

Sunnybrook

SAVING LIVES, ONE INNOVATION AT A TIME

LIFE AFTER TRAUMA

A shark-attack survivor thrives - and tells her dramatic tale of rescue and recovery

ALSO
INSIDE

Medicine's new frontier: stem cells

Tools for bullied teens

Sunnybrook catches Bieber fever



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COVER STORY

STAYING ALIVE

Two women – one recovering from a shark attack, another from more than 30 stab wounds – share a determination to heal and move forward after serious trauma.

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THE END OF THE VICTIM

Getting teenagers to understand why they are targeted by bullies helps build their social skills and breaks the cycle of harassment.

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STEM CELLS

Meet the Sunnybrook doctors raising hope for new treatments for cancer-radiation damage, serious burns and so much more.

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Many women lose their libido or feel unable to talk about sexual dysfunction following cancer treatment. But as Sunnybrook's SHARE clinic shows, it doesn't have to be that way.

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CONNECTED TO STATE-OF-THE-ART CARE

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It takes highly specialized expertise to diagnose and treat the wide array of hair-loss conditions and the people whose lives they profoundly affect.

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A SEA OF THANK-YOUS

The Sunnybrook community raises a flag (well, many flags) for Canada's war veterans.

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A company provides free apartments for relatives of long-term patients.

ON THE COVER



Nicole Moore, survivor of a shark attack in Mexico in 2011.

COVER PHOTOGRAPH BY TIM FRASER

INVENTING THE FUTURE OF HEALTH CARE

SUNNYBROOK CARES for the most critically ill patients in the province – those with heart disease, cancer and stroke. We care for those suffering from the most serious traumatic injuries, for mothers with high-risk pregnancies and the sickest babies.

That's not enough, though. We want to go further.

In fact, we are inventing the future of health care. That's a lofty claim. It means we are pushing the envelope of what's possible. We want to continue being the best at turning our ideas into treatments that save lives at Sunnybrook and around the world.

That goal is our passion. It's a part of everything we do. Why? Because our patients count on us. They need us to create a future full of treatments that don't even exist yet. They count on us to save lives that can't be saved anywhere else.

Patients like Nicole. While swimming in Mexico, she was viciously attacked by a shark. After six days in a Cancun hospital, she was flown to Sunnybrook for care – care that she couldn't have received anywhere else. As you'll read in this issue, Sunnybrook helped rebuild her life. "Every day is more of a gift," Nicole says.

You'll also read about Becky, who's been coming to Sunnybrook for close to 25 years. Our experts have been fitting her with artificial noses ever since surgeons removed most of her nose and part of her right cheek to help win her cancer fight. Becky says Sunnybrook changed her life.

You'll read about Pat, who had gynecological surgery after being diagnosed with cancer. Like many women in her situation, she had one question: "Will I be able to have sex again?" That question was answered in Sunnybrook's Sexual Health and Rehabilitation clinic. The clinic is a safe place where women like Pat can talk about issues that impact their lives.

These patients – and so many others – have stories to tell. They are stories of survival, strength and hope. I hope they inspire you, just as they inspired us. The truth is, they are just some of the thousands of stories that inspire us at Sunnybrook to dig deeper, to work harder and push further toward reaching our goal.

We are inventing the future of health care. Today.



Dr. Barry McLellan

Dr. Barry McLellan
President and CEO
Sunnybrook Health Sciences Centre



We're proud to have been named the Best Medical Publication in the prestigious Magnum Opus awards, which celebrate excellence in content marketing in North America. Our Spring 2011 issue also earned an honourable mention for best use of infographics.

Sunnybrook

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publishers Craig DuHamel
Pamela Ross

editor-in-chief Simon Beck

editor Michael McKinnon

art director Frank Perito

feature writer Alexis Dobranowski

contributors Steve Adams
Dan Birch
Laura Bristow
Natalie Chung-Sayers
Tonia Cowan
Augusta Dwyer
Sybil Edmonds
Sally Fur
Marlene Habib
Hannah Hoag
Dana Iliescu
Alisa Kim
Jane Langille
Monica Matys
Rachelle Maynard
Celia Milne
Stephanie Roberts

photography Tim Fraser
Doug Nicholson

*director, client engagement
& custom content group* Teena Poirier

*group editor
custom content group* Charlene Rooke

*program manager
custom content group* Liz Massicotte

director, production Sally Pirri

production co-ordinator Isabelle Cabral

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all correspondence

Sunnybrook
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Toronto, Ontario M4N 3M5

questions@sunnybrook.ca | www.sunnybrook.ca

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WE ARE SUNNYBROOK

faces of our staff and our community

THE SURVIVOR



Patient-care manager *and* patient

JUDY-LYNN MCGRATH KNOWS SUNNYBROOK from both sides: as a health-care professional and patient-care manager in Canada's largest veterans care centre, but also as a breast cancer patient in the Odette Cancer Centre.

She credits early detection at Sunnybrook (which contributed to quick interventions and more treatment options) for saving her life. Within a week of a biopsy she had a lumpectomy and lymph nodes removed.

"During my treatments at the Odette Cancer Centre,

I was treated professionally and respectfully and often with humour," says Judy-Lynn, a lifelong vegetarian and fitness enthusiast with a family history of breast cancer. "I met many women at Odette and Wellspring, a cancer support network, who shared similar experiences and I found their strength remarkable and very inspiring. So much can be learned from each other, so many warm connections."

Diagnosed two and a half years ago after a routine mammogram screening at 51, Judy-Lynn not only continued

to work throughout her chemotherapy and radiation treatments, but also stayed on top of her vigorous passion for downhill mountain biking. By continuing to do what she loves best during a challenging time, Judy-Lynn recovered quickly after surgery to face aggressive chemotherapy and radiation treatments while keeping her normal fitness and work routine.

"Keeping physically active helped me sleep, gave me an appetite and kept my mind focused and body strong, which was important to me. In

downhill mountain biking you are going through trees, over jumps and rocks, down steep terrain and even ice and snow in the winter. It's definitely very intense and technical," says Judy-Lynn. She also rides cross-country trails year round and practices yoga daily.

For Judy-Lynn, the lesson is about pursuing what you love and never giving up. The great baseball pitcher Satchel Paige said it eloquently, "Never let the odds keep you from pursuing what you know in your heart you were meant to do." – Sally Fur

THE PSYCHIATRIST



Ensuring reality in almost-reality TV

A SCHOOL-BASED MENTAL-HEALTH PROGRAM has earned a Sunnybrook psychiatrist a consulting role on the hit Canadian television show *Degrassi*.

Dr. Amy Cheung was invited to consult on a script after its writers learned of the program she runs at a local high school. The program provides early mental-health care to students before symptoms affect their social and academic development.

Degrassi is known for story lines that include teen pregnancy, abuse and bullying. Dr. Cheung, a youth psychiatrist who spends much of her time diagnosing and treating adolescents with mood disorders, was the obvious choice for advice about the planned mental-health theme.

"*Degrassi's* writers want to ensure they are portraying situations involving mental health realistically, and

in a way that its teenaged viewers can relate to," Dr. Cheung says.

As a mother of three young children, Dr. Cheung appreciates *Degrassi* for bringing the realities of mental health to a younger audience. "As parents, we need to create an environment where our kids feel comfortable talking about their mental health, so that they don't suffer in silence," she says.

"Mental illnesses, such as depression, can often go unnoticed in teens, and is sometimes dismissed as typical teenage moodiness. In reality, it's a condition that can have serious effects on the lives of those suffering from it," Dr. Cheung says.

Her research shows that only 50 per cent of adolescents with depression are diagnosed before they reach adulthood. – Sybil Edmonds

THE PHYSICIAN



Africa with love

AFRICA CAPTURED

Dr. Valerie Krym's heart in 1999 on a four-month camping trip through nine countries in southern and eastern Africa. "I fell in love with the beautiful continent and its people. I have been going back ever since."

Dr. Krym, a Sunnybrook staff emergency physician, is a founding executive board member of the African Federation for Emergency Medicine, which is helping build emergency medicine as a specialty in Africa. "I choose to give my time in Africa because the needs are so great and the opportunity to make a difference is also great," she says. "There is a vibrant, unpretentious immediacy that makes one feel alive and joyful in connecting with others in focusing on the issue at hand."

Dr. Krym recently received a University of Toronto Faculty Award for Excellence for long-standing contributions to global health education and leadership in emergency medicine. The award recognizes her efforts toward improving access to emergency care where resources are scarce.

"I am very committed to sustainable health-care development projects in poor and middle-income countries," Dr. Krym says. "It

is a way for me to give back and help implement safe emergency care systems."

Dr. Krym has worked as an emergency medicine consultant and educator in Nepal, Ethiopia, Romania, with the World Health Organization in Tanzania and as an international health consultant in Sri Lanka after the 2004 tsunami.

She led a capacity-building and sustainability project at a mission hospital in western Tanzania as part of a long-term health-care project to improve infrastructure, promote self-reliance and sustainability and augment education for hospital staff and the surrounding villages. The project has raised more than \$350,000 and led to securing water rights to a local river and building a small hydro-electric dam, income-generating projects, educational programs for staff and construction of staff homes.

"My approach to working with my international colleagues is to assist them to improve and add to their knowledge and skills," she says. "I believe the 'train-the-trainer' approach is the key to sustainability and making improvements to the health-care system that remain long after you leave." – Laura Bristow

THE MENTAL-HEALTH NURSE



A career of compassionate crisis care

FOR 40 YEARS, Margaret McDermott has been helping patients get through a very difficult time. “When someone arrives in the emergency department and is experiencing a mental-health crisis, they are scared,” says Margaret, a mental-health nurse. “Our priority is to make them comfortable and to give them as much information as possible.”

Margaret worked in the inpatient unit for 27 years, providing care for mental-health patients staying in the hospital

for extended periods. In 1999, she moved to the new role of mental-health crisis nurse in the Psychiatric Emergency Services team. Having dedicated mental-health nurses in the ER has been key to providing a more positive hospital experience for patients.

What characteristics do you need in her job? “Respect, compassion, introspection, good interpersonal skills and solid knowledge about mental illness are very important,” she says. A sense of humour is a

plus, she adds.

Now, set to retire, Margaret reflects on the changes she’s seen. Since she started at Sunnybrook in 1972, she’s seen a shift from psychotherapy to biological treatments, such as medications, and shorter hospital stays. “There is more of a focus on helping people stay in the community, rather than in institutions,” she says.

That’s not always possible, however. “I’ve known some patients for 25 years. Because mental illnesses are chronic,

it gets harder for them to be self-sufficient and they come back to the hospital more often. It can be hard to see people at a similar age to you, with similar interests, lead such difficult lives.”

Margaret is moving to a new province to be closer to her grandchildren, but is not leaving her career behind. “I think I’d like to volunteer with a mental-health organization, or help people in need,” she says. “That’s where I feel most comfortable.” – *Sybil Edmonds*

THE ONCOLOGIST



Cooking up a new approach to cancer

A SUNNYBROOK ONCOLOGIST AND HIS FORMER patient have joined forces to write the nutrition guide and cookbook the patient wishes she’d had during her cancer treatment. *The Essential Cancer Treatment Nutrition Guide & Cookbook* includes tips on managing treatment side-effects, plus 150 recipes based on individual energy levels, appetite and skill level in the kitchen.

“Every patient or family of a patient with cancer should read this book,” says Dr. Neil Bernstein, senior oncologist at Odette Cancer Centre and a professor of Medicine/Oncology and Immunology at the University of Toronto. “It will also be of value to those

without cancer looking for nutritional advice on how to avoid cancer. Other health-care professionals will also find this book helpful.”

Dr. Bernstein, also a Sunnybrook Research Institute scientist, had a long-standing interest in how to harness the body’s immune system to fight cancer. He was approached by Jean LaMantia, his former patient and a registered dietitian, to consult on the book to help patients optimize their diet to deal with cancer treatments with the hopes of staying cancer-free afterwards.

Dr. Bernstein believes there’s evidence that the right nutrition plan may boost immunity – which is a key factor in achiev-

ing these objectives.

“It is very rewarding to provide practical, research-based advice that may boost the body’s immune system to support reduced cancer risk,” says Dr. Bernstein. “It is also rewarding to help patients during treatment, to recharge their immunity and energy levels through a diet that is flexible to the individual.”

Jean remembers a drastic loss of appetite and severe nausea after her first chemotherapy treatment. Reassuring advice from the doctor (nutritional tips and simply the encouragement to drink and eat what she could) helped her cope.

Dr. Bernstein has recently

taken the position of director of Translational Research at the Ontario Institute for Cancer Research. His research includes working with global teams on therapeutic vaccines for cancer. He also has a long-standing research interest in novel immune-based therapies for non-Hodgkins lymphoma and has initiated multiple trials through the Advanced Therapeutics Program, of which he was the founding director.

The book is available online through most major bookstores and can also be purchased at the Patient and Family Nutrition Resource Centre (TG 261) at the Odette Cancer Centre. – *Natalie Chung-Sayers*



THE NEONATAL NURSE

Babies' breath

AMANDA SQUIRES GETS AS excited about helping others as she does about travelling, and last November she did both. With the help of Tiny People Matter and Helping Babies Breathe, Amanda visited Zambia for two weeks, where she trained medical staff in resuscitating babies born in clinics or villages with limited supplies and skills.

As a neonatal nurse practitioner at Sunnybrook, Amanda's specialization is in resuscitating high-risk, premature and extremely low-weight babies. She had already brought those skills to Saudi Arabia and Ukraine, where she'd started a Neonatal Resuscitation Program for local medical staff, but Zambia was a different story.

"Regular neonatal resuscitation programs are good for hospitals that have equipment, but will not help nurses in clinics where the equipment necessary isn't available," explains Amanda.

That's where Helping Babies Breathe steps in. The program was developed by the American Academy of Pediatrics and the World Health Organization, in keeping with their goal of lowering infant mortality worldwide by 2015.

Resuscitation is taught using a self-inflating resuscitation bag without oxygen and can be used when high-end

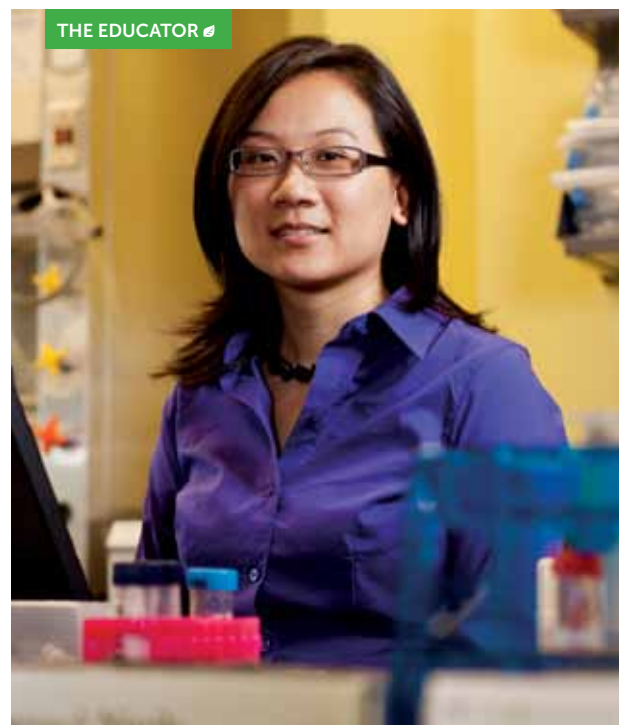
equipment isn't available.

It was at a Helping Babies Breathe training session that Amanda met the founder of Tiny People Matter, the organization which later helped get her to Zambia in a group of North American medical professionals. In Lusaka and Ndola, they trained staff in several hospitals, orphanages, clinics and a midwifery school. Local staff were also taught how to train others and given the medical supplies to do so.

Amanda was inspired by the optimism of the Zambian people and in awe of the camaraderie among her colleagues as they worked together. She speaks just as highly about Sunnybrook's Neonatal Intensive Care Unit, where she values the team spirit and the fact everyone is passionate.

Her experience abroad is invaluable in helping Canadian families and refugees coming from Zambia. "I know how to approach them. I understand better the things that really affect them, and that helps me do my work here. I love what I do, I love my job, but I also want to go to the frontiers."

Amanda will return this year to Zambia, visit India next year, and hopes to one day organize her own trip with her fellow colleagues to Namibia. – Dana Iliescu



THE EDUCATOR

It really isn't rocket science

MELISSA CARMEN CHEUNG IS ON A MISSION to make science cool. "When I walk down the street, everything from how trees grow to how a vehicle moves fascinates me," she says. "I want to share my excitement with others because if you give people good context, you can get them excited and involved in everyday life."

As a PhD candidate set to convocate in November, Melissa's everyday life involves plenty of time in the lab; her research at Sunnybrook focuses on targeted cancer therapies that pinpoint the disease and leave healthy cells untouched. It's a niche she hopes will one day improve a patient's quality of life and overall survival rates.

But she knows science isn't always something people can relate to. That's why she recently started her own Sunnybrook blog, Real Research, Real Simple.

It explores many curious concepts, like genetically-modified glow-in-the-dark animals and why researchers are turning the tables and giving tobacco plants cancer.

Emanating from Melissa's snappy write-ups is her unbridled enthusiasm for the world around her. As part of her ambition to be involved in science communications, she's also taken this talent on the road. As a volunteer with the national non-profit Let's Talk Science, she travels to schools to educate kids about fun science concepts from DNA to how gravity works.

"Many people think that to understand science, you have to understand rocket science," she explains. "They don't realize that even simple things like making your daily cup of tea are also relevant. Appreciating this helps you see the world in a new perspective." – Monica Matys



THE OPTICIAN

Focused on the details

WALK THROUGH SUNNYBROOK'S BUSTLING MAIN entrance and you're sure to catch a glimpse of optician Dexter Telenko hard at work in his storefront. That's because he swapped the back-room operation typical of most optical store layouts with a design that brought the workshop front and centre when he built his optical shop at Sunnybrook 15 years ago.

The concept encourages curiosity and regular drop-ins from passersby. But it's Dexter's devotion to craftsmanship that has customers regularly popping their heads in just to say: "Thank you."

The praise and appreciation

are well deserved. Dexter's Optical caters to patients with some of the most difficult prescriptions in the province.

"I have the capability to build really difficult stuff," Dexter says. "We'll handle prescriptions from plus 30 to minus 30 and astigmatism and prism values that are just crazy. We see a lot of broken people. There are few operations doing this kind of work."

Telenko's attraction to seeing the world through a different lens sparked in high school. Growing up in what he calls the "tough little town north of Sudbury," he escaped boredom by building telescopes in his backyard.

Eventually, he had to face the age-old decision of what to do for the rest of his life. Not wanting to spend his career in an isolated observatory, he set out on his current path.

"I like working with people and what I do is fun. If you're going to do something, hell, do it! Dig in!"

Dexter approaches each patient with the skill of a custom tailor. He says eyewear has to be high quality, perfectly fit, used for the right purpose and fairly priced. The devil is in the details and so are happy customers. That's why most are repeat customers.

On occasion, Dexter has had to rearrange his shop to

accommodate a patient's bed visit in the store. And if hospitalized patients can't come down to see Dexter, he'll go to them. "I see people with severe disfigurement, missing limbs and eyes that don't function normally. A big part of my job is being compassionate, but also having some backbone because the last thing people want is sympathy. They need somebody who will get things done," he says.

"I get a great level of satisfaction out of doing what is generally not easy to do. Helping people, tackling the difficult work and doing it well. There's really nothing better." – Monica Matys

MS PATIENTS AND DEPRESSION

CAN EXERCISE IMPROVE THE MOODS OF multiple sclerosis (MS) patients who are suffering from depression?

That's one of the questions a team of Sunnybrook researchers hopes to answer with its research into the mental well-being of these patients, thanks in part to a \$263,000 grant from the Multiple Sclerosis Society of Canada.

Half of MS patients suffer from depression and half suffer from cognitive

dysfunction. When a patient faces both at once, it can be difficult to manage their health, says Dr. Neil Rector, director of research in the department of psychiatry at Sunnybrook.

The grant will be used to fund a study, led by Dr. Rector and Dr. Anthony Feinstein, director of Sunnybrook's neuropsychiatry program, examining whether non-drug treatments can improve depression and cognitive

dysfunction in MS patients.

Patients will be divided into three groups: patients who only receive cognitive behavioural therapy (CBT), patients who only exercise and patients who receive a combination of both.

Because many of the patients will be taking antidepressants, the study results will also clarify the extent to which CBT and exercise can benefit MS patients.



A \$10-million spotlight on OCD

SUNNYBROOK'S PIONEERING WORK IN anxiety-disorder care and research is getting a \$10-million boost.

The gift from Frederick Thompson, thought to be the largest-ever private donation focused on obsessive compulsive disorder (OCD), will create the Frederick W. Thompson Anxiety Disorders Centre within Sunnybrook's Brain Sciences Program.

"This gift makes a bold statement and represents a real turning point in the research and treatment of anxiety disorders," says Dr. Peggy Richter, director of Sunnybrook's Clinic for OCD and Related Disorders. "This centre will address the spectrum of anxiety disorders, and will focus on the treatment of OCD and its related conditions – and no other centre in Canada offers such specialized care for these disorders. This gift truly establishes Sunnybrook as a leader in treatment and research in this important field."

The centre will attract international experts who will collaborate with Sunnybrook's world-class scientists and will be an epicentre for anxiety-disorder research across Canada.

The coolness factor

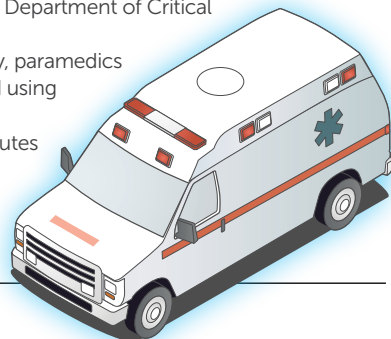
SUNNYBROOK DOCTORS HAVE LAUNCHED A STUDY to determine whether "keeping it cool" in ambulances is best for cardiac arrest patients. Cooling a patient's body temperature after a cardiac arrest has been shown to reduce the chances of severe brain damage and death, but the treatment is usually only provided in hospitals. Lowering the patient's body temperature by 3 to 5 degrees Celsius slows the brain's need for oxygen, which can reduce the patient's chances of severe brain damage caused by lack of blood flow during cardiac arrest.

"We know we can prevent brain damage and save more lives

by cooling a patient," says Dr. Damon Scales, the trial's principal investigator and a staff physician in Sunnybrook's Department of Critical Care Medicine.

Since the trial launched in July, paramedics have treated a patient in the field using cooling, a first in Ontario.

Funded by the Canadian Institutes of Health Research, the trial is expected to last for two years and involve more than 1,000 patients.



MICROBUBBLES VS. TUMOURS



SUNNYBROOK RESEARCHERS HAVE SHOWN they may be able to boost the tumour-destroying power of radiotherapy by using ultrasound in a new way. "This is definitely a world-first happening at Sunnybrook," says Dr. Greg Czarnota, radiation oncologist and lead on this research.

The process involves injecting tiny microbubbles into the blood stream. Researchers found the otherwise harmless microbubbles bounce and expand when heated with focused ultrasound, straining the blood vessels of the tumour. The cancer cells become leaky and weak. When a tumour is targeted this way before radiation in pre-clinical models, the radiation destroys up to 40 per cent of the tumour within 24 hours.

The research received a \$1-million boost from the Breast Cancer Society of Canada this year. "This support will allow us to scale up these treatments and move them out of the laboratory and into breast cancer patients in the next three to five years," Dr. Czarnota says.

WHAT IS MELANOMA'S X-FACTOR?

A SUNNYBROOK SCIENTIST IS trying to determine why women with melanoma have a better chance of recovery than men. Melanoma is an aggressive skin cancer with a poor outlook for survival once it spreads to other parts of the body. But women with melanoma, even at an advanced stage, have a far better prognosis than their male counterparts. Researchers have found no evidence female hormones contribute to this phenomenon; they believe the gender difference has a genetic basis.

Dr. Teresa Petrella, a clinician-scientist at Sunnybrook, is trying to understand the female advantage and uncover drivers of the disease. She and her colleagues will do in-depth analyses of X-chromosome genes in melanoma to identify potential new therapeutic targets to improve survival.

TAX DEADLINE DAY CAN BE FATAL



THEY SAY TWO THINGS ARE CERTAIN in life: death and taxes.

A Sunnybrook study has found the two often go together; for U.S. motorists, income tax deadline day increases the risk of a fatal road crash.

Using road safety information from the National Highway Traffic Safety Administration from 1980 through 2009, Sunnybrook researcher Dr. Don Redelmeier and colleague Christopher Yarnell from the University of Toronto examined the number of fatal crashes on each tax deadline day as well as on the same weekday one week before and after.

They found the risk of being involved in a fatal crash was 6 per cent higher on income tax deadline day.

"The increased risk could be the result of stressful deadlines leading to driver distraction and human error," says Dr. Redelmeier. "Other possibilities might be more driving, sleep deprivation, lack of attention and less tolerance toward hassles. Another contributor could be decreased law enforcement as the police, themselves, might be busy with their own tax deadlines."

And why is this finding significant? The study's authors say these risks could be mitigated through driver education.

BUILDING TOWARD A BETTER BIOPSY

AN EASY AND PAINLESS prostate cancer biopsy? Most men will say there's no such thing – but some Sunnybrook researchers are perfecting a high-tech imaging procedure that allows them to see prostate tumours much more clearly, and in some cases detect tumours missed with past biopsies.

Dr. Masoom Haider is leading a group to advance image-guided prostate cancer detection and biopsy. With Dr. Laurent Milot and the team at Sunnybrook's Gelato Cup Golf Early Detection Centre, prostate tumours are targeted with great precision in a needle biopsy, a procedure in which a small tissue sample is removed from the prostate gland. With the cutting-edge technique, doctors only need two to four samples – far less than the 12 or more samples that are traditionally required.

"The current paradigm of prostate cancer detection with prostate-specific antigen and biopsy does not show us where the cancer is located in the prostate," Dr. Haider says. As a result, men endure multiple random needle biopsies. Tumours can be easily missed, prompting painful repeat biopsies.

Sunnybrook's experts fuse a magnetic resonance image of the prostate tumour with real-time ultrasound imaging obtained during biopsy, providing a clear picture of the tumour.

And by finding tumours otherwise missed, they are saving lives by ensuring men are treated early in their disease.

The true cost of house fires



EVERY YEAR FIRE KILLS 400 PEOPLE IN CANADA, and most of these deaths occur at home. A new Sunnybrook study will look at the health-care costs of house fires, including the costs of burn care, and whether automated sprinklers in homes have an impact on the health, safety and economic outcomes of house fires in Canada.

Over the next three years, researchers will look at literature and statistics on fires and their associated costs to homeowners, insurance companies, fire services and society as a whole. The research will focus on Canada, but also extend to other parts of the world.

IMAGING RESEARCH GETS \$6.9 MILLION BOOST



Dr. Greg Czarnota, left, examines images as part of his research using high-intensity focused ultrasound.

IMAGINE CHECKING INTO A HOSPITAL to have a tumour removed, being discharged that same day and back at work the next. This is the vision of scientists at Sunnybrook Research Institute (SRI), who are working on image-guided focused ultrasound surgery, a minimally invasive procedure.

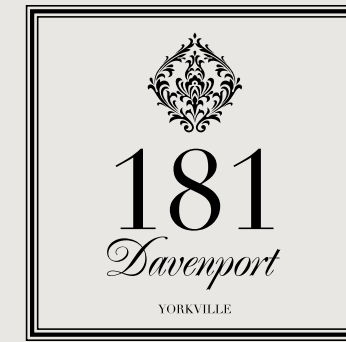
That vision has just received a tremendous boost; the Federal Development Agency for Southern Ontario has invested \$6.9 million into this and three other innovative imaging research projects led by SRI scientists.

The other projects include using magnetic resonance imaging to guide and monitor

treatments to correct an irregular heartbeat or unclog blocked arteries; technology that reveals early whether chemotherapy has been effective in cancer patients; and a hybrid catheter that combines optical and ultrasound imaging to treat blocked coronary arteries.

The agency's contribution, matched by 19 industry partners, will allow SRI and its academic partner, Western University, to develop and commercialize therapy and monitoring systems for cancer and heart disease.

It is anticipated the initiative will create high-value jobs and economic growth across southern Ontario.



INSTINCTIVELY HOME



LIVE IN A NEIGHBOURHOOD WITH A HISTORY OF HAPPINESS

There are certain parts of every city that capture its spirit. They have always been integral to the city's identity. In Toronto, that neighbourhood is Yorkville. From the time its Victorian brick houses were built to its contemporary life as the place where people come to find the best boutiques, restaurants and galleries, Yorkville has always had an unrivaled energy and charm. It's where people want to be.

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STAYING ALIVE

Two women – one recovering from a shark attack, another from more than 30 stab wounds – share a determination to heal and move forward after serious trauma

By Alexis Dobranowski

Editor's note: This story contains graphic details that may be disturbing to some readers.



PHOTOS TIM FRASER

Sunnybrook's trauma department has a world-class reputation. Some of the most critically ill and injured patients from across Ontario – and beyond – find themselves in Sunnybrook's care. Here, two trauma patients share their stories of determination and survival – and how the team at Sunnybrook helped them stay alive.

NICOLE'S STORY: Nicole Moore is a warrior.

This past July, she was among a few hundred Ontarians competing in the Warrior Dash, a 5.5-kilometre obstacle course that includes leaping through fire, darting through metal wreckage and wading through waist-deep mud.

It's hard to believe that little more than a year ago, Nicole was an inpatient at Sunnybrook recovering from a horrific and highly publicized shark attack in Cancun, Mexico.

January 31, 2011: A vacation with friends in Mexico was no excuse for Nicole, an active nurse, to sit back and relax. So, covered in sand after a game of beach volleyball, she headed into the ocean to rinse off. As the Orangeville mother waded into water about waist high, two men on Sea-Doo watercraft shouted at her in Spanish. She wasn't sure what they were saying but decided to get out of the water nonetheless.

"Then I felt a bump," she calmly recounts. "Within seconds of that bump came the first bite."

A shark bit through Nicole's upper left thigh. "It just took the flesh right off, right down to the bone. I am missing two of my quadriceps and two of my hamstrings on the back of my leg."

Nicole knew right away what was happening. "There was just an ocean of red surrounding me." Despite the massive injury to her leg, she tried to walk to shore. That's when the shark – or perhaps a second shark; it remains unclear – attacked her left arm.

"It had my whole arm inside its mouth," Nicole says. "It was hanging off of my arm. I'm looking at this shark and it's trying to pull me down. We are

struggling," she says, recalling the moment of the attack.

Nicole smacked the shark square in the nose, a decision based on something she'd heard in her diving training. "It's a very sensitive spot for them." She was able to pull her arm free.

"But I can't walk much further; I don't have a leg to walk on," Nicole recalls of the post-attack moments. "Finally, the men on the Sea-Doos were able to lock fingers with me and gun me to shore."

As she lay battered and bloodied on the beach, Nicole's training as a nurse kicked in. "Given the horrific scene people were looking at, they were just standing around but no one was doing anything," she says. "I looked at my wounds, realized how severe they were and asked for help.

"A man used his bare hands to apply pressure on my leg wound while others around were also scrambling to help. After my leg had pressure on it and someone tied a string around it, I turned my attention to the bite on my arm and knew I was bleeding badly from that wound, as well. I told the young woman who was sitting next to me that I need a tourniquet for my arm. A man pulled the string off his shorts and the woman used it to tie off my arm."

Nicole remained conscious during the whole ordeal. "I can remember all of it. I was completely lucid and awake and alert and not in a panic," she recalls.

Nicole was rushed to a Cancun hospital, where surgeons operated on her arm and leg. She remained in intensive care there for nearly a week until she was flown to Sunnybrook.

BACK ON HOME SOIL BUT FAR FROM HOME:

Days later at Sunnybrook, the plastic surgery team was horrified by what they found when they pulled back Nicole's bandages. Her wounds were contaminated and rotting. She underwent two emergency surgeries – totalling more than 15 hours – that she says saved her life.

Unfortunately, Nicole and her care team encountered many complications. Her body rejected the skin flap attached to cover the shark bite on her arm. Doctors were unable to save the arm and amputated it above the elbow.

"To get rid of the arm, I felt relieved because it was so painful. There were very few days of tears. I'm very, very grateful to be alive and be there for my kids. Every day was more of a gift."

Nicole stayed at Sunnybrook for nearly two months. It was far for family to visit, but the care was worth it, she says. "Sunnybrook did a fantastic job," she says. "I really feel like I owe them not only my life, but my well-being as well. They contributed immensely to me being at ease."

In spring, 2011, Nicole returned home to her husband Jay and two young daughters to continue her recovery.

LONG ROAD TO RECOVERY: Nicole's first year of recovery began very well. Her family was adjusting and her condition improved.

"I was able to return to aerobics, get on the stationary bike, go swimming," she says. "I was able to kayak with a pedal kayak and that was fantastic." But in February, 2012, Nicole had another surgery at Sunnybrook and remained in hospital for four weeks.

"They reconstructed my leg again with another skin flap. For the first year of recovery, I had part of my femur exposed because nothing would take due to the wound being down to the bone," she says. "Also, some problems with my stump were prohibiting me from wearing my prosthetic. Unfortunately, the recovery this time has been much more challenging. But, we'll get there."

The prosthetics process is a long and expensive one. "After the surgery, I am able to wear my prosthetic in short bursts, which I love," she says. "It's so fantastic to have that tool. My community has been supportive in helping raise money for this."

LOOKING AHEAD: Nicole can't wait to get back to work. She's hopeful that accommodations

can be made to allow her to continue as a nurse. "Nursing is so much a part of who I am," she says. "I'm hoping to be back at work this fall."

And she's got some pretty ambitious physical goals for someone still in the midst of recovery: a bike ride with her two girls and downhill skiing this winter. She's working with her physiotherapists and prosthetics team at Sunnybrook to help move forward.

"I'm still working on it. I'm very determined," she says. "And hopefully I'll do a triathlon by 2014. There's no stopping me."

"Sunnybrook did a fantastic job. I really feel like I owe them not only my life, but my well-being as well."

— Nicole Moore



“I am so grateful I was taken to Sunnybrook to receive the care we received, me and my family. You can't believe the support we received.”

— Lenore Wirtz

We make it easy to protect the ones you love

LENORE'S STORY: July 11, 2009: It was Saturday afternoon, just 10 minutes until closing time on Lenore Wirtz's fifth day of work at a women's apparel store in Orangeville. A man came in and began browsing. He'd been in earlier in the day checking out skirts for his girlfriend and returned to purchase one for her, he said.

Suddenly, he lunged at Lenore, grabbed her and forced her into the back stock room.

"I encouraged him to rob the store and take the money instead of hurting me. I told him I wouldn't call the police," she recalls.

He told Lenore to give him all the money in the store and then returned to the stock room. Wrapping a long piece of twine around Lenore's neck, he strangled her until she was unconscious. When she came to, the attacker was straddled on top of her. He pulled a knife from his back pocket. "I guess he decided he'd have to kill me so I couldn't identify him. I got more than 31 stab wounds," the 46-year-old says. "I was conscious."

Lenore tried to fight back. In the struggle, her attacker stabbed his own arm with the knife. When he went to the washroom to tend to his wound, Lenore tried to get away. "I was able to stand up. I was very weak and there was blood everywhere," Lenore says. "I just kept saying to myself, 'I've got to get out. I've got to get out.'" The man realized Lenore was up and trying to get away. He threw her to the ground. She pleaded for her life.

Lenore realized she wouldn't get out of there alive unless she played dead. She slowed down her breathing and watched through her eyelashes as he went through the store, stealing clothing, her purse and her phone. When he was done, he returned to check her near-lifeless body and kicked her to see if she was dead. She lay still. He fled out the back door and left in Lenore's car.

She couldn't see. She could barely move. But she dragged herself to the front of the store, rose to unlock the door and emerged onto the street. There, a passerby found her and called 911.

AIRLIFTED TO SUNNYBROOK: Lenore remained conscious as emergency personnel tended to her on the street. "When I was in the ambulance, I heard them say they were calling the air ambulance to take me to Sunnybrook. When I heard that, I knew it must be really bad. Sleepy little Orangeville doesn't see this stuff. Sunnybrook knows trauma."

The most significant injury was to her left wrist. The attacker had cut it down to the bone. She also had two punctured lungs and a punctured liver. "Eventually the pain was too great and I was screaming in my head but nothing was coming out," Lenore says. "The next day I woke up in critical care."

She underwent two surgeries that first night. Surgeons repaired the wounds to her abdomen and conducted a seven-hour-long surgery to reattach her wrist. While she has limited motor skills and extreme sensitivity in her hand, doctors were able to reconnect all of the nerves and tendons.

"It was a tough time," she says. "But I was so happy to be alive. I don't want to make it sound like it was all happy smiles. It was emotionally difficult to try to understand what the heck had happened. It was a brutal attack and completely random. It wasn't against me, Lenore, as a person."

Each day brought improvements. Lenore remained in hospital for 13 days before returning home to her husband and three daughters. "My three daughters were all going back to school in six weeks," Lenore says. "My middle daughter was heading off to university for her first year. We were trying hard to find a new normal and give her the security and confidence to go and live away from home."


The man who attacked Lenore was convicted of attempted murder and is serving 13 years.

THREE YEARS LATER: Lenore has had two additional surgeries at Sunnybrook in the years since the attack. She underwent two years of hand therapy.


"It was incredible coming back as an outpatient," she says. "It was a long way but I was prepared to do it. I'm so grateful I was able to get that kind of care."

The Wirtz family has now settled into their new normal, Lenore says. "We are all hypersensitive to our safety," she says. "Unfortunately, that's been shattered for my daughters." Each year, they celebrate Mother's Day with high tea at Niagara-on-the-Lake.


Lenore has never returned to the store where the attack took place and memories of the incident and her recovery flood back whenever she sees an air ambulance. "I am so grateful I was taken to Sunnybrook to receive the care we received, me and my family. You can't believe the support we received." ■



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the end of the VICTIM

Getting teenagers to understand why they are targeted by bullies helps build their social skills and breaks the cycle of harassment, Sunnybrook psychiatrists have shown

By Michael McKinnon

ILLUSTRATION STEVE ADAMS

When David* came to Sunnybrook, he was quick to tell his psychiatrist that his classmates were bad people. His classmates threw things at him on the bus to and from school, the 16-year-old said; they relentlessly called him names in the schoolyard, and he felt like he couldn't contribute to classroom conversations without snide comments being whispered behind his back. The bullying caused him such anxiety that he routinely took himself out of social situations, and his parents sought help at Sunnybrook.

approaches are essential, Dr. Adler Nevo says. But there's an equally important angle: the victim. Dr. Adler Nevo is one of several Sunnybrook psychiatrists focused on care for the victim – addressing the connection between bullying, depression and anxiety so that the victims don't fall through the cracks.

THE VICTIM, NOT THE CRIME

"What is missing from the picture is treatment for the bullied themselves," she explains. "The systemic problem should be addressed and the bully treated, but the one who needs the most help is the victim."

She points to research that shows bullied children often continue to be harassed even after they change schools, for example, and that factors such as appearance, ethnicity and disabilities don't determine whether a student is bullied. Bullies are drawn to those who lack a social group – and that often includes teens who suffer anxiety or depression. Her treatment focuses on helping bullied teens understand the role they have in the dynamic in the hopes of breaking the cycle.

"Take a teen starting high school. He or she may have anxiety, and think: 'Nobody is going to like me, and I'm not going to have any friends. I'm going to be awkward.' So the teen sticks to the wall, and really does seem awkward, and the people around him feel that and react to it," explains Dr. Adler Nevo. "Inside the teen could be all these wonderful things, but the way he or she behaves could deter people from approaching."

Through support, understanding and validation of what they're feeling, Dr. Adler Nevo helps her patients develop insight into how their thoughts, emotions and behaviour influence how others perceive them, she says. Since teens who remove themselves from regular social interactions tend to be prime targets for bullies, finding a way to become social again is key.

Though she won't divulge her entire approach (her therapy works best when it's a journey for which the teen

"By telling these kids there's something they can do to stop this from happening, we're giving them a sense of power. If we say, 'It's all the bully's fault,' then the kid has absolutely no power in this."

– Dr. Elyse Dubo

doesn't have a roadmap, she says), it's a customized cognitive behavioural therapy that includes Prolonged Exposure, traditionally used to treat post-traumatic stress disorder patients.

By encouraging real-life but safe exposure to events that trigger anxiety for the bullied teens – which could include simply going to school – teens learn to engage with and process the traumatic event. It helps them understand their anxiety, but not become limited by it.

"Therapy validates their emotions, but it also helps move forward," Dr. Adler Nevo explains. "They gain a stronger sense of self-efficacy, which means they have a stronger sense that they can do something about their situation. They can change it."

The approach worked for David, the 14-year-old convinced his classmates were horrible. The worst-offending bullies were spoken to by teachers, but David also made personal progress by understanding little by little how his anxiety was affecting the way he was viewed by others.

"That sounds simple, but it's really tremendously difficult. Imagine yourself a teenager, feeling fragile, thinking you need to be macho, strong and having to acknowledge your anxiety in order to move out of it. Many of the victims would rather deny," she says. "Therapy was a combination of working internally on thoughts and feelings, seeing where they make sense and where they are unhelpful for him, where they're not, and actually changing the way David approached his peers."

And when David was asked about his classmates toward the end of treatment? "They're actually ok," he said.

BULLYING AND DEPRESSION

A U.S. study published in *Child Development* in March found that the relationship between bullying and depression is not straightforward. While parents and teens may assume their depression is the result of bullying, the study showed it's often the other way around – that depressed teens sometimes attract unwanted attention.

"Bullies have radar for kids who are going to be targetable – who are not going to fight back," explains Dr. Elyse

Dubo, a staff psychiatrist who treats depression in youth. "Kids with depression can be targeted because they look like they have low self-esteem, and are somewhat withdrawn."

To make matters worse, depression in teens can come with an unfortunate symptom, she says: rejection sensitivity. These teens view every social interaction as negative; they see two friends talking and are so self-conscious they assume it's about them and think their friends don't want to be around. Their relationships dwindle, setting them up as prime targets for bullies.

"The teens often start to isolate themselves and won't sit with their friends at lunch because they think their friends don't want to sit together, or they won't return calls because they think their friends don't really want to talk to them," Dr. Dubo says. "They find themselves completely isolated, making them easy targets for bullies. These kids feel so socially fragile and they can so easily feel devastated because of their depression that it's hard for them to gain perspective."

Just treating the depression itself can have remarkable results. Dr. Dubo has seen extreme cases where the right medication helped get both the depression and the bullying under control within a few weeks.

"As we treat the anxiety and depression with medications and therapy or both, they improve in their symptoms," explains Dr. Dubo. "As the depression improves, their self-esteem improves. Their perception changes, so they're not seeing things so negatively and they can start to take risks socially. As they get out of their depression, they feel like they can start to reach out and start new social interactions."

It's not always that simple, of course. Long-term depression and anxiety can have detrimental and complicated effects on a teen's development that need to be addressed. In those cases, it may take much lengthier therapy to help the teen undo his or her negative thinking patterns and behaviours that have developed as a result of their anxiety and depression. Dr. Dubo is also quick to emphasize the importance of grass-roots educational programs in the

* names changed



SPEAKING OUT ON FILM

A Sunnybrook film is increasing awareness among Toronto-area teenagers and their families about adolescent depression, thanks to staff psychiatrist Dr. Elyse Dubo. A shortened version of the film, *Lost and Found: Parents and Teens Speak Out about Teenage Depression*, has been shown to thousands of Toronto Catholic District School Board high school students and about 200 parents as part of Stop the Stigma, the board's annual mental-health awareness campaign. Discussions are underway with the Toronto District School Board to show the film to its students and staff.

"The film has proven to be a very concise way to get the message across about teenage depression, and it has an emotional impact," explains Dr. Dubo, who co-produced the film with filmmaker Boja Vasic.

Through interviews with teens and their parents, *Lost and Found* paints a clear picture of the adolescents' struggle with depression and the impact it has on their schooling, social and family life. The film does not delve into treatments, but focuses on helping teens and parents identify the signs of depression. And though the film includes the sad story of one teenage suicide, it is a positive film filled with hope.

"People do get better," says Dr. Dubo. "The remarkable thing with all these cases in the film is that the parents did not give up, or turn on their kids for looking like failures or dropping out of school. These parents showed unconditional love and support and got their teen through this."

The film helped Dr. Dubo earn a Sunnybrook Patient and Family Education Award and she was invited to sit on the Coalition for Children and Youth Mental Health, a group of experts examining mental-health education in the school system.

school system aimed at bullies, as well as those who may be unwilling participants in the dynamic. But she also points out that helping teens understand their role in the bullying is an important part of the overall picture.

"By telling these kids there's something they can do to stop this from happening, we're giving them a sense of power," says Dr. Dubo. "If we say, 'It's all the bully's fault,' then the kid has absolutely no power in this. So we validate their experience and acknowledge how hard it's been for them – and absolutely that what the other kids are doing is not right – but then you collaborate around ways that they can shift out of this."

THE BULLY CYCLE

To be sure, the depression-bullying can cause a downward spiral, psychiatrist Dr. Amy Cheung says. Many of the bullied teens she treats have depression or anxiety that was previously undiagnosed. Their moods are hurting their ability to maintain relationships, and having strong relationships is key to avoiding being bullied, she notes. Being bullied worsens their depression, and the cycle continues.

"I think removing the bully is one thing. The tougher situation is making sure that some other kid doesn't become the bully because this person has no friends and they're an easy target for the bully," says Dr. Cheung. "If you're in a good group of friends, it's more difficult to be bullied."

As well as anxiety and depression therapy, her treatment includes interpersonal therapy, which helps teens understand that their moods affect their relationships and vice-versa, all with the goal of building a social network.

"It's all about building emotional support. We count the positive relationships in their life, and sometimes kids don't realize all the people who are out there to help them," says Dr. Cheung. "It's a therapy that teens really like, because teens are all about their relationships."

Dr. Cheung teaches her patients that bullying isn't out of their control. Her approach doesn't place blame – and it certainly doesn't negate the need for zero-tolerance programs or punishment for bullies themselves – but it does acknowledge that they're inadvertently feeding into the dynamics of the bullying relationship.

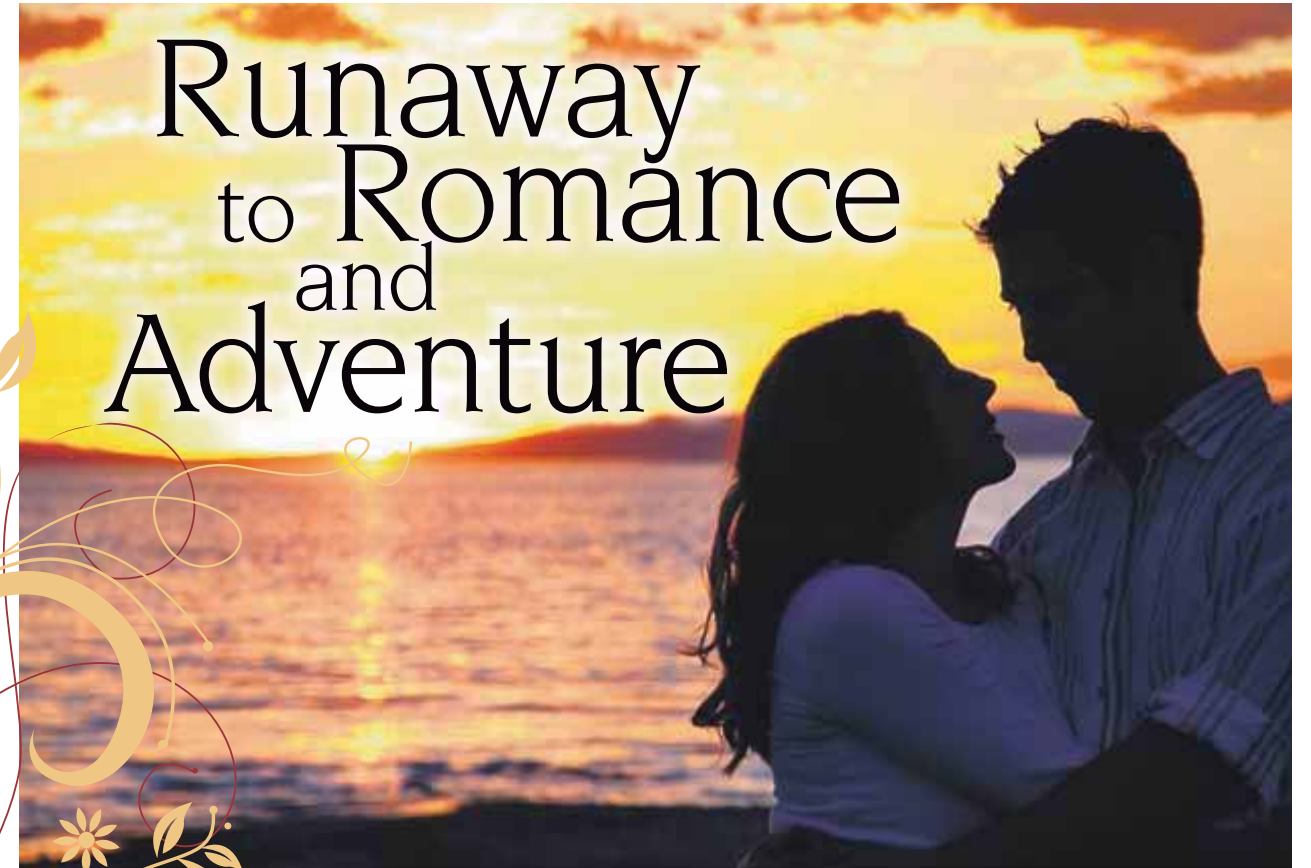
She points to Steven*, a teen who'd been bullied for years. Through the course of his therapy with Dr. Cheung, he came to admit that he didn't have many close friends.

"His success came through interpersonal therapy. He realized he does need relationships and people who are supportive of him – not just superficial friends – and that he needs to work on some of those relationships," says Dr. Cheung. "Treating his depression will mean he will be well enough to want to try to make friends, and build a support system so that he will not be the target of bullying anymore." ■

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STEM CELLS: medicine's new frontier

Meet the Sunnybrook doctors raising hope for new treatments for cancer-radiation damage, serious burns and so much more.

By Hannah Hoag



About a decade ago, Dr. Marc Jeschke saw the future of burn care. Although medicine had advanced to the point where patients with severe burns covering more than 40 per cent of their bodies could survive, Dr. Jeschke, director of Sunnybrook's Ross Tilley Burn Centre, thought even the best treatment was brutal and unsophisticated.

Survival following a severe burn depends on the surgeon's ability to close the wound and get it to heal. Burn patients often undergo numerous surgeries that remove skin from another part of the body and graft it over the burn site. "To graft the big one, you inflict another wound. It's barbaric," says Dr. Jeschke.

Surgeons have long been on the hunt for a more humane approach, but none have fully paid off. Stem cells have enormous potential to solve that problem, he realized. "Yes, it is exciting, but it is also very realistic," he says.

Stem cells hold immense promise in transforming patient care, and Dr. Jeschke isn't the only one who sees the possibilities. At Sunnybrook, scientists are finding ways to harness that potential to develop faster, more complete, less invasive ways to close wounds, repair the brain and even cure diseases. In 2010-11, the Canadian Institutes of Health Research spent \$70.9 million on stem cell research, a 25-per-cent increase over the previous year and just under double what it spent in 2005-06. The path to a medical revolution is a long – and sometimes bumpy – road, but there are stem cell treatments being tested today.

Dr. Shun Wong, a senior scientist at Sunnybrook Research Institute and the chief of radiation oncology at Sunnybrook, is working on a project that could change cancer treatment. Some cancer patients receiving radiation therapy risk injuring the brain and the spinal cord, even if they're receiving treatment for a nearby tumour. "Even though we are increasingly precise at minimizing the amount of normal brain and spinal cord exposure to radiation therapy, sometimes it's not possible," he says. The side-effects can lead to dementia, memory loss and sometimes death.

Dr. Wong would like to use stem cells to repair radiation injuries. Two decades ago, next to no one believed the adult brain could grow new nerve cells. Now scientists know that's not true. "New nerve cells are continuously born within the adult brain, but radiation therapy inhibits their formation," says Dr. Wong. "We want to understand some of the reasons that lead to the inhibition of new nerve cells." He's focusing on the intimate relationship these stem cells have with the cells lining the tiny blood vessels that course through the brain. His research shows that when blood vessel cells are protected after radiation, fewer brain stem cells die.

One day a stem cell-based therapy may be able to treat people with AIDS or help cancer survivors bounce back after treatment. Dr. Juan Carlos Zúñiga-Pflücker, an immunologist at Sunnybrook Research Institute and the University of Toronto, has long been fascinated by the thymus and its role in creating infection-fighting cells called T-cells, which are destroyed by HIV and cancer chemotherapy.

Dr. Zúñiga-Pflücker works with cord blood stem cells, donated by women who have recently given birth, and other types of stem cells, which he carefully nurtures into T-cell precursors in the lab. When these cells are injected into patients, they travel to the thymus where they're converted into T-cells. It's like giving the thymus a boost, says Dr. Zúñiga-Pflücker. "Creating that right nursery environment allows them to become T-cells."

Dr. Jeschke is also enthusiastic about cord blood stem cells and those derived from the amniotic membrane. Stem cells harvested from these tissues can be turned into bone, fat or cartilage cells. That has important applications in burn care; a serious burn is more than skin deep, he explains. It can burrow through the fat and muscle, damaging blood vessels and nerves. But burn survivors suffer a greater loss. Their bodies go into hyperdrive to survive and begin to lose dramatic amounts of body weight.

"A burn patient that comes in as a body builder will leave as a stick," says Dr. Jeschke. Closing the wound quickly – and without taking more of the patient's skin – is key to improving survival.

He's also produced fibroblasts, a specialized cell that produces collagen and helps wounds heal. The preliminary data are positive, he says. The goal is to have a clinical trial underway in two or three years.

TAKING THE LEAP

Dr. Lesley Carr has already made that leap to clinical trials. Many of Dr. Carr's patients are so mortified by their urinary incontinence that they cut back on work and social activities, and retreat from those closest to them. For some women, coughing, laughing, sneezing, running, jumping – and even sex – can put enough pressure on the bladder to cause an unexpected loss of urine. "It's embarrassing. They are afraid they'll smell like urine or have an accident," says Dr. Carr, a urologist at Sunnybrook and an associate professor at the University of Toronto.

Dr. Carr estimates 35 per cent of women suffer from stress urinary incontinence. It's common among those who have had a vaginal delivery. "It isn't just a problem that happens in the elderly, but to women in their 20s and 30s, too," she says. The issue lies with the muscles that line the floor of the pelvis and girdle the urethra (the duct that carries urine from the bladder), which are sometimes damaged during childbirth, pelvic or abdominal surgery, or radiation treatments. In some cases, exercise or surgery can repair the problem, but Dr. Carr would like to see a less invasive and more reliable treatment become available.

Since 2004, Dr. Carr has overseen clinical trials that see stem cells repairing the damaged muscle and providing relief. She takes muscle cells from the woman's thigh, sifts out the fat cells, the fibroblasts and other contaminating cells and isolates the adult stem cells capable of becoming muscle. They're fed nutrients and growth factors that compel them to divide and multiply; it takes about two months to grow 100 million cells. After a single injection into the urethral muscle, the cells are left to grow and mature in their new environment. Though the studies have been small, a large number of women have been able to go back to laughing, sneezing and running, without any leaks. Dr. Carr is now enrolling patients in a cross-Canada study that will test the stem cell treatment against a placebo.

Despite the many challenges scientists face in using stem cells to build the field of regenerative medicine, they remain excited. Unlike many current treatments which offer temporary or imperfect fixes, stem cell medicine taps into the body's normal function to repair or replace damaged tissues. "It has been very exciting," says Dr. Carr. "Sometimes medicine is just a new twist on an old theme, but this has been very innovative." ■

STEM CELLS HOW THEY WORK

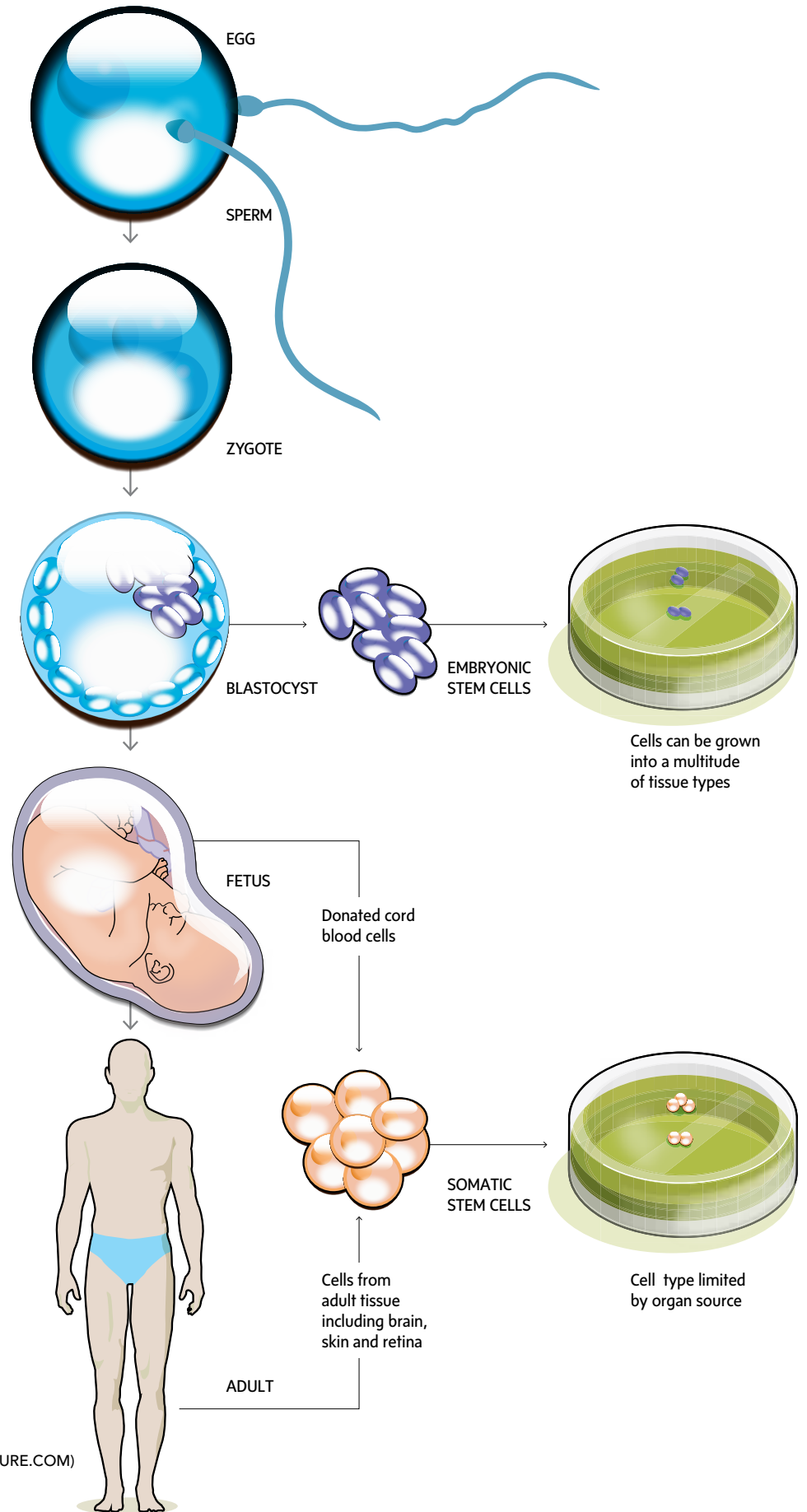
The ultimate stem cell is an unspecialized, ancestral cell that can grow into any of the 220 cell types in the human body with the right coaxing. But some are more versatile than others. Here's a rundown

Embryonic stem cells (hESC)
The decaathletes of regenerative medicine, these cells can be theoretically converted into any type of cell in the body. They have been controversial because they are created from human embryos, which are destroyed in the process. Most are developed from eggs fertilized at fertility clinics and then donated to research.

Cord-blood cells
These stem cells are harvested from the discarded umbilical cords of newborn babies. Though scientists first thought they were only capable of becoming blood cells, more recent studies have suggested they may be more versatile.

Adult stem cells
These primitive cells are found within adult tissues – skin, brain and retina, for example – but haven't acquired a special structure or function. Not as versatile as embryonic stem cells, adult stem cells can only develop into certain cell types.

Induced pluripotent stem cells (iPS)
These adult cells go back in time to their youthful – and unspecialized – beginnings. Scientists use viruses to engineer skin cells and fat cells to revert to a state where they resembled embryonic stem cells, but some say these cells are difficult to work with.



GRAPHIC TONIA COWAN (SOURCE: NATURE.COM)
TEXT HANNAH HOAG

let's talk about

sex

Many women lose their libido or feel unable to talk about sexual dysfunction following cancer treatment. But as Sunnybrook's SHARE clinic shows, it doesn't have to be that way

By Celia Milne

Editor's note: This story contains sexual content that may be objectionable to some readers.



Dr. Fay Sliwin and Cathy Doyle, a nurse

Pat Abbey laughs as she describes the difficulty of finding sexy lingerie when you have a permanent hole in your abdomen, just left of your belly button.

Pat, a dentist who lives in York region, was diagnosed two years ago, at age 52, with rectal cancer that was encroaching on her vagina. After the diagnosis, life became a blur for the busy mother of three sons, age 24, 20 and 18. A whirlwind of treatments left her with a colostomy bag and an altered anatomy "down there."

But Pat tackles her problems with openness and humour. She describes her colostomy as "like having a small change purse, or a baggy, attached to your stomach." This surgery allows Pat to maintain her usual diet and activity levels, like going to the gym and skiing. She also tells the story of her middle son's reaction to her frankness while she was recovering from surgery. He was 19 at the time and recuperating from a leg injury, so they were "sharing the couch," Pat says. He must have heard her once too often talking about her condition. One day he blurted out, "Mom, I'm sick of hearing about your vagina!"

Pat is candid when describing a nagging worry that emerged once treatments were over and she and her family shifted back into a semblance of normality: Would she still be able to have sex? "I was concerned about whether my vagina was functional. I didn't want to rip anything. And I had zero libido." Luckily for her, Sunnybrook is one of the few places in Canada with a dedicated clinic to help women like her regain their sexual function and sexuality.

The SHARE clinic (Sexual Health and Rehabilitation) is a biweekly clinic at the Odette Cancer Centre that was founded by Dr. Lisa Barbera, a radiation oncologist in the gynecology department, and Dr. Jennifer Blake, chief of obstetrics and gynecology. The clinic has grown gradually since 2007 and now sees about 50 patients a year. At first, it was available to women with gynecological cancers; it is now accepting women with pelvic malignant cancers, such as gastrointestinal and colorectal, as well as those who have breast cancer at a young age.

"Women's sexuality is seen as a secondary issue in most cancer clinics," Dr. Barbera says. "For men going through prostate cancer, the subject of sex is very much up front. For women, the only way it comes up is in reviewing consent for treatment, which might mention the impact on the ability to have intercourse. I don't think that's okay." The SHARE clinic is a safe place for women to discuss sex. The first appointment is with a specially trained nurse and a follow-up appointment is with Dr. Blake. Dr. Barbera's role is as executive director. Social workers, psychologists, marriage counselors and sexologists are also available.

"We spend a lot of time educating women about their anatomy, physiology and sexual response," Dr. Barbera says. "We get comments back that patients feel like they are being treated like a whole person. They are grateful to have a place to discuss issues and what is happening with their body."

On Pat's first visit to the SHARE clinic, she sat down with nurse Lauran Adams. "It was nice to talk to someone who really understands. It's like having a friend or knowledgeable older sister, and it's totally non-threatening. They normalize that this has happened to you. Their attitude is, 'Of course you'll want to be sexually active, and we'll help you get there.'" Lauran showed Pat a large, zebra-print-wrapped box of dilators and explained how they could help her sexual function. Other solutions for



Dr. Fay Sliwin, Cathy Doyle, and Kathy Moore, a patient.

Pat included estrogen cream, lubrication and hormones that improve libido. "They do a wonderful job," says Pat, who is happy to be sexually active again.

This personal touch was a relief after Pat's arduous treatments: chemotherapy concurrent with radiation, then surgery to remove the bottom portion of her large intestine and the back of her vagina, then more chemotherapy. But for Pat, hardship won't stand in the way of a good laugh, just as it won't preclude having sex. "With a colostomy you have no control over passing gas," she laughs. "Having boys, this of course was a great source of merriment! You've probably heard of a 'cheek flapper.' Well when I was particularly noisy, they would say it was a 'bag flapper'. It is hard to get too serious about that."



Then there's Kathy Moore, 52, a science teacher in Uxbridge, who welcomed the opportunity to speak frankly with a nurse about her sexuality. Twenty years ago, she was diagnosed with ovarian cancer and had her uterus and ovaries removed. She and her husband adopted a little girl, now 21. Because she had ovarian cancer at such a young age, Kathy is considered to be at high risk for breast cancer and gets checked regularly at Sunnybrook.

During one of these appointments, she mentioned to a caregiver that her hot flashes were unbearable when her GP had recommended she stop taking hormone replacement therapy after she'd been on it 20 years. (Studies have linked HRT to a higher risk of breast cancer in some women). The Sunnybrook caregiver referred her to the SHARE clinic. Once there, it was a great relief to finally sit down and talk to someone about menopause, sexuality and how she felt about her body.

"I've never had anyone to talk to about it because I went through it so long ago. My friends were all getting pregnant and I felt like I'd been neutered. You start to feel that you are not very feminine. After

losing both ovaries and uterus, you feel something less than female. I knew what was gone, and I needed to learn how to better use what was left," Kathy says. "It was nice to sit down with another female and talk about all this. It was like having a glass of wine with a friend. We talked and laughed. It was an 'anything goes' conversation."

Staff at the SHARE clinic assured her that it was fine to go back on HRT, and they prescribed other hormones as well. "When going through induced menopause, I was not exposed to the same levels of hormones as my body would have been making naturally, so the studies and controversies did not apply to me," she says.

Kathy was encouraged by the SHARE clinic to make sex a priority. She has learned not to be ashamed of what happened to her, and has even mustered enough courage to go to a sex shop to research dilators and lubricants.

Sex is a topic, she says, that women often feel they can't discuss with specialist doctors or their GPs. "I don't want to discuss sex with an attractive young male doctor. And during follow-up visits at hospitals, quite often the doctor is not alone. So we're not about to say, 'something weird is happening down there.'

"It was so nice to find women at the SHARE clinic. We have our own set of issues that can't be dealt with using broad brush strokes," she says.

Dr. Barbera is proud of the SHARE clinic and laments that there are not enough similar resources in Canada. Regional Cancer Care Northwest in Thunder Bay has a clinic modelled after Sunnybrook's. "There are pockets of expertise around the country, but these resources are few and far between," she says. ■

The Share Approach

After having cancer in the pelvic area, many women are left wondering whether their sex lives will return. The SHARE clinic at Sunnybrook is designed to help women recover their sexual function and sexuality. Common concerns are loss of sexual function, vaginal dryness, painful intercourse, lack of sex drive, changed anatomy, menopause symptoms, or poor body image. Through the clinic, women have access to a specially trained nurse, a doctor, a psychologist, a sexologist and a marriage counsellor. Some of the services offered by the clinic:

- education • counselling • treatment

THIS IS THE
BRAIN.



THIS IS THE STROKE.

THIS IS THE TEAM'S

RACE AGAINST

TIME TO BREAK

THROUGH THE

CLOT AND SAVE HER DYING

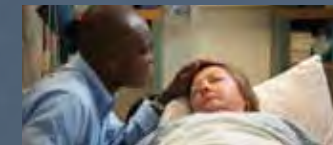
BRAIN.

THIS IS HER

HUSBAND.



SHE IS HIS LIFE.



THAT'S WHY IT MATTERS.



INNOVATION WHEN IT MATTERS MOST.

CONNECTED TO STATE-OF-THE-ART HEALTH CARE

SUNNYCARE IS A NEW, LEADING-EDGE patient-information system designed to integrate patient information from various clinical systems into a single, easy-to-use application. SunnyCare's initial implementation has focused on patients receiving specialty consultations in the emergency department.

The software was designed by observing how medical residents kept track of patient information to complete clinical work. It was determined that information lay in different electronic systems, leading to inefficiency, recopying and overlooked information. For example, the exact location of a patient in the emergency room can be found in the emergency room information system, but some hospital staff were not familiar with how to access this information, and patients might move without the staff's knowledge. "It is hard to work efficiently when you waste time finding your patients' current location," explains Dr. Edward Etchells, a staff physician in the Division of General Internal Medicine, and medical director of Information Services at Sunnybrook.

The design team determined doctors would go into the computer and recopy the past medical history from an old electronic note onto a new handwritten paper note. This recopying is "a complete waste of time," says Dr. Etchells. Sometimes this information is hard to find, which means the physician must start from scratch. "This can also concern patients, who may wonder why the same questions must be asked repeatedly."

SunnyCare integrates information from various electronic systems into one place. He describes SunnyCare "as a skin over the inner workings of various hospital information systems." Mobility is an important element of SunnyCare. "SunnyCare Mobile allows clinicians to use their own smartphones to keep track of their patients' current location and recent results while the clinicians are on the go," he says.

"We have implemented SunnyCare Mobile and SunnyCare Consult Notes already this year, and we are continuing to design and develop SunnyCare functions that integrate our electronic ordering systems, our electronic patient sign-over systems, and our electronic discharge summary systems."

SUNNYBROOK'S ER HAS COLOUR-CODED ZONES

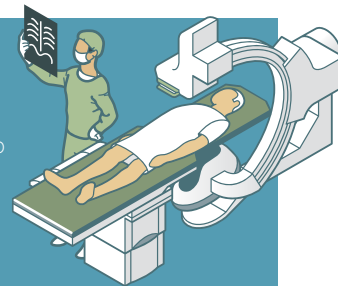
Green: most serious cases;
Orange: moderately serious;
Blue: less serious; Purple: least serious.



Mr. A, 65, is brought into the Green Zone of the ER complaining of chest pains, and seen by an ER doctor, who decides to consult with Dr. B, a specialist. Dr. B speaks with the ER doctor. Dr. B can add Mr. A to his list of current patients on SunnyCare Mobile using his smart phone.



Mr. A's electronic file shows he has been moved from the Green Zone to the Orange Zone, bed number 12. It also tells the doctor Mr. A arrived at the ER complaining of chest pains, and displays Mr. A's vital signs obtained at the emergency room triage. SunnyCare is updated when Mr. A is moved from Green Zone to Orange Zone. When Dr. B is ready to prepare his consultation note, the past history from previous SunnyCare consult notes is available within the note. Dr. B sees that Mr. A had an appendectomy 15 years ago, and suffers from asthma. Dr. B can confirm and update this information with Mr. A. He thinks Mr. A's asthma is more pertinent than his appendectomy and easily re-arranges the past history to reflect this. At the end of his note, Dr. B can also add asthma to the active problem list with a mouse click.



Mr. A has a chest X-ray and several lab tests. The results are sent to the electronic patient record, but used to be recopied for the consult note. In SunnyCare, the results flows directly into Dr. B's consult note, eliminating the need to find and recopy the results. Dr. B spends time interpreting results – not finding and recopying. Dr. B can also view the X-ray images directly from the SunnyCare consult note, without having to log on to a different system. Dr. B uses a desktop computer to type the consult note into Mr. A's file. If Dr. B does not like to type, Dr. B could use voice recognition software to dictate the note directly into SunnyCare.

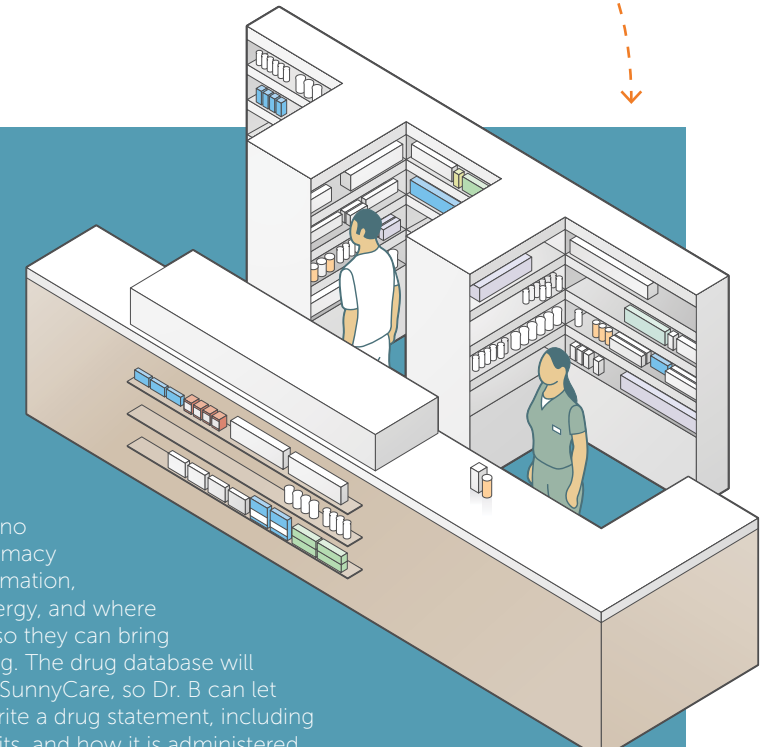
Dr. B thinks Mr. A should be admitted.



Later, SunnyCare Mobile tells Dr. B that Mr. A is away from his room for another X-ray. Later, Dr. B visits Mr. A to show him an image of his X-ray on a tablet computer and explain what it means.

It's hoped Dr. B will eventually be able to use the system to either order lab work or see lab results of all Mr. A's diagnostic tests and can spot trends if a particular indicator raises questions.

Once the system is complete, if Dr. B thinks Mr. A should be put on a different medication, Dr. B will see from Mr. A's file that he is allergic to that kind. He orders a different drug to which Mr. A has no allergy. The pharmacy will see the information, including the allergy, and where Mr. A is located so they can bring him the new drug. The drug database will be plugged into SunnyCare, so Dr. B can let the pharmacy write a drug statement, including the dose, the units, and how it is administered.



Dr. B can log into SunnyCare from his office and dictate his consult note into Mr. A's file. If he thinks the fact Mr. A has asthma is more pertinent than his 15-year-old appendectomy, Dr. B can move that to the top of the field.



Dr. B finishes his shift. Dr. E is now on duty. Dr. B reviews the SunnyCare patient list with Dr. E. No recopying of lists is needed, and Dr. E can simply pick up where Dr. B has left off.

Dr. B can read the notes Dr. E has added to the file overnight. Dr. B will visit Mr. A, whom he thinks is well enough to be discharged. Dr. B creates an electronic discharge report and prescriptions in a separate system called eDischarge. Mr. A has a new prescription for the drug Dr. B ordered for him. If Mr. A returns again, SunnyCare and eDischarge will show everything that happened on his previous visit. In future versions of SunnyCare, eDischarge will be further integrated with the other hospital information systems.



HERE'S LOOKING AT YOU

Sunnybrook's expert physicians and prosthesis artists help patients with even the most obvious facial differences put a brave new face on life **By Dan Birch**



FOR ALMOST 25 YEARS, A UNIQUE Sunnybrook facial prosthetic service has helped 86-year-old cancer survivor Becky Thomson live life to the fullest. "It changed my life for the better," Becky, a former special education and music teacher, says of Sunnybrook's Craniofacial Prosthetic Unit, where she's been getting artificial noses since the late-1980s.

She came to the unit – just one of two dedicated, full-time, multidisciplinary units in Canada – in 1988 on the eve of surgery to remove skin cancer on her face. She'd already waged a 10-year battle with facial skin cancer, winning multiple skirmishes along the way but never decisively defeating it.

In February of that year, Becky was told the cancer was out of control. Sunnybrook surgeons removed most of her nose and part of her right cheek, and while the

surgery was a success, it changed her face significantly.

David Morrison and Todd Kubon are the unit's two anaplastologists: the experts who carefully craft artificial noses, ears, eyes and other craniofacial parts for patients with facial differences. Their work is as artistic as it is technical, sculpting new facial features out of silicones and mixing paints to match the patient's skin tone.

"I'm amazed at their skill," Becky says of the two who have treated her since they arrived at the unit in 1999. Dr. Ralph Gilbert, a former Sunnybrook head-and-neck surgeon now based at another Toronto hospital, and Wendy Grennier, the unit's office manager, form the rest of the unit.

Thanks to Becky's experience with a facial difference, she found new ways to help people, such as volunteering for

many years with AboutFace, a non-profit organization that aids people with facial differences and raises awareness. She has spoken at multiple conferences in North America and been interviewed on television.

An outgoing and jocular personality, Becky says her artificial nose has helped her live life more fully. This has included singing in the Toronto Mendelssohn Choir for more than 40 years, travelling extensively and staying active with friends. "You have to get out there and show people you're still a person, that you still have life and still have something to contribute," she says.

Patients are referred to the Craniofacial Prosthetic Unit via three streams. There are cancer survivors like Becky, as well as people who have suffered traumatic facial injuries or who were born with facial



(opposite page) Anaplastologist David Morrison fits long-time patient Becky Thomson with a nose and partial-cheek prosthesis. (above right) Becky stands with members of Sunnybrook's Craniofacial Prosthetic Unit: anaplastologists David Morrison and Todd Kubon, and office manager Wendy Grennier.

differences. Patients have three options following their initial consultation: One is to do nothing at all. As Morrison notes, sometimes potential patients are pressured by family or friends to consider a prosthesis they don't really want. Other options are to undergo reconstructive surgery to improve a facial feature or to get a prosthesis. Facial prostheses are temporarily attached to the face in one of two ways: with an adhesive or with bone-integrated implants.

Becky spent nearly three years with an adhesive-retained prosthesis before undergoing a process known as osseointegration, whereby small titanium fixtures (screws) are implanted into facial bone. The result of this two-step process is that a prosthesis can be securely attached to the patient's face without adhesives.

The satisfaction Becky and so many patients get from their prostheses – they keep doors open for many patients who would otherwise become reclusive – is the reason Morrison and Kubon got into the profession.

Kubon had wanted to be a medical illustrator since the age of 13, and during his master's degree he focused on computer-based illustration. But he was instantly drawn to anaplastology when he made

his first prosthesis for a patient during a clinical anaplastology course. "I had, in a very short time, made a difference in someone's life," Kubon says.

Their work goes beyond simply creating prostheses. "We coach the patients to adjust to their lives with their new prostheses," says Morrison, noting various techniques that help camouflage prostheses, such as wearing glasses along with an artificial nose.

And while neither Morrison nor Kubon are psychologists, they have many years of experience with patients struggling with facial differences. The two offer informed advice, but as part of the unit's multidisciplinary care patients also have access to Sunnybrook psychologists, as well as dietitians and social workers. They can also be put into contact with organizations such as AboutFace.

"Patients often come to us when there's a change in their lives – they're at a crossroads," says Morrison, citing patients starting a new career as just one example.

While the Craniofacial Prosthetic Unit and its services are not a cure-all for patients, they are vital for many, he says. "We have seen patients who have taken on an entirely new lease on life that they would not have otherwise." ■

HOW TO MAKE A FACIAL PROSTHESIS



A physical impression of the patient's facial difference is taken (e.g. the cavity of a missing nose).

A prosthesis is sculpted and then molded, most often from a silicone rubber, to custom fit the area or tissue site.

Anatomical landmarks, facial proportion and symmetry are taken into account to create a life-like facial feature.

The prosthesis is manually colour-matched to the patient's pigmentation.

In the case of eye (orbital) prostheses, an off-site ocularist makes the eyeball that fits into the prosthesis.

The structure behind the prosthesis will depend on its attachment method (adhesive or bone-integrated implants).

#SUNNYBROOK GOES SOCIAL

By Marlene Habib



FROM GETTING FACEBOOK users talking about a hearing-impaired superhero or tweeting about ending the stigma of mental illness, Sunnybrook is leveraging social media to reach the outside world more powerfully.

Whether it happens through Facebook (www.facebook.com/SunnybrookHSC), Twitter (@SunnybrookHSC), YouTube or other social media (Flickr photostreaming and blogs), Sunnybrook spreads messages of inspiration, allows new parents to post pictures of their newborns, tells the public about new treatments and research, connects people with interest groups, answers simple queries and encourages collaborations between hospitals and across health systems.

“Social media gives us the opportunity to connect directly with the community,” says Sivan Keren Young, manager of

digital communications with the hospital’s Web Communications Team. “Positive comments and complaints don’t always reach patient relations, but the tweeting world gives us the chance to see what people are talking about, and helps us improve.”

Thanks to filters and automatic searches, the web team is notified immediately whenever Sunnybrook or @SunnybrookHSC is mentioned on Twitter, she explains. The web team can either jump into the conversation then, or invite a private conversation through Twitter’s direct messaging. It’s proven to be a valuable tool in Sunnybrook’s communications arsenal.

“It lets us help people who wouldn’t think to ask for help,” says Sivan. “If someone Tweets, ‘Wow, Sunnybrook is huge and I’m lost,’ it gives us the opportu-

nity to respond and help them find where they need to go. We can really improve the patient experience in that way.”

It’s estimated at least half of adults use social media sites, and the health-care industry is taking advantage of the massive potential of the web technology.

Canadian hospitals using Twitter, Facebook or blogs numbered more than 260 in 2011, according to the blog Social Media in Canadian Health Care.

In the U.S., more than 1,000 hospitals have embraced social media, according to the ECRI Institute, a non-profit organization that researches approaches to improving safety and cost effectiveness of patient care.

A 2012 report by the institute also warns that disorganized social media approaches can damage an organization’s credibility and reputation. ☛

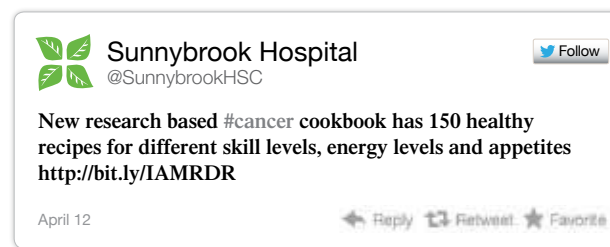
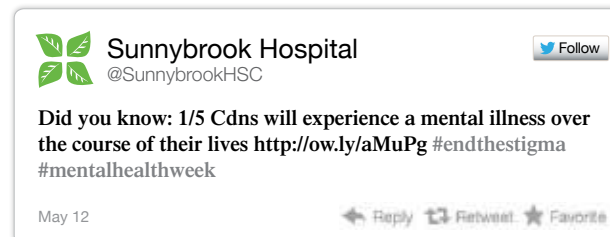
RETWEETS, LIKES AND YOUTUBE VIEWS: What captures online attention?

Here are just a few of the most popular Facebook, Twitter and YouTube highlights in recent months.

Stanley Cup visits Sunnybrook veterans (19 photos)
On Friday, March 31, the Stanley Cup visited Sunnybrook’s Veterans Centre. Photos by Dale Roddick. Read more about the visit in the Toronto Star: <http://bit.ly/SunCupVets> — at Sunnybrook Health Sciences Centre.



MARCH 2012 The Stanley Cup made a stop at our Veterans Centre, and the excitement was captured by photographer Dale Roddick.



MAY 22, 2012
Flash mob at Sunnybrook hospital – National Physiotherapy Month
http://youtu.be/VvNg_LNY2t4
The beauty of flash mobs is they get attention in the most unexpected places. Like, say, a hospital. Last week, Sunnybrook was hit four times by a group of our physiotherapists dressed in matching blue shirts and getting their groove on.

How Bieber fever put us in the Twitter spotlight



Singer Justin Bieber speaks on stage to introduce singer Carly Rae Jepsen (not pictured) at the 2012 Wango Tango concert at the Home Depot Center in Carson, California May 12, 2012. REUTERS/Mario Anzuoni

Sunnybrook’s following on Twitter got a star-powered boost from Canadian pop singer Justin Bieber.

Bieber, the Stratford teen who’s one of the most popular celebrities on Twitter, had around 18 million followers when he was in Toronto last December, taping a “Home for the Holidays” benefit concert for MuchMusic and CTV.

On the evening of Dec. 21, 2011, this Tweet from the young star’s @justinbieber account was seen by millions of fans: “Great night. Thanks to all of u we raised \$500,000 for @SunnybrookHSC @projectmedishare and @childrens_wish . #giveback”.

As well as shining the spotlight on Sunnybrook’s Centre for Youth Bipolar Disorder, the beneficiary of half of the \$500,000 raised from the concert, Bieber’s tweet helped boost the number of Sunnybrook followers from 5,112 at the end of November to 7,821 in late December.

“We typically gain about 200 new followers a month, so this was a huge increase,” says Brent Creelman, Sunnybrook’s web communications specialist.

Bieber also left a long-lasting impression with Sunnybrook Twitter followers. Months after Sunnybrook Tweeted in mid-December about how to win two tickets to the concert, some ardent “Beliebers” were still inquiring about it on Twitter.

The big winner was the Centre for Youth Bipolar Disorder, the largest in Canada providing specialized care to adolescents 13 to 18 who have been diagnosed with the mood disorder. (Read more about the centre at sunnybrook.ca/youthbipolar) And, of course, Sunnybrook’s Twitter efforts, with its number of followers jumping to more than 9,400 by early July 2012. – Marlene Habib



HAIR LOSS TREATMENTS: NOT ONE-SIZE-FITS-ALL

A dedicated Hair Loss Clinic helps patients through individual care **By Celia Milne**

ILLUSTRATION RACHELLE MAYNARD

HAIR LOSS ISN'T JUST FOR middle-aged men – just ask Keylin Haar.

The 25-year-old college student in Belleville started losing her hair when she was 15. She has patches of baldness on the top of her head and around her ears, which she covers up by styling her hair a specific way. “It feels really bad,” she says in a phone interview during a summer heat wave. “It is so hot out and I can’t put my hair up. I have to wear certain hair styles so you can’t see the thinning. It’s frustrating.”

There are 100 different types of hair loss that can affect anyone – girls, women, boys, men and older people. Like so many of these patients, Keylin was initially misdiagnosed. When her hair started falling out, a doctor assumed she had a common

autoimmune condition called alopecia areata, which causes patchy or, in rare cases, total hair loss. She was subjected to steroid injections for 10 years, but they did not help. She also took a strong topical medicine called diphencyprone (also known as DPCP), which was applied to the affected areas of her scalp. The medication exacerbated a rare genetic skin condition Keylin has, causing blisters, itching and scabs.

Keylin was finally referred to the Hair Loss Clinic at Sunnybrook, run by dermatologist Dr. Jeff Donovan. He specializes entirely in hair loss problems and has directed the clinic since 2010. The clinic has one of the largest practices dedicated to hair loss conditions in the country. Last year, 600 to 900 new patients were evaluated and treated here by Dr. Donovan in addition to the many hundreds of patients already on the clinic’s list.

“Many dermatologists evaluate patients with hair loss, but only a few doctors around the country have clinics dedicated to evaluating patients with these complex hair loss conditions,” says Dr. Donovan. “There are dozens and dozens of conditions with hard-to-pronounce names for which modern science is only just beginning to unravel the underlying causes. It is a fascinating area of medicine.”

The clinic also has the most up-to-date technology to aid in diagnosis, and nurses who work specifically in this field. This is extremely helpful for people with hair loss because while many of the conditions look the same, they are very different, and require different treatments. “A typical patient might think they have one type of hair loss condition. We sometimes diagnose it as a completely different hair loss condition and we get them on the right medication,” explains Dr. Donovan.

“There are lots of mimickers,” he says. “For instance, genetic hair loss in women causes hair thinning in the middle of the scalp, but suppose the woman also has itching, burning or pain in that area. That could be the sign of a group of hair loss conditions known as scarring alopecia. We are equipped to biopsy the scalp if necessary to confirm exactly what it is. Treatment could be drastically different.”

Dr. Donovan tells the story of a recent patient losing hair at her hairline at the front. She assumed it was early genetic baldness, like her father had. “Within seconds of her describing her situation, I knew her hair loss could not be attributed to genetic hair loss,” says Dr. Donovan. Her condition turned out to be a condition called frontal fibrosing alopecia, for which

treatments are drastically different than those for genetic hair loss.

“Hair grows slowly, about 1 centimetre per month. If you are not on the right treatment, you might be wasting a lot of time. The sooner you get the proper diagnosis the better,” he says.

Sunnybrook’s clinic also hooks people up with resources that can help them, including patient networks, information about their condition, and links to wig salon. Dr. Donovan attends conferences all over the world, and brings back cutting-edge knowledge. “If a new treatment is coming out or has just been shown to be helpful, we’ll be able to offer it to patients.” Dr. Donovan also performs hair transplant surgery in Sunnybrook’s Dermatology Centre.

In Keylin’s case, Dr. Donovan did a scalp biopsy and discovered her condition is not alopecia areata. He is combing the world’s literature for cases like hers and speaking to other hair loss specialists around the world to see if her hair loss might be caused by her skin condition, or something else. “It is quite a relief to find him,” she says. “I went through 10 years of needles. I’m glad to have him working on my behalf.”

A HUNDRED WAYS TO LOSE YOUR HAIR

Among the many hair loss conditions seen by Dr. Jeff Donovan at Sunnybrook’s dedicated Hair Loss Clinic, here’s a sample:

- Alopecia areata, which causes patchy or total hair loss in both males and females
- Hair shedding as a result of thyroid problems
- Hormonal issues that cause hair loss in women
- Scarring alopecias, rare but permanent conditions in otherwise healthy people
- Androgenetic alopecia, which causes male or female pattern baldness

HOW CAN I HELP YOU?

The ambassador team's most important task is asking patients the one question that might make the most difference to their experience **By Jane Langille**

ROSEMARY GRAY STAYS FOCUSED on the little things so patients don't have to. She remembers helping a patient who had arrived at Sunnybrook through the emergency room. The patient was upset because nobody knew he had been taken to hospital and he couldn't remember his friends' phone numbers. Rosemary took the time to work through a phone book and helped him connect with his friends.

Whether patients arrive in an ambulance with just the clothes on their back or check in for a planned procedure, their first few days at a hospital can be challenging. Rosemary is one of seven ambassadors, a special team of volunteers set on helping Sunnybrook patients understand they have help beyond clinical care.

Ambassadors visit newly admitted patients to ask one simple question ("How can I help you while you're here?") and to share information about hospital services. "It seems pretty simple, but by opening up the conversation, we are helping people at a most difficult time," Rosemary says. "It can be overwhelming with lots of prodding and scheduling of tests. Patients can ask me those questions they don't want to bother the doctors or nurses with, but are still important."

Often patients or their families just need to know about parking or where to find an ATM. Ambassadors provide a reusable blue bag with a hospital directory of services and brochures about religious and spiritual care and how to thank someone on staff. Oncology patient Theresa Trablusey was happy to find out about the on-site hair salon from ambassador Maritess Sahin. "Now that I know I can get a haircut here, I'm going to look into that. It would help me feel good after my surgery," said Theresa.

Selected from a pool of almost 1,000 volunteers at Sunnybrook, ambassadors provide outstanding service to patients and have received additional training about how to deal with sensitive situations such as grief, anger or even unexpected nudity. They arrange phones, TVs and access to Wi-Fi, provide parking information and suggest where to get coffee or a sandwich – the little things that improve a patient's stay.

"Many of our ambassadors have either been patients or had loved ones who were, so they immediately understand the value of having those simple things taken care



of from the outset," says Katherine Alexopoulos, director of Volunteer Resources.

The proactive, customer service approach of the ambassador program is also helping flag patient concerns early, so they can be solved while people are still in hospital. Ambassadors are not expected to resolve medical issues, but they ensure concerns are forwarded to the right people. Trish Lospinuso, patient care advisor with the Office of Patient Experience, follows up with ambassadors at the end of each shift. If there are complaints that need her involvement, she visits patients to hear their concerns and seeks a speedy resolution with medical staff. "We want patients to feel cared for and know that people will respond if things are not going well," she says. "We hope over time that we will put the complaint business out of business."

Ambassadors may visit up to 35 patients in a three-hour shift and each visit can take anywhere from two minutes to half an hour. The program was launched in

a pilot phase across four units and has expanded to cover about one-third of the hospital (including general medicine, dialysis, geriatric, general internal medicine, orthopedic and neurosurgical units, trauma and oncology, among others). Trish and Katherine are considering adding an evening shift and look forward to rolling out the program to more units.

Since the ambassador program began, patient satisfaction ratings have increased and complaints have decreased. Yuri Arutyunyan was visiting his mother the day after her liver resection surgery. He was thrilled with the outstanding care his mother received from the entire team at Sunnybrook, especially her surgeon. "I am very satisfied with my mother's care, but the fact that ambassador Maritess asked me about how things were going – well that's over the top," said Yuri.

"Our volunteers demonstrate the heart of the organization. It's the extra human touch that shows we really do care at Sunnybrook," says Katherine. 📧

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A HOME AWAY FROM HOME

A company provides free apartments for relatives of long-term patients **By Alexis Dobranowski**



IMAGINE THE STRESS OF HAVING A loved one sick in the hospital for several weeks. Now imagine that hospital hours away from home. For the relatives of some Sunnybrook patients, one generous family – and their business – aims to ease that stress.

Greenrock Property Management Limited, a Toronto-based, private multi-residential property management company, and its chairman Barry Green have embarked on a new partnership with Sunnybrook. The company has dedicated several units as no-cost apartments to families of long-stay Sunnybrook patients who must travel significant distances to receive treatment. These patients come from far-reaching corners of the province to access Sunnybrook's state-of-the-art care.

The Greenrock suites mean families don't have to commute or incur hotel costs to be with their loved ones. "Often, patients are children or babies, which helps make the program all the more rewarding," Barry says.

Barry is a long-time supporter of Sunnybrook. Most recently, Barry, along with mom Goldie Feldman and three of his siblings, David, Karen and Donna Green, made a family pledge of \$1 million in

support of the new Breast Cancer Centre. Now, Barry and wife Laurie are passing on the tradition of philanthropy to Cole, 14, and his sister Kimberley, 17.

"My kids see it all the time," Barry says. "I work within a family business, and increasingly our board is focused on succession planning. Integral to this process is the opportunity of instilling our values into the next generation. They are learning that philanthropy is a part of the contract, if you will."

When Cole received a pledge form for the Terry Fox Run at his school, the teenager found over 20 donors in less than a day. It's a memory that makes dad Barry proud. "He was proactive in his approach to philanthropy, and he's only 14," Barry says. "He's been a real leader in that respect."

Barry credits his mother Goldie for helping to instill the spirit of giving in him and his brother and sisters. "Philanthropy was always a key part of our family ethic and philosophy," he says. "It's always a cliché to say 'give back to the community', but truly, that was a given since childhood for all of us."

Goldie has made philanthropy her life's mission in recent years, he says. She was

Barry Green's spirit of philanthropy was inspired by his mom Goldie Feldman.

the family's anchor in the most recent gift. "I'm proud of Mom because I see that she gives in a balanced and strategic way," he explains. "I'm very proud of what she's done."

Barry and Greenrock see the Sunnybrook suites program as a way to share their family values with employees. "Who doesn't want to make a difference? Our staff are no different, and they feel great when they participate." For example, staff members volunteer their time to paint and refurbish the Sunnybrook suites, and prepare the units for the new families as they arrive.

"These sorts of initiatives are great for staff morale, especially when owners and staff physically work together in a fun and informal way," he adds. "It makes people feel great, seeing first-hand that they are working for a company whose owners really care for them and their community. And, it was an opportunity to give breadth to our philanthropic approach. There are many different facets to giving back, and we are continually exploring new and original ways of doing so."

Members of Toronto's real-estate industry are extremely generous, he says, but more can be done. "If you are a private landlord, perhaps you might consider this opportunity of taking a unit or two off the market so as to participate in this initiative. We have performed all of the administrative legwork setting up this program and would be honoured to share this information," Barry says. "While we hope our program will continue for many years, donating the use of suites doesn't need to be a permanent arrangement if the owner wishes to re-rent their suites."

The generations of philanthropic support from the Feldman and Green families and their businesses demonstrate the layers of support that are possible. Barry hopes the community will look to Goldie as a role model.

"Charity can mean more than signing the cheque," he says. "We look at support in an innovative way." ■

YOUR SUPPORT IS HELPING US SAVE LIVES



I'M ALWAYS PROUD to tell you about the lives saved at Sunnybrook.

I'm proud that Sunnybrook attracts the best experts from around the world, and outfits our spaces with state-of-the-art equipment. I'm proud of our researchers, who turn their ideas into real treatments that improve the lives of our patients far beyond Sunnybrook's walls – the treatments of tomorrow that seem impossible today. I'm proud of this passionate commitment to innovation; it's the Sunnybrook culture. This magazine is full of our stories – stories of invention, courage and triumph, of lives saved.

But the truth is, we can't take all the credit. So much of what is done here would not be possible without our valuable partners.

Private donors – our community – have always joined Sunnybrook in its vision to invent the future of health care. Our supporters understand that public funding is not always enough and have recognized their own role in the care we provide.

Their impact is felt in so much of what we do at Sunnybrook. In the last year, for example, we saved the lives of more than 100 heart patients through procedures too new to be covered by government funds. It's futuristic medicine, to be sure – repairing faulty heart valves without opening the chest. These lives were saved entirely by private supporters who understood that their resources matched Sunnybrook's vision.

Frederick Thompson, who you read about in this issue, is such a donor. Mr. Thompson made a transformational gift in June to establish the Frederick W. Thompson Anxiety Disorders Centre, which will offer care found nowhere else in Canada. This centre will exist because Mr. Thompson – someone in our community – believed Canadians need help in their fight against these devastating disorders.

Everything we do here at Sunnybrook is resource-dependent. And that's where our community comes in.

We are passionate about the work we do at Sunnybrook, and are pleased that passion has spread throughout our community. It has to; it is the only way we'll be able to continue providing the highest level of health care for the people who count on us – to save their lives.

Jennifer Tory
Chair, Campaign for Sunnybrook
Sunnybrook Foundation

AN ERA FULL OF PROMISE



THIS IS AN EXCITING TIME for Sunnybrook, full of promise.

As Dr. Barry McLellan, Sunnybrook's president and CEO, mentioned earlier in this magazine, many of our discussions here are focused on making the future of health care possible today.

We are people with ideas. We are experts who design new drugs and invent tools. We discover a smarter way so we can be that much better than we were yesterday. We translate the basic science we conduct into new therapies to give every patient a chance for a better life – and much of this could not be possible without private support.

As we direct our efforts toward advancing the pace of discovery and innovation, it is comforting to know we have the strong support of our community to provide the resources we need to help us reach our goals.

With these strong private partnerships, we know the best is yet to come for our patients – here, across Canada and around the world.

Dr. Jon S. Dellandrea, CM
President and CEO,
Sunnybrook Foundation

A SEA OF THANK-YOUS



"CANADIANS OWE A GREAT DEAL TO OUR WAR VETERANS," says Dr. Barry McLellan, Sunnybrook's president and CEO. "They are the foundation of this great country that we all share."

Canadians clearly agree. On Remembrance Day 2011, veterans awoke to a sea of 5,000 Canadian flags adorning the lawn of the Sunnybrook's Veterans Centre. Each flag had been purchased by someone in the community and inscribed with a heartfelt message as part of Operation Raise A Flag, an enormous 'thank you' for everything veterans have done for Canada.

Have your own message of thanks for our veterans? Visit www.raiseaflag.ca to honour a veteran this Remembrance Day. 🇨🇦

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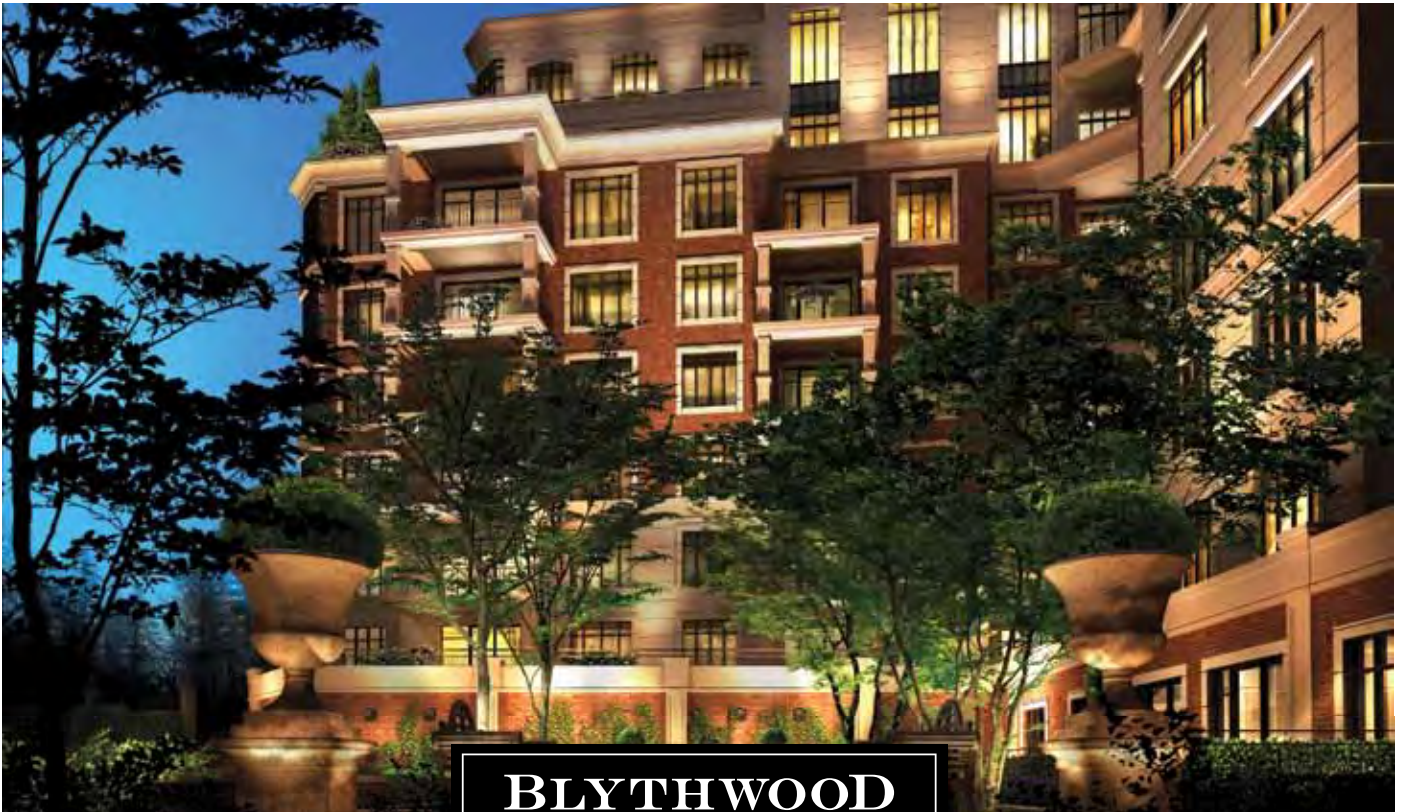
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