

WHAT?

MORE SALT?

A doctor at the Maz wants to know

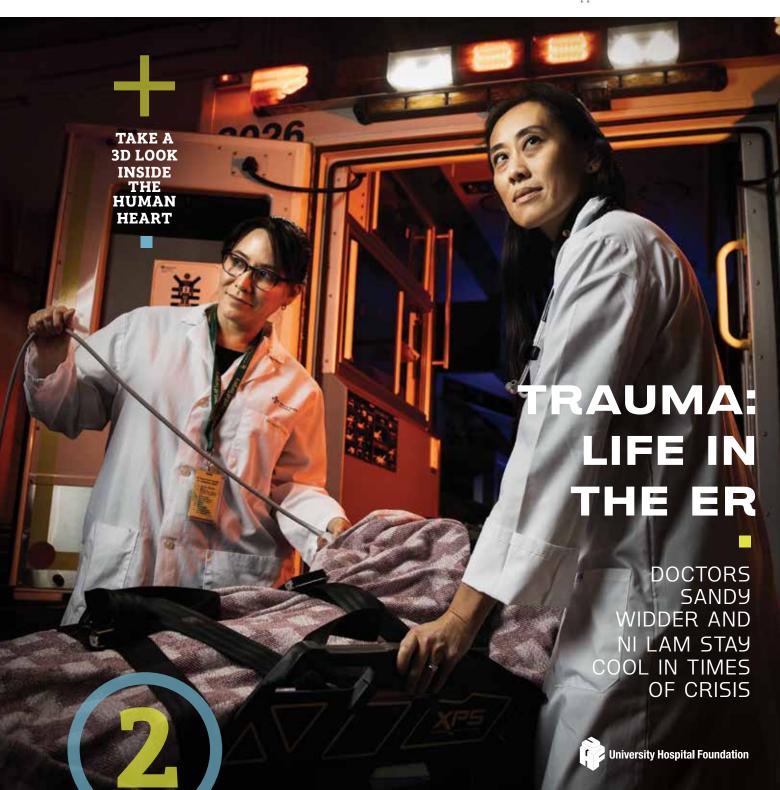
SOMEONE SPECIAL

Paddy Webb may not agree, but she is . . .

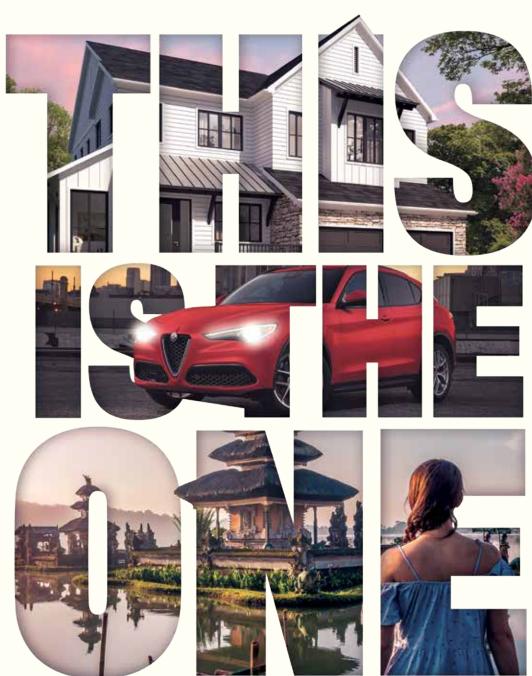
THIS IS IT

When there are no more options, there's life support

WINTER **2020** 







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COVER PHOTOGRAPHY BY COOPER & O'HARA

VICE PRESIDENT, MARKETING & COMMUNICATIONS Jamie Bliss

SENIOR WRITER

Don Trembath DIRECTOR, MARKETING

& COMMUNICATIONS Jessica Bernat

**University Hospital Foundation** 8440 - 112 Street NW

Edmonton, AB T6G 2B7 T 780.407.7007 Email UHF.stories@ahs.ca PUBLISHER

#### Trudy Callaghan

EDITORIAL CONSULTANT Steven Sandor

ART DIRECTOR Kim Larson

CONTRIBUTORS Eliza Barlow, Cooper & O'Hara, Glenn Harvey, Pete Ryan, Paul Swanson

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**University Hospital Foundation** 

## ON YOUR MARK...

Dr. Jodi Abbott is the new president and CEO of the University Hospital Foundation

ike so many of you, I have a close, personal connection with the University of Alberta Hospital.

Following a diagnosis of a second cancer, my husband, Michael, received care on many occasions. A team of incredible physicians and surgeons performed successful surgeries to ensure he would live a long and productive life. Thankfully, he's doing much better now.

What role did generous community support play in the level of care that Michael and thousands of other patients receive? A significant one, to say the least.

David Finlay, our new board chair, has also experienced the benefits of having a world-class hospital right here in Edmonton. "My family has relied on the hospital to get us through serious medical issues. As difficult as those times were, we were always comforted by the commitment and expertise of the medical staff."

For many of the most critically ill or injured patients, the University of Alberta Hospital provides hope through knowledge and advance-

ments in patient care that simply aren't available anywhere else in the province – thanks to our amazing

Knowing that I'm joining an organization that plays such a critical role in providing the technology, research opportunities and highly skilled medical teams needed to deliver the best care possible is nothing short of awe-inspiring. I'm

and treatment. Our dedicated board of trustees brings strong financial and governance expertise to ensure every dollar counts."

Our donors provide additional investment – financial, intellectual, and through their tireless efforts that will help shift and shape the future of health and wellness. They will help create better, stronger communities. Many of the research

**OUR DONORS PROVIDE ADDITIONAL INVESTMENT - FINANCIAL,** INTELLECTUAL, AND THROUGH THEIR TIRELESS EFFORTS -THAT WILL HELP SHIFT AND SHAPE THE FUTURE OF HEALTH **AND WELLNESS.** 

so pleased to bring my expertise and enthusiasm to the University Hospital Foundation.

I'm also a community builder who puts my heart and soul into everything I do. Knowing we can do even more to push the boundaries of care in Alberta and beyond is our next goal. Because we can.

As David says, "Through our donors, we are keeping the University of Alberta Hospital at the leading edge of medical science, diagnosis

projects we support are on the cusp of transforming care not only for patients here, but around the

I believe very strongly that health care in Alberta is changing and that the University Hospital Foundation is in a perfect position to play a significant role in that change.

The time has never been better to be a part of the University Hospital Foundation as a partner, donor or volunteer.



### **FOCUS**

# TRAUMA

LEVEL ONE CENTRE'S DOCTORS
ARE READY FOR ALL KINDS
OF LIFE-OR-DEATH SCENARIOS

Facing the very real prospect of bleeding to death, Bryce Bezooyen desperately needed something hopeful to cling to.

He had precious few options to choose from. Shot in a hunting incident near Edson, Alberta, the only thing keeping him from near-certain death was his brother-in-law, Gustov, pushing with all his might on the entry point of the

bullet in an attempt to stop, or at least slow,

the bleeding.

Unfortunately for Bezooyen, a 39-year-old father of four, and registered nurse at the Edson Healthcare Centre, the bullet had entered through his right groin, shattering his thigh bone and rupturing his femoral artery, the second largest artery in the body, and the main passageway for blood to get to the lower body.

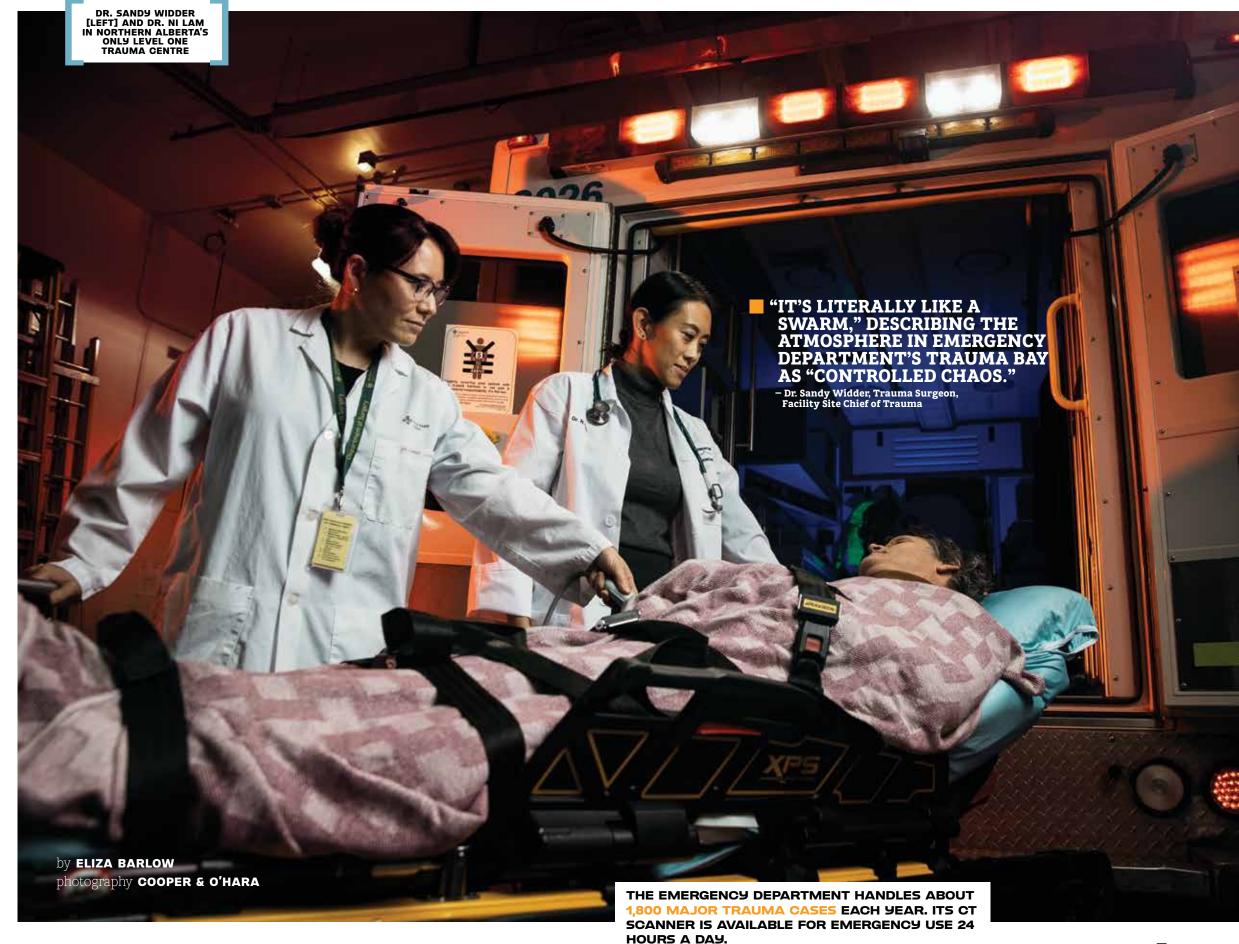
When help finally arrived, Bezooyen got the good news he was hoping for. "They told me they were taking me to the University of Alberta Hospital (UAH)," he said. "That was reassuring. I know the quality of care that happens there."

Northern Alberta's only Level One Trauma Centre, the UAH sees some of the most severely ill or injured patients. So, when Bezooyen arrived, an experienced team of specialists in resuscitation and trauma care was there waiting for him.

"When we heard there was was bleeding and the injury was involving the femoral artery, that was pretty concerning," recalls Dr. Sandy Widder, a trauma surgeon, facility site chief of trauma at the UAH and provincial medical lead for trauma with Alberta Health Services (AHS).

Less than an hour after he arrived at the hospital, Bezooyen was receiving life-saving surgery. "We basically got control of the bleed," says Widder. "We found the blood vessel and were able to control the bleeding. It was a deep wound. It wasn't easy to find the source of the bleeding."

The University Hospital Foundation is funded through community support, including ticket buyers to the Full House Lottery and sponsors and visitors to the Festival of Trees. They have generously invested over \$6.3 million in support of trauma and emergency care at the UAH, plus an additional \$2.7 million in upgrades to the hospital's surgical program, bringing the total amount of donations to \$9 million – all so patients like Bezooyen get the best care possible when they need it most. >



### **FOCUS**

### **READY TO RESPOND**

Bezooyen's case, says Widder, speaks to the multidisciplinary, multimodal response to trauma cases at the UAH.

"It's the entire spectrum of trauma care."

The fact that Bezooyen underwent surgery less than an hour after his arrival shows what having a team of trauma specialists can do. If the team hadn't been able to gather to start his care so quickly, his outcome might have been worse.

"Bryce might have bled more, he might have lost the ability to form clots," says Widder. "The number one killer of trauma patients within the first six hours is hemorrhage."

Though the trauma team at the hospital doesn't see Bezooyen's type of injury every day, it receives trauma cases one or two times a day, or more. Each time it happens, the team is ready to descend.

"It's literally like a swarm," says Widder, describing the atmosphere at the emergency department's trauma bay as "controlled chaos." Up to 15 team members, from trauma surgeons to respiratory therapists, contribute what they can to stabilize the patient.

"You never know what you're going to get," says Widder. When the trauma team swarms a patient, it is ready for anything. And that means faster interventions, which, as in Bezooyen's case, can save lives.

### LEVEL ONE

With a total catchment of about 26 million people – from Red Deer north, northern British Columbia and Saskatchewan, as well as the Northwest Territories – the emergency department handles about 1,800 major trauma cases each year. Its CT scanner runs 24 hours a day.

Using a sort of trauma hotline called RAAPID, doctors from other AHS hospitals



DR. NI LAM AND DR. SANDY WIDDER

across this vast, often sparsely populated area can call in to reach the trauma specialists and determine next steps.

"If you're involved in an MVC (motor vehicle collision) out in the rural area, they do their best to stabilize patients and send them here very quickly," says Dr. Ni Lam, the facility site chief of emergency medicine at the UAH and president of the Edmonton Emergency Physicians Association.

Lam is often among the trauma team that gathers in the bay. She thrives on being called into these rapidly unfolding life or death situations.

"I like the resuscitation component - being able to be involved with the sickest patients, being able to make a difference," says Lam.

Level One also denotes the University of Alberta Hospital's leadership in education and research. Part of that role is doing outreach on injury prevention, something that's close to Widder's heart. As a surgeon specializing in trauma, she works to save patients who have injuries from burns, motor vehicle collisions, chemical exposures, drowning, gunshots, stabbings, falls and more.

Widder doesn't use the word "accident" for any of these incidents. "Trauma is the one disease that's 100 per cent preventable," she says. When someone is rushed to hospital with a terrible injury due to some misadventure, "you're frustrated initially, but you look at it as an opportunity to work on secondary prevention."

Widder and Lam are working on a number of injury-prevention programs, including a public education campaign on how to stop bleeding in trauma patients (Stop the Bleed), and a program working on fall prevention and recov-

USING A TRAUMA
HOTLINE CALLED
RAAPID, DOCTORS
FROM OTHER
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SPECIALISTS AND
DETERMINE WHAT
STEPS TO TAKE.

ery for seniors (GREAT – Geriatric Recovery Enhancement Alliance in Trauma).

Widder says trauma surgery doesn't get the same spotlight that other subspecialties do. But the reality is that trauma, the leading cause of death for young adults, is going to touch everyone at some point in their lives.

Lam agrees. "You look at the news stories and think, "That could have been my family member."







by STEVEN SANDOR + illustration PETE RYAN

# NOW SHOWING, IN 3D

The Servier Virtual Cardiac Centre allows doctors to see inside the heart

hen it comes to looking at a patient's insides, doctors have long been able to use radiation and sound to "see" bones, muscles and organs. X-rays, MRI and ultrasound continue to provide doctors with reliable, two-dimensional images.

But, how much could the quality of patient care improve if doctors could see their patients' scans in three dimensions? If they could blow up the image of an organ to larger-than-life proportion? If they could virtually cut open the organ and see what's inside?

That's the mission of the Servier Virtual Cardiac Centre (SVCC), so-named in recognition of a \$1 million gift from Servier Canada to the University Hospital Foundation in support of advancing innovation in cardiac care at Alberta Health Services' Mazankowski Alberta Heart Institute. >



A team of doctors from the Mazankowski Alberta Heart Institute (Maz), researchers and scientists from the University of Alberta's Faculty of Medicine and Dentistry and Faculty of Computer Sciences worked together to develop and implement 3D cardiac imaging – to the benefit of cardiac patients across western Canada, and beyond.

"We have the technical base to develop new knowledge right here in Edmonton that will be used around the world," says Dr. Michelle Noga, Director of the SVCC, and cardiac radiologist at the Maz.

There's plenty of innovation that this lab has embraced in its very short existence. Walk in, and you'll see a couple of large screens and a bank of smaller computers. An image of a patient's heart is called up on the largest screen, and Dr. Noga hands me a pair of 3D glasses. I put them on, and now the heart is floating in front of my eyes.

"It's like comparing a 3D movie to a flat-screen TV," she says.

But it's not just about the doctors. A patient can view his or her own organs. Instead of receiving a diagnosis filled with Latin and complex medical terms, a person can look at his or her own heart and be shown what's wrong.

"It helps the patient understand what's happening in their own body," says Noga. "They'll better understand the surgery that's coming up, they'll understand what's going to happen to them. And patients are all curious about what they look like on the inside."

She shows a new example on the screen; with the glasses on, we see a 3D image of a heart valve. It opens, but there's a gap when it's supposed to close. She explains that this is an image from an infant who had a heart defect — a leaky valve. Without any medical training, I can see that the valve doesn't close properly. Now, imagine the nervous

using that as virtual "chopstick," I can bring the heart closer to my eyes or turn it around.

I'm given a headset with goggles attached, no different than the VR headsets you find at a Best Buy's video-game section. I'm handed two controllers, one for each hand, that, well, feel exactly like I'm about to play the latest BioWare

A PATIENT CAN VIEW HIS OR HER OWN ORGANS. INSTEAD OF RECEIVING A DIAGNOSIS FILLED WITH LATIN AND COMPLEX MEDICAL TERMS, A PERSON CAN LOOK AT HIS OR HER OWN HEART AND BE SHOWN WHAT'S WRONG.

parents of this child being shown this image; they'll know exactly what the doctors have to do, and why.

This also helps with patients who might not be taking their medications or following their diets. We can be told that we have a heart condition, but we'll feel fine and think that it's OK to cheat on our diets or skip our pills. Using the 3D image, the patients can see that there are issues with their health that need to be constantly addressed. It works a lot better than a verbal diagnosis in passing on the message.

As Noga says, when a patient sees a scan, it's a "eureka moment."

But there's even newer technology available. I'm handed a wand as an image is loaded on another computer screen. Through the glasses, I can see a beam of light extend from the wand, and game. Using the triggers on the controllers, I can control the 3D image of the organ in front of me, I can even make cuts to it to look inside.

The images can be created by fusing ultrasound images together. And the images are so clear that doctors can possibly pick up things that might have been missed by traditional scans. It may be easier to see early signs of heart disease or cancer in high-risk candidates. And, of course, the earlier an abnormality is spotted, the easier it is to treat.

"As technology advances, so do our tools," says Noga. "The technology just keeps getting better and more affordable."

And that means, for cardiac patients at the Maz, even greater chances of recoveries and successful returns to their lives.

### PARTNERING TO MAKE LIFE BETTER FOR ALBERTANS

Through the University Hospital Foundation's Strategic Partnerships program, innovative companies like Servier Canada, the Canadian arm of the international pharmaceutical company, Servier, team together with the Government of Alberta and UHF

to form a unique collaboration called a public-private philanthropic partnership. Partnerships like this are able to tackle more complex global health issues – for the advancement and wellness for all Albertans and beyond. In 2017, Servier upped its investment in patient care at the University of Alberta Hospital with the creation of the \$1.7 Million Servier Alberta Innovation in Health Fund (SAIHF) in support of advancements in the cardiac sciences, diabetes, neurology and oncology.



### It is our goal to help improve the lives of Canadians.

One way we do this is by investing in, and making lasting contributions, to the local communities where we work, live and raise our children.

To learn more about the Alberta Boehringer Ingelheim Collaboration (ABIC) Fund and the solutions being developed to treat chronic diseases, please visit abicfund.ca.

### **BDMINNOVATES**



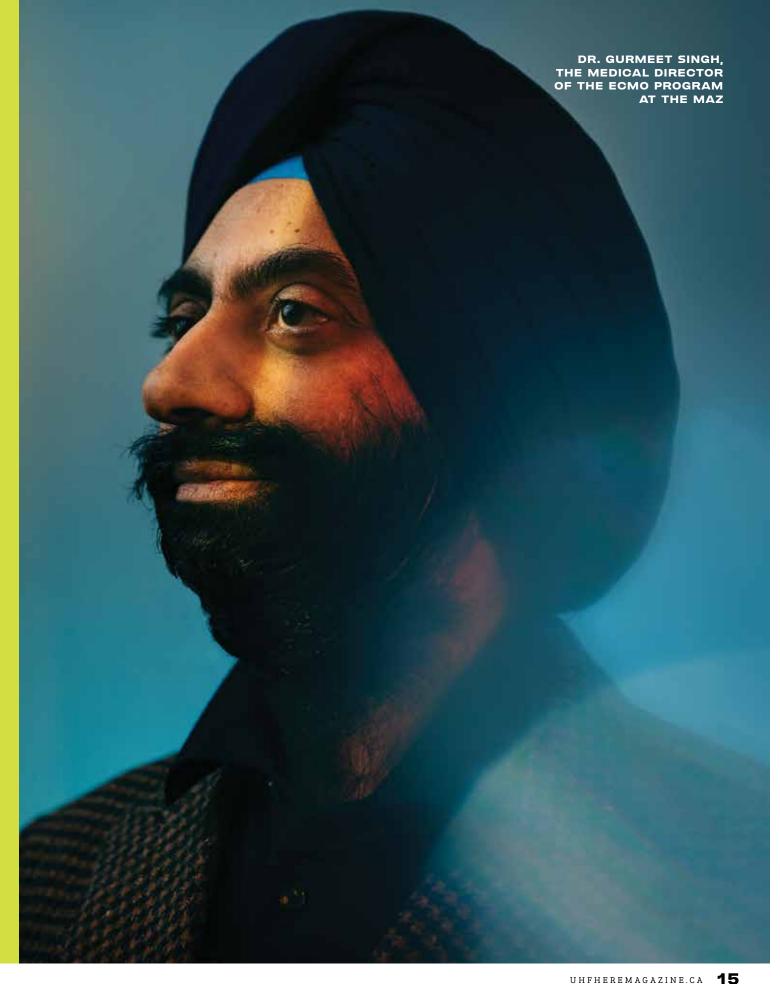


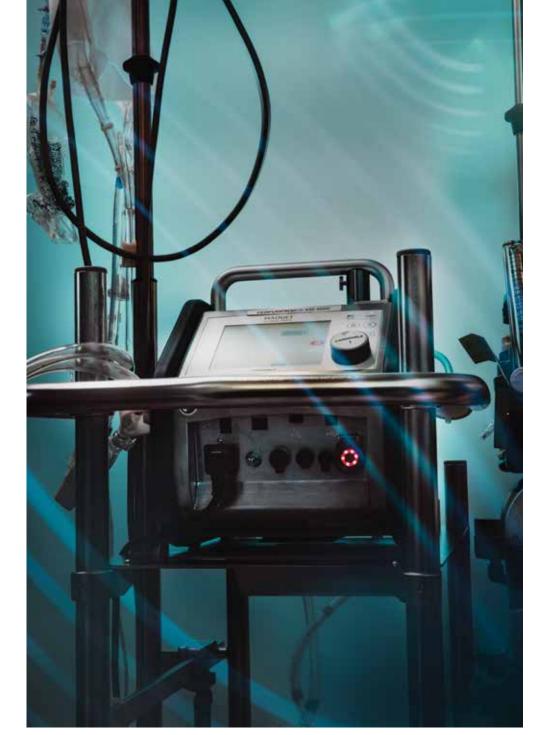
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# LAST CHANCE

DR. GURMEET SINGH GIVES
HOPE TO PATIENTS WHO ARE
MINUTES AWAY FROM DEATH >

by ELIZA BARLOW + photography COOPER & O'HARA





# THOUGH SHE WAS moments

from losing consciousness, Jolissa Doerksen grasped the severity of her situation. Lying immobile in a hospital bed in Grande Prairie's intensive care unit, the 23-year-old new mom was alternating between seeing bright light and blackness.

"I felt my body was shutting down, faster and faster. I was starting to think, 'This is it, I'm going to die. I'm done,'" she says of that terrifying day in May 2014.

"I said to myself – only to myself – 'I'm dying, I know I'm dying.' The only thing I could do was pray that I would make it through, because my husband and my baby still needed me."

As she teetered between life and death, another thought crept in. "I felt in my heart, 'It's not your time yet. You're not ready to go.'"

It's one of the last thoughts she remembers before she blacked out.

It turned out that last thought was correct. But it would be 12 days and a stint on Alberta Health Services' (AHS) Mazankowski Alberta Heart Institute (Maz) with cutting-edge life-support technology before Doerksen would wake up again. Doerksen didn't know it at the time, but her body was in the deadly grip of hantavirus, which she caught from unknowingly inhaling deer mouse droppings while cleaning out her family's holiday trailer at their home near Fort Vermilion, Alberta.

A rare infection, in its final stages, hantavirus causes the lungs to fill up with blood and other fluids. At its most severe, the only possible way out is mechanical life support. By the time she arrived at AHS' Maz, Doerksen was at that point. There was some doubt over whether she could survive the flight from Grande Prairie to Edmonton, but doctors decided her only shot at survival was right here.

Her husband, Jerry, made the trip by car. When Jerry reached the hospital, recalls Doerksen, he was frantic.

He ran up to the first doctor he saw, pleading for information about his wife. The doctor told him, "We just put her on life support. I think she's going to make it."

Mechanical life support called extracorporeal membrane oxygenation (ECMO for short) assumes the function of the heart and/or lungs. "It is a heart and lung machine at your bedside – that's the simplest way to describe it," says Dr. Gurmeet Singh, the medical director of the Adult ECMO program at the Maz.

Once placed on ECMO, the patient's blood is drawn out of his or her body and pumped into an artificial lung, which removes carbon dioxide from the blood and adds oxygen. The freshly oxygenated blood is returned back into the patient.

Patients who need ECMO are the sickest of the sick, facing anything from life-threatening lung infections to shock due to severely impaired heart function. Doerksen was on ECMO for 12 days.

"These patients require more support than a ventilator or medication. They're often on the precipice of multi-organ failure, if they don't already have it. They're hours to minutes from death," says Singh.

Generous community support to the University Hospital Foundation, including callers to the 630 CHED Heart Pledge Day in 2017, an annual day-long fundraising event at the Maz, have donated over \$700,000 for the purchase of the most advanced ECMO equipment, including portable machines that make transporting patients for imaging or even surgery immeasurably easier.

"We are eternally grateful for the support we've received that's allowed us to have this equipment on hand when we need it," says Singh. "There is no other option for these patients. This is it."

The life support team at the Maz is multidisciplinary, comprising everyone from those like Singh, an intensivist and cardiac surgeon, to other surgeons, perfusionists, anesthesiologists, OR nurses, ECMO specialists and so on.

"The success of any program is completely dependent on the members of the team – the people who are dedicated to the program's success," Singh says.

"By volume we are probably the second-biggest program in the country" after Toronto, says Singh. "I have worked in four advanced cardiovascular intensive care units across North America, including the Cleveland Clinic, and I can tell

### "BY VOLUME WE ARE PROBABLY THE SECOND-BIGGEST PROGRAM IN THE COUNTRY."

- DR. GURMEET SINGH

you that our program is second to none, anywhere in the world."

The number of patients who go on ECMO has climbed from 15 to 20 a year when Singh came to Edmonton 12 years ago, to about 50 per year now, though the peak was 70 in a year. Prior to 2009, ECMO support was not offered for isolated lung failure. Even so, Singh and his team only accept a percentage of the ECMO referrals, as many just will not benefit from this type of support.

"We're aggressive, but there's no bravado," says Singh. "We say, 'Call us for everything.' We want to know what's out there, because as long as we know what's out there, there's less danger we're going to miss someone who can be helped."

It's crucial to note that ECMO is always a "bridge" to another end point, whether that eventuality is recovery, an organ transplant, or a decision to turn life support off.

For Doerksen, of course, ECMO was a bridge to recovery. She believes she wouldn't be alive today had ECMO not been available for her. More than three weeks after her ordeal began, she was reunited with her baby daughter. And though she has a few lingering health effects, such as sore feet and weakened lungs, she went on

to have two more children.

"We are so incredibly lucky here in Alberta to have access to absolutely amazing life-saving technology. There's no question that it saves lives," she says, adding she's thankful for every medical professional who cared for her.

"They all played a part in my miracle."
Doerksen's case is just one of the
positive stories Singh has collected
during his 12 years at the hospital. True,
there can be a harsh reality to life support, and some patients don't get better
– but many do.

One day, Singh was at work when a young woman, a hospital porter, approached him.

What she said surprised him, as he hadn't known that one of his patients, who had been on ECMO during a severe bout with H1N1 flu, had a family member working at the hospital.

"She stopped me in the hallway to thank me for saving her dad," says Singh, emotion in his voice and some extra moisture in his eyes as he recalls the encounter. "There are so many gratifying stories, these patients and their resiliency are constantly redefining my expectations."

# Your life is filled with experiences, relationships and all the things you choose to do.

You can make your will a way to save a life.

### Decide what matters most to you.

You could choose cardiac care, non-invasive brain surgery or something that matters to you — any area will help us push the boundaries of care and knowledge.

Dialogue with us, your family, your lawyer, or financial planner.

It's a big decision, take your time and have good conversations.

We are here to help.

Designate a gift in your will.

It will make a difference.



### Now, choose to leave a gift in your will.

It could mean the gift of life for someone you love.

### At just 43 years old, Michael had a heart attack.

Then his lungs failed. Because of generous donations to the University Hospital Foundation from people just like you, the technology, skill and facilities were there to save his life.

He could be your husband, brother, son, or even you.

A gift in your **will** to the University Hospital Foundation will help create a healthier future. One where strokes are less devastating, Alzheimer's disease is treatable, and more surgeries are non-invasive. The generosity of our donors has supported every corner of care at the University of Alberta Hospital, the Mazankowski Alberta Heart Institute and the Kaye Edmonton Clinic.

Make your will a way to save a life.



Contact Caroline at 780.407.7686 or caroline.thompson2@ahs.ca

# LIVING **GENEROUSLY**

For **Paddy Webb**, philanthropy is a way of life

by DON TREMBATH photography PAUL SWANSON

Regarded as one of Edmonton's most generous philanthropists and a true pillar in the community, Paddy Webb is at a loss for words when it comes to explaining her generous spirit. "It's just the way I was raised," she says. "My dad used to tell us, 'If you've got it, you give it.' That's what we did.

"I was an X-ray technician a million years ago, right here at the University of Alberta Hospital. It was a lot of hard work, often in the middle of the night, and, if the doctor didn't like the pictures, back you'd go to do it all over again. Now look at me. You'd think I was someone special."

As longtime donors to the University Hospital Foundation (UHF), Webb's parents, Curly and Gladys MacLachlan, led by example. "Supporting diabetes research was very important to them," says Webb. "They understood that in healthcare, progress starts in the research lab."

Such community support eventually led to the creation of The Edmonton Protocol, a treatment that revolutionized care

around the world for patients afflicted with a particularly devastating form of diabetes.

Growing up in such an environment had a profound effect on Webb. "Philanthropy was never seen or treated as something special. It was just something you did because you could. You gave your time. You gave whatever money you could afford. If you can do that for people, why wouldn't

Webb and her late husband, Ken, have helped bring state-of-the-art equipment, technology and some of the best medical minds in the world to the University of Alberta Hospital.

She understands that thousands of Albertans are alive today because of the generosity of people like them – but simply sees it as her way of life.

"I've been around generous people my whole life. My parents taught me to be that way. Kenny was always extremely generous. It's been a way of life of mine for as long as I can remember."

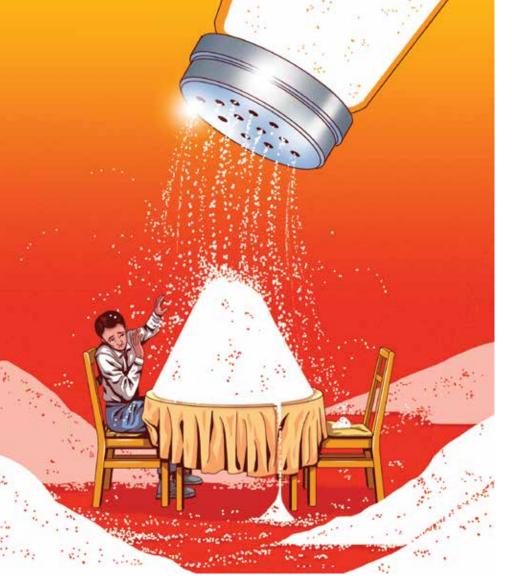
Her first gift to the UHF was nearly 35 years ago. Since then, she has supported every major fundraising campaign, including the Campaign for Prostate Health, the Mazankowski Alberta Heart Institute Campaign and, most recently, the Brain Centre Campaign. She has been just as generous with her time, serving on the Foundation's Board of Trustees from 1999-2005, and as a Festival of Trees volunteer for decades. She's also co-chair of the University Hospital Foundation's Alumni Connection.

For her contributions, Webb has been awarded two of the Foundation's most prestigious awards - the Peter Lougheed Award for the Advancement of Health Sciences and the Audrey Greenough Award for outstanding service and support.

She is proud of both achievements, but says they were never her motivation for giving what she has. "I tell people, 'Give what you can.' That's all we can do."

As for her own lifetime of giving? "I couldn't imagine living any other way," she says. "And I never will." ■





# The Salt Argument

A doctor looks to separate fact from fiction when it comes to sodium and the heart

by **DON TREMBATH** 

#### For those with heart disease.

is less salt actually better?

Dr. Justin Ezekowtiz, physician at the Heart Function Clinic at the Mazankowski Alberta Heart Institute. and the lead researcher of an international study on whether or not it's necessary for patients with heart disease to consume less sodium, isn't so sure.

Sound crazy? Here's the deal. According to Ezekowitz, a body with a diseased heart reacts differently to salt than a body that's disease-free. In other words, preventing heart disease with lower salt in the diet helps, but does it help when the heart is already damaged?

"As doctors, we sometimes stick to what we've always done without testing whether it's good or bad. Maybe higher salt is better. Maybe lower salt is better. We really need to know the answer for the long-term care of our patients."

Adult Canadians with heart disease consume an average of about 2.4 grams of sodium per day. Conventional wisdom holds that trimming that amount to around 1.5 grams gives patients living with heart failure a better chance of avoiding such negative results as longer hospital stays, more frequent trips to emergency and, most important, death.

"Salt is a principal cause of high blood

pressure and it makes our endothelial cells. the cells that line our entire circulatory system, less functional, causing thicker, harder arteries, less functional kidneys and less functional heart muscle cells." says Ezekowitz.

But he adds "the amount of scientific evidence around the idea that lowering salt intake improves outcomes for patients with heart disease is pretty slim. We want to see the linkage that tells us what we're doing is actually best."

The study is set up to be as life-like as possible. Heart failure patients volunteer for the clinical study. Some are asked to prepare their own meals (usually about 2,400 mg of salt per day) for over a year. Others are asked to use a much lower amount; about 1,500 mg per day.

"We're not preparing their meals. But we did craft some menus to help them make good choices," says Ezekowitz.

With research sites in Canada, Australia, New Zealand, Mexico, Colombia and Chile, Ezekowitz's study has grown into the largest clinical trial ever conducted on the impact of salt on heart patients. "Our findings will influence cardiac care around the world."

Seed funding for this study, and hundreds of others just like it, came via the University Hospital Foundation's Medical Research Competition (MRC). Ezekowitz and his team received \$30,000 to conduct a small clinical trial of 30 patients.

He leveraged that data to acquire more funding, which in turn led to a \$700,000 research grant from the Canadian Institutes of Health Research. From an initial investment point of view, that's a return of just over 2200 per cent.

Now into its 20th year, the donorfunded MRC has provided over \$10 million in start-up funding to research projects across the spectrum of care at the University of Alberta Hospital.

"Before you can even apply for the big research dollars, you need data to validate your thesis," says Ezekowitz. "Without that small start-up grant, this research and many, many others would never get off the ground." ■

Alberta is leading the next evolution in healthcare







Innovators in Alberta are beginning a project that will use machine learning to identify trends in health-care that will eventually lead to earlier diagnoses of Chronic Obstructive Pulmonary Disease (COPD).

Thank you to the partnership between the following organizations for making this project a reality.





