

Promise

VOICE OF ST. PAUL'S HOSPITAL FOUNDATION



St Paul's Hospital
FOUNDATION

FALL/WINTER 2014

ST. PAUL'S CELEBRATES ITS
1,000TH GROUND BREAKING
TRANSCATHETER HEART
VALVE PROCEDURE

Heart Surgery Milestone

**FROM HIV/AIDS
TO ADDICTIONS**
Setting sights on
another challenge

**TECK EMERGENCY
CENTRE**
Innovative care and
equipment

**LASER SMART
TECHNOLOGY**
An alternative to
open-heart surgery

John Webb, MD
Cardiology

St Paul's Hospital
FOUNDATION
Imagined care.

Pioneering Health Care

In this issue of *Promise*, we look at game-changers developed at St. Paul's Hospital and their impact on health care around the world.

Our cover story (page 8) focuses on a remarkable milestone – the 1,000th transcatheter heart valve procedure performed at St. Paul's. This minimally invasive alternative to open-heart surgery has saved thousands of lives across the world since it was pioneered at our hospital in 2005 – and we expect many more to be saved in the coming years, following the creation of the Centre for Heart Valve Innovation at St. Paul's in 2013.

We have also seen worldwide impact in the treatment of HIV/AIDS through innovations developed by the BC Centre for Excellence in HIV/AIDS at St. Paul's. In fact, St. Paul's has been so successful in treating the disease that it is looking to address another emerging health crisis: addictions (page 14). A recent investment by the Province of British Columbia will contribute to the expansion of St. Paul's addiction medicine training program, which will be North America's largest and another example of the hospital's continued leadership in our most urgent health care needs.

Of course, none of this would be possible

without our donors, who helped us raise a record amount for St. Paul's Hospital for the third straight year (page 19). Many of the accomplishments made possible through that support are highlighted in this issue, from technological innovations at our Teck Emergency Centre (page 16) to a laser used for surgeries on patients with pacemakers (page 18) and a sampling of projects funded by our annual Lights of Hope campaign (page 12).

We are truly grateful to our donors and hope you can join us for this year's edition of Lights of Hope (page 4), which kicks off with our Community Celebration on November 27. Thank you again for your support.



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Promise

FALL/WINTER 2014
VOLUME 12, NUMBER 2

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Promise magazine is published twice a year by
Canada Wide Media Limited for St. Paul's Hospital
Foundation. No part of this magazine may be reproduced
without written permission of the publisher. Send change-
of-address notices and covers of undeliverable copies to:
Promise, c/o St. Paul's Hospital Foundation,
178 –1081 Burrard Street, Vancouver, BC, V6Z 1Y6.
For subscription enquiries, call 604-682-8206.
ISSN: 1703-6151. Canadian Publications Mail Product Sales
Agreement No. 40065475.

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ST. PAUL'S HOSPITAL
PROVIDENCE HEALTH CARE

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COVER: (Dr. Sandra Lauck and Dr. John Webb) by
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Need for New Imaging Equipment

St. Paul's Hospital Foundation is currently raising \$3.5 million for a new Magnetic Resonance Imaging (MRI) scanner, which plays a critical role in diagnosing conditions affecting patients' soft tissues, such as the brain, spinal cord, heart, ligaments and tendons.

St. Paul's provides a number of highly specialized MRI exams for patients with pacemakers, for example, that are performed nowhere else in the province and, in some cases, nowhere else in Canada. MRI scans are also essential to care provided in many different departments at the hospital, including emergency, surgery, coronary care unit, neurology, gastroenterology and intensive care.

"There are a number of MRI applications we can't offer to our patients due to the age of our equipment," says Dr. Jonathon Leipsic, head of the department of radiology at St. Paul's.

The new scanner will be able to provide scans that the hospital's aging equipment cannot, along with faster and clearer results. The scanner will also dramatically improve the patient experience; for example, patients will



A new MRI at St. Paul's would help Dr. Jonathon Leipsic (right) and MRI supervisor Wayne Patola provide faster and clearer results to patients.

no longer have to hold their breath when receiving certain elements of a scan, something that can be difficult or even impossible for some critically ill patients.

"In many ways, the imaging department is the heart of the hospital because so many patients are touched by it," says Leipsic. "I hope that friends of St. Paul's

will get behind this need and help us make this new MRI a reality."

To learn how you can support the purchase of a new MRI scanner for St. Paul's Hospital, please contact St. Paul's Hospital Foundation at 604-682-8206 or visit www.helpstpauls.com.



17th Annual Lights of Hope

St. Paul's Hospital Foundation invites you to help us celebrate the 17th edition of Lights of Hope! Every year, this holiday tradition illuminates the exterior of St. Paul's Hospital with a spectacular display of holiday lights to inspire members of the public, the business community and the St. Paul's Hospital family to support the hospital's greatest needs.

Join us on November 27 when the Lights of Hope display will be lit for the first time at a festive Community Celebration featuring fireworks, food trucks and fun for the whole family. Since it began in 1998, Lights of Hope has raised more than \$22 million for St. Paul's Hospital.

For more information about how Lights of Hope makes a difference for our patients and how you can help us exceed last year's goal of \$2.4 million for the hospital's greatest needs, please call 604-662-4673 (HOPE) or visit www.lightsofhope.com.

Help for Addictions and Mental Health



The Government of BC

introduced new expanded supports at St. Paul's Hospital as part of its 120-day Mental Health Action Plan to address the care needs of patients with severe addiction and mental illness. Those supports include the creation of Vancouver's first Acute Behavioural Stabilization Unit (ABSU).

The ABSU provides short-stay admissions to patients in a nine-bed unit at St. Paul's emergency department that has been specifically renovated to meet the complex needs of the SAMI (Severe Addictions and/or Mental Illness) population.

"St. Paul's Hospital has seen a 63 per cent increase in the number of patients it treats with mental illness and addictions issues since 2009," says Dr. Anna Nazif, medical director of emergency psychiatry at St. Paul's. "This area provides us with an opportunity to further

improve the care we provide to patients."

The provincial government also announced it is funding the doubling of St. Paul's Inner City Youth (ICY) team, enabling them to treat up to 240 homeless or nearly homeless youth under 24 years of age living with mental illness and/or addictions. This builds on gifts from many donors to ICY through St. Paul's Hospital Foundation, including lead donor Silver Wheaton, and HSBC and the Vancouver Foundation.

"One in five mental health and addiction-related visits to St. Paul's Hospital's emergency department are by people under the age of 24," says Dr. Steve Mathias, medical director of the Inner City Youth team at St. Paul's.

The program connects vulnerable youth with support workers at St. Paul's and other downtown Vancouver locations, who provide them

with the services they need to make positive life choices and avoid trips to the emergency department.

Dr. Steve Mathias (above) and the Inner City Youth team at St. Paul's help homeless youth living with mental illness and/or addictions.

To learn how you can support mental health care at St. Paul's Hospital, please contact St. Paul's Hospital Foundation at 604-682-8206 or visit www.helpstpauls.com.



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Brilliant!
A Show of Love for
Mental Health

On September 27, St. Paul's Hospital Foundation invited members of the community to support the needs of mental health patients at St. Paul's Hospital by attending Brilliant! A Show of Love for Mental Health. Guests enjoyed a fashion and dance extravaganza involving more than 300 volunteers. The theme of this year's event was "Inclusion": A celebration of global fashion and dance inspired by the culture of inclusivity at our hospital.

Learn more about Brilliant! here: www.helpstpauls.com.

Kidney Excellence



St. Paul's Hospital nephrologist and scientist with the Centre for Health Evaluation and Outcome Sciences Dr. Adeera Levin (above) was recently recognized for her many achievements in the field of kidney research.

Dr. Adeera Levin, St. Paul's Hospital nephrologist and the head of the division of nephrology at the University of British Columbia, is the first researcher in BC to receive the 2014 Kidney Foundation of Canada Medal for Research Excellence.

Levin (featured in our Spring 2014 issue of *Promise*) has focused her research on the early development of kidney disease and its association with other conditions – in particular heart disease.

"This award is a huge privilege and honour, which really validates the body of work I have created, working with a committed team of colleagues and research associates and assistants," says Levin. "Together we will continue to

improve our understanding of kidney disease and its complications, so that we can offer patients living with kidney disease exceptional care and access to novel treatments."

Levin is also a researcher with the Centre for Health Evaluation and Outcome Sciences at St. Paul's and the second woman and first Canadian ever elected president (2015 to 2017) of the International Society of Nephrology.


The Medal for Research Excellence honours Canadian researchers whose work is recognized by their peers for having improved the treatment and care of people living with kidney disease and related conditions.

Great Ways to Give

To help St. Paul's please use the enclosed form or consider giving in the following ways:

1 Monthly gifts
Automatic payments from your credit card or bank account are convenient and save the time and money required to mail in donations.

 **Honour a loved one**
Make a gift in honour of a family member, friend or doctor to celebrate their accomplishments, their memory or a milestone occasion such as a birthday or wedding.

 **Securities**
Donating publicly-traded securities, especially if they contain capital gains, may allow you to make a charitable gift and take advantage of special tax-saving provisions.

q Will and estate gifts
Plan for a future gift in your will or in some other way, such as life insurance, an RRSP, an RRIF or a trust.

To learn more, contact us:

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Hand-held Ultrasounds

Portable ultrasound technology is improving the speed and accuracy of care at St. Paul's and beyond

New ultrasound technology at St. Paul's Hospital is putting critical patient care in the palm of caregivers' hands. Thanks to the introduction of hand-held ultrasounds at St. Paul's – the first hospital in Canada to use the devices – more patients with potentially life-threatening conditions are being diagnosed and treated.

"This technology has dramatically changed medicine," says Dr. John Boyd, a critical care physician at St. Paul's and at the Centre for Heart Lung Innovation at St. Paul's. "More than 600 people a year come to St. Paul's in cardiac or respiratory distress, and because of this device, patients will be able to have their condition assessed instantly. We're really pioneering this technology."

Starting in 2011, Boyd and a team of researchers conducted a two-year study at St. Paul's into the use of hand-held ultrasounds, which produce electronic images of a patient's internal organs. They found significant improvements in the accuracy of diagnosing heart and lung conditions and prescribing treatments to patients. As a result, Boyd says, 10-per-cent more patients are recovering thanks to the use of these devices.

"The challenge with patients in critical condition is that their chance of getting a lot sicker is the highest within the first three to six hours, but it would take 24 to 36 hours for us to get test results back for a full ultrasound or echocardiogram," says Boyd. "Now, using hand-held ultrasounds, we'll know in two minutes whether the heart is



Dr. John Boyd holds a new hand-held ultrasound in front of an older, and much larger, version of this technology.

working correctly or whether it's suffering strain or heart failure. We'll know if a patient has low blood pressure and will need some saline solution treatment or if that will harm them."

The hand-held ultrasounds at St. Paul's are currently being used by trained physicians and senior residents. Boyd says St. Paul's has also taught nine fellows, who now practice at other hospitals, how to use hand-held ultrasounds, and sees training on the use of the devices

expanding into medical schools, residencies and fellowships in the near future.

"I think there's going to be a leading wave of adopters," says Boyd. "They're a complete game-changer."

To learn more about how you can support care, research and teaching at St. Paul's Hospital, please contact St. Paul's Hospital Foundation at 604-682-8206 or visit www.helpstpauls.com.

ULTRASOUND EVOLUTION

1948

The A-mode ultrasound is used to detect gallstones.

1949-51

Ultrasound diagnostics improve with the development of the B-mode ultrasound.

1966

Images of blood flow in layers of the heart are produced by Pulsed Doppler ultrasounds.

1980s-90s

Ultrasounds become more sophisticated with 3-D imaging and 4-D (real time) capabilities.

2000s

The hand-held ultrasound is developed.

2011

St. Paul's is the first hospital in Canada to use hand-held ultrasounds.

Source: www.ultrasoundschoolsinfo.com/history

Heart Surgery

MILESTONE



Dr. John Webb and his team at the new Centre for Heart Valve Innovation at St. Paul's Hospital continue to lead by expanding an innovative heart procedure

BY HELENA BRYAN • PHOTOGRAPHY BRIAN SMITH



Centre for Heart Valve Innovation St. Paul's Hospital, Vancouver

AFTER A DECADE OF heart trouble, 87-year-old Gisela Wegner's aortic heart valve was starting to fail, no longer able to properly open to let her blood through the chambers of her heart. Simply bending down to pick something off the floor was an effort, and she couldn't climb the seven stairs in her West Vancouver home without stopping multiple times to catch her breath. She was rarely without her puffer and suffered almost daily from debilitating chest pains.

(left) Interventional cardiologist Dr. John Webb with Gisela Wegner, the 1,000th patient to undergo a THV procedure at St. Paul's Hospital. Valves, like the one shown here (inset left), are used in THV procedures to replace a patient's damaged heart valve.



Grateful Hearts

Three of the first 1,000 patients to undergo the transcatheter heart valve (THV) procedure at St. Paul's Hospital share how their lives have changed as a result. (From left to right)

EVA LISTER, 89

"Thanks to Dr. Webb and his gallant team, I have my life back. I was at the bottom and now I'm almost 100 per cent again."

SHARON DALY, 67

"I've always loved adventure, travel and the great outdoors, and Dr. Webb has enabled me to continue enjoying these things."

ROBERT CHIDLEY, 89

"I don't get chest pains anymore thanks to St. Paul's, and the care I received there was so nice; I just fell in love with everyone there." □



"We use leading best practices to make patients' ability to keep up. We ask our committed to helping them live better,

"I'd reached a point where I really felt that life was coming to an end," says Wegner.

In fact, life was about to start anew for Wegner thanks to a groundbreaking, minimally invasive procedure pioneered by Dr. John Webb, director of interventional cardiology at St. Paul's Hospital. What's more, Wegner was about to become part of history as the 1,000th patient at St. Paul's to undergo this life-changing procedure.

REVOLUTIONARY VALVE REPLACEMENT PROCEDURE

Wegner's transcatheter heart valve (THV) implantation involved inserting a thin tube with a replacement valve into the body through a small incision, then directing it to the heart through an artery. St. Paul's Hospital has been regarded as a pioneer of these procedures since 2005, when Webb was the first in North America to successfully complete one.

THV procedures have proven to be a life-saving alternative for patients like Wegner, who have scarred or thickened heart valves, due to age or other conditions, that need to be treated but who might not survive the strain of open-heart surgery. On June 5, 2014, Wegner

became the 1,000th patient at St. Paul's to undergo the procedure. She arrived at St. Paul's on Wednesday afternoon, had the procedure early Thursday morning and was home by early afternoon the next day.

A DECADE OF WORK

Since having a THV implantation, Wegner hasn't had a single chest pain. She can also climb stairs and walk and move about without labouring for breath. "I feel really good," she says. "The operation was a complete success!"

In recognition of the milestone, Webb was asked to perform the procedure live – using a unique video broadcast centre at St. Paul's Hospital funded by donors to St. Paul's Hospital Foundation. This technology enabled an international audience to view the procedure, along with hundreds of doctors and other health professionals at the 2014 Transcatheter Valve Therapies conference in downtown Vancouver – the largest such conference in North America.

"This was the culmination of more than a decade of work," says Webb. "Today, after doing 1,000 procedures, we can say with some confidence that THV is an accepted, standard therapy for many heart patients."

GROUNDBREAKING TRADITION CONTINUES

Just one year earlier, Webb had presided over another milestone: the opening of the Centre for Heart Valve Innovation in June 2013. The Centre is a specialized research and teaching facility and global hub dedicated to the advancement of medical science in the highly specialized field of minimally invasive heart valve treatments.

With Webb at its helm, the Centre has already broken new ground. To start, about half of the procedures, including Wegner's, are now performed on patients while they are awake, using local anesthesia. "This reduces the stress and risks of surgery, improves results, avoids complications and allows patients to go home sooner," says Webb.

What's more, in January 2014, a team from the Centre became the first in the world to implant a transcatheter mitral heart valve using the same minimally invasive techniques as those used in THV. Physicians at the Centre are also performing a procedure for repairing leaky mitral valves using a special MitraClip. These new procedures represent a major advance in transcatheter heart



sure that technological advances don't outstrip the nurses to really get to know the patients because we are not just longer.” *Dr. Sandra Lauck, clinical nurse specialist at St. Paul's Hospital*

valve treatment, which, thus far, had focused on diseases of the atrial valve.

As of June 30, 2014, the Centre had performed more than two dozen successful mitral-valve operations.

PATIENT-FIRST APPROACH

The Centre for Heart Valve Innovation has all the latest technology and some of the brightest minds working within its walls. Yet, the THV program – a collaboration between St. Paul's and Vancouver General Hospital under the aegis of Cardiac Services BC – remains as patient-centred as all of the programs at St. Paul's.

“We use leading best practices to make sure that technological advances don't outstrip the patients' ability to keep up,” says clinical nurse specialist Dr. Sandra Lauck, who was a hands-on nurse during the first THV procedure in 2005.

“We ask our nurses to really get to know the patients because we are committed to helping them live better, not just longer.”

SHARING THE KNOWLEDGE

Webb's life-saving work is supported by a

McLeod Family Professorship in Valvular Heart Disease Intervention at St. Paul's, established thanks to a significant gift from the McLeod Family, along with a leading gift from an individual, and generous gifts from an anonymous Vancouver family and the Edwards Lifesciences Fund.

As an internationally recognized leader in transcatheter heart valve procedures – with the broadest experience in the world – Webb has taught the techniques he pioneered to health care professionals in more than 25 countries.

Webb and his team offer a three-day course at least once every month to up to 20 cardiologists from around the globe. And the 2011 launch of St. Paul's Virtual Teaching Lab has allowed Webb to provide live feeds of the THV procedures (like Wegner's) at St. Paul's to medical professionals everywhere. The ultimate aim is to make such procedures accessible to all those who qualify for them, regardless of geography.

All told, the health care professionals instructed by Webb and his team have gone on to perform a total of nearly 150,000 aortic valve replacements using his method.

In Canada, an estimated 25 hospitals are doing the procedure and close to 300 hospitals in the US are now using the technique.

For his role in the development of what is considered one of the most important advances in heart disease treatment in the past 25 years, Webb was awarded the esteemed LifeSciences BC Innovation and Achievement Award in 2014.

“It's a real honour,” says Webb, who was also recognized by media giant Thompson-Reuters as one of the top one per cent most-cited researchers in the world.

Clearly, on the international stage, Webb is considered an elite-level researcher and cardiologist, as well as a pioneer of game-changing heart disease treatments.

To Wegner and his other patients, he is nothing less than a lifesaver.

“I am the beneficiary of a remarkable doctor and an excellent program,” says Wegner. “I feel truly blessed.”

To learn how to support heart care, research and teaching at St. Paul's Hospital, please contact St. Paul's Hospital Foundation at 604-682-8206 or visit www.helpstpauls.com.

>> Learn more about Lights of Hope and how you can support care, research, teaching and equipment at St. Paul's at www.lightsofhope.com.

Meeting Our Greatest Needs

Each year, the **Lights of Hope** campaign raises funds to meet urgent needs at St. Paul's Hospital. Here are some examples of how last year's Lights of Hope improved the lives of patients and staff at St. Paul's.

CARE

Breastfeeding Chairs

Comfort plays a key role in helping mothers and their babies bond during breastfeeding. Thanks to seven new breastfeeding chairs at St. Paul's Maternity Centre – which cares for some of the most difficult pregnancies in BC – premature babies can nurse comfortably in mom's arms.

"The chairs are a big help to moms and babies, as they are specially designed to provide comfort and support during breastfeeding."

– Dr. Elisabet Joa, head of the department of obstetrics and gynecology at St. Paul's



RESEARCH



Hematology Support

A provincial resource for blood disorders and blood cancers, the division of hematology at St. Paul's often struggles to find funding for urgent staff needs – in particular, for clinical research. Thanks to new administrative support, the division can concentrate more time on researching new treatment options for patients.



TEACHING Nursing Awards

In 2014, **Lights of Hope** supported the Nursing Awards, which provide funding to nurses for such things as educational opportunities outside of the hospital. Award recipients acquire new knowledge and skills that they can then share with colleagues and that will, ultimately, support patient care at St. Paul's.

"Thanks to receiving a Nursing Award, I will be able to access educational opportunities and gain new skills and best practices that I can share with my co-workers at St. Paul's."

– Robert Kent DesRochers, intake coordinator and clinical nurse leader for the Mental Health Wellness Clinic at St. Paul's



EQUIPMENT Patient Monitors for the GI Clinic

The **Gastro-Intestinal (GI) Clinic** at St. Paul's was in desperate need of help after two patient monitors that are essential for any procedure at the Clinic (as they track a patient's vital signs) broke down. Luckily, staff at the GI Clinic contacted the Foundation, which was able to quickly confirm funds for replacement monitors.

"We're very grateful to the Foundation and the Lights of Hope campaign that we have these new monitors now, because they really have enhanced the care we are able to give to patients, along with patient safety."

– Patina Sibbald, clinical nurse leader at the GI Clinic at St. Paul's

"Securing funding for administration can be really challenging, but it's essential to our work to improve care for patients with blood disorders and blood cancers, including those related to conditions like HIV."

– Dr. Heather Leitch, (above, pictured right) director of hematology research at St. Paul's





The Evolution of HIV/AIDS and Addictions Care

After helping to halt the AIDS epidemic in BC, St. Paul's Hospital turns its focus to caring for people with HIV and addictions-related diseases **By Gail Johnson**

Walter Hiebert had just moved to Vancouver from Winnipeg when reports of severe immunodeficiency among gay men started surfacing in the news. It was 1984, and Hiebert had landed a job as an intensive care nurse. Within a few years, AIDS began claiming lives at an astonishing rate, and Hiebert decided to get tested. He was devastated to learn he was HIV-positive.

"When I went to see my doctor, he said 'I will give you a year to live,'" Hiebert recalls. "I haven't ever forgotten that."

Back then, the prognosis for patients diagnosed with HIV/AIDS was very grim, Hiebert says. "We were seeing one or two people dying a day. I lost 10 good friends and many

other acquaintances. The whole scene in Vancouver was so sad."

Hiebert was determined to move forward with courage. He had a strong support network, and he was under the medical care of St. Paul's Hospital, which was the first hospital in BC to treat patients with the disease when it started to emerge.

Today, Hiebert's viral load has been reduced to zero, thanks to breakthroughs developed by the BC Centre for Excellence in HIV/AIDS (BC-CfE) at St. Paul's, headed by Dr. Julio Montaner. One such breakthrough is the "drug cocktail" known as HAART (highly active anti-retroviral therapy) that's become the gold standard for treatment worldwide. The groundbreaking work out of St. Paul's has

Walter Hiebert (above) visits a memorial to the people who died of AIDS when a diagnosis of HIV was considered a death sentence.

(Opposite page l-r) Drs. Evan Wood and Julio Montaner are part of a team of researchers and clinicians at St. Paul's whose work includes addressing the needs of patients with HIV/AIDS and addictions-related diseases.

transformed the outlook for people living with HIV, halted the AIDS epidemic and made it so that a diagnosis is no longer a death sentence.

"The cocktail changed everything for me," Hiebert says. "If it wasn't for Dr. Montaner, I wouldn't be here today."

OPPORTUNITY FROM SUCCESS

Montaner recalls the early days of the AIDS epidemic, when the situation was dire. The number of cases in Vancouver went from sporadic in the late 1980s to more than 800 per year between 1990 and 1995.

"The mortality of AIDS in those days was really 100 per cent, a matter of weeks to months," Montaner says. "It was very difficult with the stigma, the discrimination, the fear and the hopelessness."

With the development of HAART, however, the number of AIDS cases began to drop, remaining stable at about 200 cases per year from 1996 to 2006. Through earlier intervention, the rate of new cases of AIDS from 2007 to 2013 was further reduced by up to 90 per cent.

"We went from a very dark period to a miraculous new development that came together at St. Paul's," says Montaner. "I don't think there is another success story in the history of medicine that quite compares. We have virtually eliminated AIDS and AIDS-related deaths in British Columbia."

EMBRACING A NEW CHALLENGE

While new medications have made it possible for people living with HIV to lead normal

lives, there remains more work to be done to stop the spread of the virus and other infections. As a result, St. Paul's is setting its sights on addressing additional health issues, such as addictions and addictions-related infections, including Hepatitis B and C.

Dr. Evan Wood, physician program director for addiction services at St. Paul's and co-director of the BC-CfE's Urban Health Research Initiative at St. Paul's, is heading a program to train a team of specialists who can provide care to patients struggling with addictions. The St. Paul's Hospital Goldcorp Fellowship in Addiction Medicine was created in 2012 with a \$3-million donation from Goldcorp Inc. to fill a critical gap in addiction medicine training. In August 2014, the provincial government announced that an additional \$3-million would be put towards expanding the program from four to six specialists, making it the largest in North America.

"We're not just training very senior physicians; the fellowship also enables the supervision of more junior trainees," notes Wood. "We'll have over 80 physicians and trainees go through the program over the next year or so. Those trainees will bring a great deal of competency in this area to other areas, from medicine to mental health. St. Paul's will be leading the way in the tremendous growth of this expertise."

EXPANDING ADDICTIONS CARE

The \$3-million will also support clinical trials, such as examining the effectiveness of a new medication, called Vivitrol, when administered to HIV-positive patients with alcohol or opioid addiction. Approved for use in the US,

Vivitrol blocks the brain's ability to experience the effects of alcohol and drugs like heroin. St. Paul's is the only Canadian site involved in the study, which is being conducted through the US National Institute on Drug Abuse clinical trials network.

Vivitrol is unique in that its effect lasts for 30 days: "That's a huge benefit over other options available," says Wood. "For people who are struggling with alcohol addiction, to take a medication every day is quite challenging. Having to go and get medication every day from the pharmacy in the case of methadone for heroin addiction is also difficult. This is a very exciting project to be involved in."

Funding will additionally help develop a new BC addiction medicine diploma program to improve clinical addiction care, as well as the establishment of a rapid-access addiction medicine program. This sets the stage for the establishment of a Network for Excellence in Substance Dependence and Related Harms. This first-of-its-kind Canadian model will focus on integrating medical education, scientific research and clinical care to reduce the health and social harms of untreated addiction.

These game-changing addiction medicine initiatives, led by Wood at St. Paul's, will build upon others and support the continued international leadership of the hospital in the treatment of addictions and their related health concerns.

To learn how to support addictions and HIV/AIDS care, research and teaching at St. Paul's Hospital, please contact St. Paul's Hospital Foundation at 604-682-8206 or visit us at www.helpstpauls.com.





Genya Kaplun (left) was brought back to life thanks to the LUCAS automatic chest compressor and the quick intervention of Dr. Joseph Finkler (right) and emergency staff at St. Paul's.

Innovative Emergency CARE

Groundbreaking equipment and innovation have made the Teck Emergency Centre at St. Paul's Hospital a leader in emergency care

By Jessica Werb • Photography Brian Smith

WHEN GENYA KAPLUN was discovered unconscious on the balcony of his downtown Vancouver apartment in February 2014, hypothermic and without a pulse, his odds of survival weren't great. Luckily, Kaplun was taken to St. Paul's Hospital's Teck Emergency Centre, one of the most efficient and technologically advanced emergency departments in Canada.

To save Kaplun's life, emergency physician Dr. Joseph Finkler turned to a recently acquired piece of equipment, the LUCAS chest compression system.

The LUCAS provides uninterrupted chest compressions on a patient and is used mostly to assist with performing CPR, freeing up physicians and staff to attend to the patient's other needs.

"Providing continuous, high-quality compressions is actually difficult to do," notes Finkler. "But the LUCAS performs this task automatically and consistently. It doesn't get tired and it doesn't need a break every couple of minutes like a person would."

After two hours of receiving compressions from the LUCAS, as well as other care from physicians and staff, Kaplun's heart finally began beating on its own.

Kaplun was the first St. Paul's Hospital patient to be treated with the LUCAS, which

was funded through donations made to last year's Lights of Hope campaign at St. Paul's.

TIME-SAVING SYSTEMS

The acquisition of innovative technology like the LUCAS and a new computed tomography scanner (see sidebar) plays a critical role in optimizing the delivery of care for patients at the Teck Emergency Centre.

The delivery of care has also been dramatically improved through the development of a computer system that allows physicians to order tests from anywhere in the department. The system has played a key role in bringing down emergency wait times. For a hospital of its size, St. Paul's has the lowest wait times in Canada.

"We were the first emergency department in BC to start sending care providers directly into the waiting room to treat patients," says Dr. Dan Kalla, head of St. Paul's emergency department. Kalla adds that the hospital's advanced computer order-entry system allows care providers to share information electronically, which also saves time. In another first for BC, St. Paul's is part of a website (edwaittimes.ca) that provides the public with real-time updates on wait times at Vancouver emergency departments, enabling patients to get the fastest treatment possible.

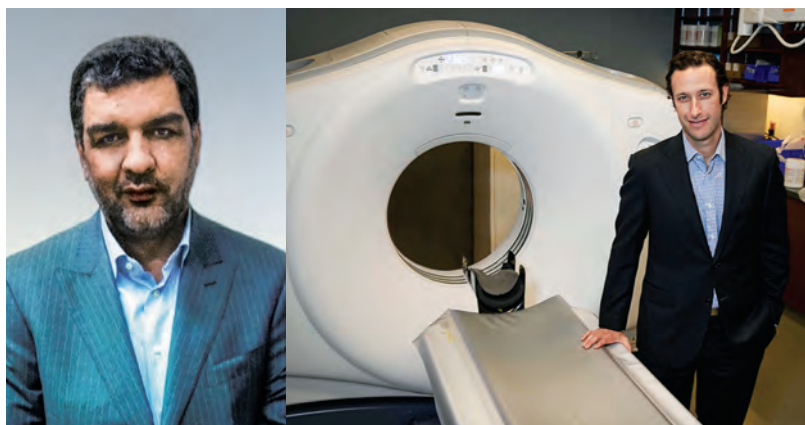
LIFE-SAVING INNOVATION

These innovations are just some of the latest to occur at the Teck Emergency Centre since St. Paul's completed a three-year renovation of the Centre in 2010 that improved efficiency and outcomes for the 73,000 patients who receive care there each year.

While most emergency patients won't have needs as dramatic as Kaplun's, they can take comfort in the knowledge that St. Paul's continues to make these innovative advances in emergency care for those situations where lives are at stake. Kaplun, for one, is grateful.

"I kind of feel like I've got a new lease on life," says Kaplun, who is back to work as a media and IT manager and, apart from some leg pain, has no lingering health issues from his brush with death. "For me to wake up 10 days later and be fine, it's a miracle."

To learn how you can support emergency care, research and teaching at St. Paul's Hospital, please contact St. Paul's Hospital Foundation at 604-682-8206 or visit www.helpstpauls.com.



Reza Motallebi Kashani (above left) is a leading donor to the new emergency CT scanner that benefits patient care provided by St. Paul's staff and physicians like Dr. Jonathon Leipsic (above right).

TRANSFORMATIVE ADVANCEMENT IN CARE

ONE OF THE MOST significant advances in emergency care at St. Paul's occurred in December 2013, when a project to install a new CT (computed tomography) scanner at the Teck Emergency Centre was completed.

"The refurbishment of our emergency department to provide it with a CT scanner of its own has been transformative for patients, as well as for the delivery of care by emergency physicians," says Dr. Jonathon Leipsic, director of St. Paul's department of radiology.

CT scanning is integral to checking for emergency issues such as head injuries, heart issues, stroke and damage to the extremities. Previously, the 8,000 emergency CT scans performed at St. Paul's each year had to be conducted in the radiology department, in another wing of the hospital.

With a CT scanner in the Teck Emergency Centre, the time required to get these often life-saving diagnoses is shortened considerably, enabling staff and physicians to administer the proper care to patients faster and with fewer risks.

One considerable concern for emergency patient care is assessing the risk of stroke. The new CT scanner is being used to screen for stroke; and its location has improved the timeliness of the administration of clot-busting medications that can prevent stroke from occurring. The scanner has also contributed to the development of a hospital-wide stroke program designed to improve the care and rehabilitation of stroke patients.

The patient experience is also greatly enhanced, as patients are spared the stress of being prepped for and transferred to the radiology department for diagnosis, a process that used to take up to 90 minutes. In addition, faster scanning times will mean that fewer patients will require sedation, improving their recovery time.

The \$3.5-million project to install the CT scanner was made possible through the support of many generous donors to St. Paul's Hospital Foundation, including a leading \$2-million donation from Reza Motallebi Kashani. □

Full-Swing Recovery

Leading-edge laser technology at St. Paul's Hospital provides a safe alternative to open-heart surgery **by Sarah Ripplinger**

In 2014, professional golf instructor Lori Hamstra played her first pain-free round of golf in 15 years.

"When I told my parents, I cried," says the 43-year-old Victoria, BC, resident. "I'm a golf pro and I couldn't play golf. And now I can again. It's like I have my life back."

After losing consciousness while driving in 1999, Hamstra was diagnosed with vasovagal syncope, a condition that affects the nervous system and can be responsible for fainting. Doctors prescribed medication and then inserted a pacemaker near Hamstra's heart, which was able to administer electrical impulses to regulate her heartbeat.

Despite best efforts to prevent the pacemaker from affecting Hamstra's golf game, she soon experienced pain from the small wires, called leads, which attached her pacemaker to her heart. As a result, she was soon unable to continue pursuing a career as a professional golfer, and switched to coaching instead. Several years and several procedures later, Hamstra's pacemaker was removed; however, she was told that open-heart surgery was the only viable way to remove the leads.

GROUNDBREAKING TECHNOLOGY

It took two years, but Hamstra's cardiologist managed to find a safe alternative to open-heart surgery at St. Paul's Hospital.

Dr. Jamil Bashir, a cardiovascular and thoracic surgeon at the Heart Centre at St. Paul's, used an excimer laser to remove Hamstra's leads after making a small incision. The excimer laser creates a micro-thin beam of light that can cut through human tissue without creating any heat, making it a safe alternative for lead extractions.

"The excimer laser is an amazing piece of technology," says Bashir. "Compared to open-heart surgery, which was a common alternative to extract pacemaker leads, the excimer laser makes for a safer procedure with faster recovery times – and much less anxiety for both patients and their families."



Professional golf coach Lori Hamstra is able to swing a golf club again after 15 years of waiting to return to playing the sport she loves.

LIFE-CHANGING CARE

Since having her leads removed, the painful swelling that made Hamstra's right arm two sizes larger than her left is virtually gone. She is once again playing golf, pain-free, and plans to compete in golf tournaments.

"I'm so grateful to Dr. Bashir," says Hamstra. "This was a complicated procedure, but he was willing to try when no one else would. I'm a new person now, and I have a new life."

Funding for the excimer laser was supported by Strike Out Heart Disease – a partnership between St. Paul's Hospital Foundation, the Vancouver Canadians and Scotiabank, and by sponsors, including Blake, Cassels & Graydon and Deloitte.

To find out how you can support heart care at St. Paul's Hospital, please contact St. Paul's Hospital Foundation at 604-682-8206 or visit www.helpstpauls.com.

Dr. Carl Brown

Dr. Carl Brown is a colorectal surgeon at St. Paul's Hospital, where he is the current head of the Division of General Surgery and a scientist at the Centre for Health Evaluation and Outcome Sciences, as well as the former president of the Providence Health Care Medical Staff Association. In addition to his clinical work, Brown has developed a number of innovations through research and teaching that have improved the outcomes and recovery times of life-saving colorectal surgery procedures. In 2012, he was named one of the "top 40 under 40" by *Business in Vancouver* magazine.

What motivated you to become a colorectal surgeon?

I wanted to treat conditions, such as inflammatory bowel disease and colon cancer, which involves complicated surgical procedures that provide life-changing results for patients. As well, when I was a fellow in colorectal surgery, my mother was diagnosed with stage-three colon cancer. It inspired me to improve the diagnosis and treatment of patients with this disease.

Why did you decide to work at St. Paul's?

When I started at St. Paul's, the only colorectal surgeon in Vancouver was my current colleague, Dr. Terry Phang, and there were only a handful of subspecialists focused on colorectal cancer surgery in BC. I jumped at the opportunity to grow the colorectal surgery program at St. Paul's Hospital and in BC, and improve the care of patients with colorectal diseases.

What are your main areas of research?

One of the specific areas I'm interested in is trans-anal endoscopic microsurgery (TEM), a technique that involves removing tumours with the assistance of a miniature imaging system to avoid major surgery. We performed the first randomized trial of TEM in Canada and it was very successful.

What makes St. Paul's Hospital's colorectal surgery program a leader?

The collaborative effort of our group of four colorectal surgeons is unique in BC. We are the largest centre for colorectal surgery in the province. The techniques we offer, such as the TEM procedure, make us pioneers in Canada. We also lead in colorectal surgery education. Last year, we trained our first colorectal surgery fellow, graduating the first subspecialist colorectal surgeon trained in BC.

Of which career accomplishments are you most proud?

I'm proud to have been an integral part of building a nationally recognized and collaborative colorectal surgery centre here at St. Paul's Hospital. In both clinical care and research, I have worked with my three equally inspired colleagues to create a BC centre of excellence for patients with inflammatory bowel disease and colorectal cancer.



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