in the former Soviet Union.

The Aral Sea, where Uzbekistan is situated - the fourth largest body of water in the world - stared to erode in the 1960s. "My colleagues and I had the opportunity to begin to examine the socioeconomic and medical impact on the lives of the people left to live in this part of the world," he says. "There is ongoing research to empower people in the area and to impact coming generations."

Dr. Upshur is also part of a team that is conducting research for the Institute for Clinical Evaluative Sciences (ICES), which is funded by the Ministry of Health and Long Term Care with a provincial mandate and based at Sunnybrook. This research focuses on primary care service delivery in Ontario and the results will be published in the summer of 2006.

His work with other researchers including Dr. Peter Singer, through the Joint Centre for Bioethics at the University of Toronto, on SARS and other potential infections outbreaks was a major study released in 2003. It approached the ethical issues surrounding SARS and created a plan, based on the SARS experience in Toronto, to handle other potential infections outbreaks.

They established 10 principles and rules to incorporate into pandemic planning including transparency, solidarity, duty to provide care, and individual liberty. Priority setting and global governance were also outlined. "Discussion is a necessity," says Dr. Upshur. "It's important to debate these issues now."

Left: Dr. Ross Upshur provides a check-up at the Department of Family and Community Medicine at Sunnybrook

By Christine Henry

Brain tumours:

The impact of advancement

By Elayne Clarke

There is no question; brain tumours are becoming more common. Data released in 2004 show that the rate of brain tumours has doubled since the 1980s resulting in a ratio of two to one male to female, and most frequently, Caucasian men. Nobody knows for sure what caused the increase, but there may be a correlation between the increase and industrialization and technology.

Unlike smoking and lung cancer, there are no specific risk factors connected to brain tumours; however, studies indicate that some individuals, in certain occupations, may be at higher risk including firefighters, those who work in the petroleum industry and the telecommunications field, as well as people working with hazardous materials.

The most common, and most malignant type of brain tumour is the Glioblastoma Multiforme or GBM. This tumour may contain various cell types, hence the name "multiforme." The cells of this tumour grow quickly, are not well defined, and grow in a way that is very difficult to treat. Common symptoms of this tumour are due to increased pressure on the brain and can include headache, vomiting, drowsiness and seizures. Other symptoms include changes in mood, personality and behaviour which are often attributed to other causes. These tumours may also produce compounds that thicken the blood and one in four patients suffer blood clots in the leg or lungs as a result.

"Brain tumours hit in the prime of life," says Dr. James Perry, neurologist at Sunnybrook Health Sciences Centre and Toronto Sunnybrook Regional Cancer Centre and associate professor of Neurology at the University of Toronto. "A typical patient is 'dad' in his 40s, 50s or 60s with a young family."

Toronto Sunnybrook Regional Cancer Centre, the cancer program at Sunnybrook Health Sciences Centre, is a leading centre for clinical trials in brain tumour research. 2005 was a breakthrough year for treatment of these lethal tumours thanks to a highly successful National Cancer Institute of Canada clinical trial that discovered that the combination of chemotherapy, specifically temozolomide (TMZ), along with radiation controlled the growth of the tumours. The study concluded that administering chemotherapy one hour before radiation may boost the effectiveness of the radiation, tripling the two-year survival rate for patients. Now one quarter of patients live two years, compared to one in ten or one in 15.

Serving as the national headquarters for the Canadian Brain Tumour Consortium (www.cbtc.ca), Sunnybrook is currently participating in a study testing the effectiveness of blood thinners in combination with chemotherapy and radiation treatment, and the Toronto Sunnybrook Regional Cancer Centre, has 40 patients involved in the study. "It is worth noting that Canada is a major contributor to studies in this area and proportionately, based on population, consistently provides more participants in these trials than other countries," says Dr. Perry.

In a field where the prognosis has long been grim, the positive result of last year's trial and the promise of advances being made will provide tremendous opportunities for more clinical trials and ultimately offer new hope to patients.

"No advance in the last 20 years has had more impact than the TMZ trial," says Dr. Perry. "Suddenly there's a light shining on this area as a disease that can be treated."

Above: Dr. James Perry consults with a patient

A new take on chemotherapy:

State-of-the-art combination cancer treatment shows promise

By Megan Easton

Outsmarting cancer cells is a tough job because they can quickly mutate and become resistant to even the most advanced drugs. So rather than directly targeting cancer cells, some researchers have been devising ways to stop or slow down the disease by attacking a tumour's blood supply.

The development of new blood cells is a process called angiogenesis. Drug therapies that inhibit the growth of blood cells in a tumour, thus hindering the growth and spread of cancer, are called antiangiogenic drugs. The Toronto Angiogenesis Research Centre (TARC) at Sunnybrook Health Sciences Centre is the only major centre in Canada devoted to studying the mechanisms of angiogenesis and developing innovative new antiangiogenic therapies. A city-wide initiative, its goal is to prevent and improve treatments for diseases related to blood vessel growth, including age-related macular degeneration, heart disease and cancer.

Dr. Robert Kerbel, co-director of TARC with Dr. Daniel Dumont, is at the forefront of research on antiangiogenic cancer therapies. Dr. Kerbel's laboratory investigations of how and why antiangiogenic drugs work are laying the foundation for a whole new approach to treating the disease.

One of his most important contributions to date has been the co-discovery of a novel method of giving patients chemotherapy, called "metronomic" chemotherapy. The conventional strategy is to administer high doses of a drug separated by two- to three-week intervals, during which patients recover from the harsh side-effects. Metronomic chemotherapy is akin to the rhythmic ticking of a metronome: The same drugs are given in lower doses but at higher frequency, even daily, over much longer periods. Not only are there fewer side-effects, but metronomic chemotherapy also operates like an antiangiogenic drug by essentially strangling a tumour's blood supply.

Yet most testing has shown that neither antiangiogenic drugs nor metronomic chemotherapy are very effective alone when treating patients with very advanced cancers. In 2000, Dr. Kerbel and his colleagues at Sunnybrook made a major breakthrough: they found that combining these two treatments significantly improved survival rates in an animal model. The innovation sped into clinical trials around the world, and the results so far have been promising.

The next steps, says Dr. Kerbel, are to answer the many questions that have come out of this revolutionary combination therapy approach, such as: Exactly which antiangiogenic drugs are most effective with exactly which metronomic chemotherapies? What are the optimum doses of each type of drug? And what types of cancer respond best? "With this knowledge," he says, "we may be able to do a lot better than current treatments."

From bench to bedside: Translating fundamental discoveries into testable treatments

Dr. Kerbel's finding that antiangiogenic drugs paired with metronomic chemotherapy can improve survival rates with fewer side-effects in animal models of cancer has led to clinical trials across North America and Europe. Here is a sampling of some preliminary published results:

- In a randomized phase II trial at the Dana Farber Cancer Institute in Boston, of 55 women with metastatic breast cancer who had failed to respond to traditional chemotherapy, 30 per cent responded to combined antiangiogenic drug/metronomic chemotherapy.
- In a multicentre North American trial involving women with advanced recurrent ovarian cancer, approximately the same percentage (28 per cent) responded to the combined treatment approach.
- In a study led by Dr. Rena Buckstein, a medical oncologist at Toronto Sunnybrook Regional Cancer Centre, the cancer program at Sunnybrook, patients with aggressive non-Hodgkin's lymphoma who had relapsed or failed to respond to previous chemotherapy showed a 37 per cent response rate to the combined drug treatment.

In all these trials the toxic side effects were minimal despite virtually all of the patients having been treated previously with standard toxic chemotherapy regimens. While these results are encouraging, Dr. Kerbel cautions that more studies are needed with larger groups of patients in randomized clinical trials to validate this new approach to cancer treatment.

Below: Dr. Robert Kerbel and Dr. Daniel Dumont

Young and not so invincible

Knee injuries not restricted to the elderly

By Nadia Norcia

Like many joint and orthopaedic conditions, bad knees are often seen as a condition of the elderly or mid-aged. But being young and active doesn't mean you're invincible.

"Those who actively participate in sport and activity are prone to injury," says Dr. Paul Marks, orthopaedic surgeon at Sunnybrook's Holland Orthopaedic & Arthritic Centre. "People continue to injure their knees. This is in the context of increasingly active lifestyles."

Knee pain from an injury limits one's joint motion and activities. "This can cause someone to go from an active lifestyle to having trouble doing everyday things like climbing stairs, walking or getting in and out of a car or bathtub," says Peter Ho, physiotherapist at Sunnybrook Health Sciences Centre.

There are a number of reasons why people may injure their knees. "Sometimes it's due to improper technique or an imbalance in leg muscle strength, but a vast majority of these injuries are due to the 'weekend warrior' theme, where an inactive person suddenly engages in challenging physical activity and pushes too hard," says Dr. Marks, also an Associate Professor in the Department of Surgery at the University of Toronto and Head Team Physician for the Toronto Raptors basketball team. "It is important to maintain safe activity on a regular basis."

If engaging in sports or exercise, ensure you get good training, learn proper skills, warm up first and participate in a good muscle strengthening and stretching program. Together, these tips will reduce your incidence of injury. "It's always a good idea to get a personal trainer when first starting to exercise, and then do it on your own," says Peter. "Don't just try to copy others, training must be specific to each individual as everyone is different."

Women tend to be experiencing debilitating knee injuries in higher numbers. "There are a number of factors as to why women may be more prone to some knee injuries. These may include differences in gender anatomy and muscle strength, increased participation in activities by women such as basketball, rugby and hockey," says Marks. As well, other potential factors have been implicated such as hormonal differences. "Much of the research on gender differences is still inconclusive. Our research is increasingly trying to understand these factors."

Left: Physiotherapist Peter Ho helps a patient perform some stretching exercises

New Therapies

The goal of the Holland Orthopaedic & Arthritic Centre is to identify injuries as early as possible, use research to learn about factors that lead to arthritis and develop therapeutic strategies to avoid or minimize arthritis. The emphasis is on a multidisciplinary approach including experts throughout the continuum of care, understanding prevention and restoration of the joint anatomy and biology.

"The current practice is to restore a person's anatomy as best as possible and as close as we can to the 'normal knee,'" says Dr. Marks. "We're getting better at this and are providing patients with the ability to return to high levels of activity, thereby, improving their quality of life."

The key in a lot of these cases is to treat them very quickly from the time of initial injury. Timing is critical in attempting to repair meniscus cartilage tears. If the meniscus cartilage is not repairable and needs to be removed then the risk of developing arthritis is greater.

There are new therapies being aggressively developed and researched at the Holland Centre. "There is a biologic battle going on in the joint," says Dr. Marks. "There are proteins that break down cartilage and other proteins that protect the cartilage. Our goal is to increase the body's protective proteins and suppress the damaging ones. Understanding these processes is exciting."

A $1.5 million research grant is supporting this initiative and a team made up of an epidemiologist, surgeon statistician, veterinarian, cartilage expert, MRI radiologist. It involves researchers from four universities: University of Guelph, University of Toronto, University of Calgary, and École Polytechnique in Quebec.

Dr. Marks is working toward his goal of developing a Biological Joint Reconstruction Restoration unit or Cartilage Repair Centre that will aim to prevent arthritis and restore biology. "This to restore one's anatomy as close to "normal" as possible. In the future, we hope a group of these patients will not need total knee replacements. There may be ways to develop therapeutic strategies to prevent the development of arthritis," he says.

"We need to understand factors other than just fixing ligaments - we are only in the infancy of understanding the biology of knees and their response to injury. It would be an amazing gift to help patients avoid further deterioration or the need for larger reconstructions. The techniques we're developing now will go a long way to help in this pursuit."

Common Knee Injuries & Treatments

Meniscus injuries

The meniscus is a small piece of cartilage in between the knee joint that acts as a cushion to absorb pounding on the joint and helps to distribute loading. The inside portion is the medial meniscus; the outside portion is the lateral meniscus.

A tear can occur when the knee twists during weight-bearing activity, which is a common injury in sports like skiing, soccer, and basketball. Meniscus injuries usually affect a younger population, from adolescents to age 50. Chronic pain and a temporary "locking" of the knee usually comes with a meniscus injury.

Physiotherapy is always prescribed and with regular strengthening and stretching exercises, one's knee can often spring back to as close to normal as possible.

Anterior Cruciate Ligament (ACL) tear

Similar to a meniscus injury, ACL injuries usually affect younger people, from adolescence to age 50. A very common injury, an ACL tear usually occurs from downhill skiing accidents, soccer or volleyball injuries, and any other jumping or contact sports that may require a sudden change of position or stopping. There maybe pain with this injury – pain is mostly limited to sporting activities when the knee "gives way", as it is unstable and seems to almost "detach". If there is an associated meniscal tear then the patient may experience pain.

All ACL injuries always need physical rehabilitation and patients have the option of modifying activity, as they often have a feeling of mistrust of the knee. Like all of the knee injuries, therapy ranges depending on what the patient's physical status and strength was before the injury. If the patient develops giving way or wishes to participate in a sport that is a high demand pivoting activity then ACL reconstruction surgery may be necessary.

Those who recover from an ACL tear are often very satisfied, returning to sports and their normal activities. Treatment does not entirely eliminate one's chance of arthritis, but it may limit it.

Patello-femoral joint syndrome (PFJ)

PFJ is a mal-alignment of the kneecap, usually resulting from some minor injury to the knee that can cause weakness in the inner quadriceps, therefore causing the outside quadriceps to pull the kneecap to the outer (lateral) side. This can cause gradual wear and tear of the cartilage of the kneecap (patella).

Often referred to as "teenage female knee disease", this condition, also known as Chondro-malacia Patella, usually affects age groups from younger teens up to those in their thirties and forties. It is characterized by softening cartilage behind the kneecap that is most often seen in girls and young women.

In the vast majority of cases, treatment is conservative, with physical therapy to strengthen the weaker muscles that will help to realign the kneecap, as well as taping of the knee, using braces and orthotics. Caregivers exhaust all possible techniques prior to considering surgery unless there's a very significant anatomic abnormality.

Total Knee Replacement (TKR)

Total knee replacement is associated with previous meniscus resection. Genetic factors may make patients more prone to early osteoarthritis that may lead to a need for TKR. TKR is an option generally for more mature people, aged 60 years and over, and is considered a salvage operation, meaning there is no other option.

Patients who undergo a TKR operation stay in hospital anywhere from five to seven days and then move to rehabilitation. When a patient returns home, a home care physiotherapy exercise plan is prescribed. With current advanced minimally invasive techniques, patients are recovering more rapidly than before and are often able to return to most activities.

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Breast Cancer Research:	$20 million
Holland Musculoskeletal Program:	$20 million
Schulich Heart Centre:	$35 million

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