YOUR IMPACT

SUNNYBROOK'S SCHULICH HEART PROGRAM

Ready in a heartbeat: Dr. Maria Terricabras, Cardiac Electrophysiologist in Sunnybrook's Schulich Heart Program, uses advanced three-dimensional mapping technology at one of Canada's leading cardiovascular centres. In the Garron and Berna Garron Electrophysiology Suite, this technology recreates high-definition images of the heart, pinpointing even the smallest disturbances with utmost accuracy.

Sunnybrook FOUNDATION

SUMMER 2024

A message of gratitude from the Chief of the Schulich Heart Program

Innovation. Leadership. Excellence. These words define us at Sunnybrook's Schulich Heart Program — in no small part because of the strength, commitment and partnership of our donor community. Your support accelerates discovery from concept development, through pre-clinical testing and into health policy to reach patients across our province, country and even the world.

In this report, you will read the many highlights of your support, including how we are using the world's smallest heart pump for patients who couldn't otherwise withstand open-heart surgery. Our leadership extends beyond implanting devices to training the next generation on how to use them.

We see the Schulich Heart Program very much as a "living laboratory." With donor support, we are often the earliest adopters of new devices and techniques, enabling us to harness the power of innovation to deliver personalized and precise care. At the same time, we are uniquely positioned to demonstrate how these innovations should become part of the health system with wider access for all Ontarians, through my work as the Provincial Physician Lead for Cardiac Care.

We continue to provide specialized and complex cardiac and vascular care in a uniquely competitive and changing environment, and remain committed to transforming the health-care landscape through innovation, excellence, education and compassion.

You are behind every breakthrough. Thank you for transforming how we care for the heart.

Harindra Wijeysundera, MD, PhD, FRCP, FCCS, FAHA
Chief, Schulich Heart Program

Bright IDEA

The Caryl & Walter Sinclair IDEA Fellowship, established thanks to a legacy gift to the Schulich Heart Program, is just one of many ways we are championing future leaders.

The acronym stands for inclusion, diversity, equity and access, and this summer we welcomed our first two fellows, who are focusing on interventional and structural heart disease management at Ontario's largest minimally invasive structural heart program.

8,956

invasive cardiac and vascular procedures in 2023-24

147,276

non-invasive cardiac and vascular procedures in 2023-24

EXPANDING ESSENTIAL CARDIAC CARE SPACES

Sunnybrook is home to one of the busiest electrophysiology programs in Ontario with one of the highest case loads in the country. Thanks to our donor community, we launched a critical revitalization of the Myron and Berna Garron Electrophysiology Suites to improve access to life-saving procedures.

Construction progresses on the Myron and Berna Garron EP Suites with no negative impact to our clinical efficiency and patient access.

Our progress, made possible by our donors

Each year, our teams in the Schulich Heart Program's electrophysiology (EP) suites perform more than 1,000 image-guided procedures, such as cardiac ablations and device implants.

As the demand for complex EP procedures continues to steadily grow, we are responding by expanding our capacity to meet the cardiac needs of more patients across Ontario. Donor support is enabling us to transform our current space into the improved Myron and Berna Garron EP Suites that will help us serve more patients.

In 2023, we completed our fundraising goal and launched this critical revitalization effort.

Construction is now underway. Of note, our expansion work has not negatively impacted our patient care.

In fact, we have already increased our patient volume and reduced wait times as a result of our ongoing efforts to enhance efficiency. This includes implementing new technologies that allow us to perform multiple cardiac ablations simultaneously.

Building new and expanding existing EP labs

The Myron and Berna Garron EP Suites will be home to a brand-new EP lab, a major addition that will help our teams support an increasing patient volume. Completion of the lab and training on its new X-ray system took place in December 2023.

Our team began treating the first patients in the new lab in late December, and by January 2024 it became fully operational. Renovations are now underway on the existing EP lab. This phased approach also helps our teams remain consistent in providing high-quality care, even as we grow.

Near-immediate impact of donor support

The Myron and Berna Garron EP Suites will be fully complete in fall 2024. Growth in our patient numbers will immediately follow suit, with a goal to increase patient numbers by 15 to 20 per cent each year. In turn, this will accelerate Sunnybrook's role in the provincial priority to reduce wait times and increase equity of access to cardiac ablations.

Innovative spaces like this are only possible with donor support.

HOW A TINY PUMP MAKES A HUGE IMPACT

A revolutionary intervention for heart attacks is small but mighty – and it is making a difference for patients who couldn't otherwise withstand open-heart surgery. This is just one of many ways your support is changing lives.

The Schulich Heart Program is always looking for new ways to support even the highest-risk patients.

Donor support is crucial to this effort, fueling our growth and leadership as a premier site for the development of novel devices and image-guided treatment strategies for structural heart disease, including research, pre-clinical testing and early adoption.

One great example is the use of the Impella, the world's smallest heart pump. This tiny pump can be temporarily inserted during minimally invasive procedures, such as when cardiologists open clogged arteries. The Impella sustains blood pressure and allows the heart to rest, which is crucial for patients with certain blockages or a weak heart muscle that requires additional support.

"Without donor generosity for innovative devices like the Impella, certain patients may not be able to safely undergo high-risk procedures," says Dr. Brian Courtney, an interventional cardiologist, engineer and scientist at Sunnybrook.

"We also use the Impella in situations where patients are experiencing a heart attack and shock, to give the heart extra help. The Impella is an important way we are providing timely advanced treatments for our patients."

In the past year, 10 patients have received treatment with the Impella, all funded by donor support. Nursing staff are fully trained to use this versatile pump, while interventional fellows and residents are gaining experience through exposure opportunities.

Dr. Courtney says that based on recent clinical data, Impellas can reduce the death rates in the most severe category of heart attacks by up to 12 per cent (from 58 per cent to 46 per cent). However, Impella procedures are costly and not fully funded by the government, making donor support vital.

TEAM EFFORT FOR WOMEN'S HEART HEALTH

Thanks to your generosity, Dr. Mina Madan is transforming cardiac care through a major collaboration in the spontaneous coronary artery dissection (SCAD) clinic.

Donor support first empowered Dr. Mina Madan to trailblaze women's heart health care through the launch of the spontaneous coronary artery dissection (SCAD) clinic in 2019.

Today, the SCAD clinic is a vital component in promoting women's heart health at Sunnybrook, bringing together a multidisciplinary team under a cohesive banner at the Schulich Heart Program, with donor generosity once more the key to success.

"I am profoundly grateful to our Schulich Heart Program donors, whose support is vital to helping our patients recover after a life-altering event," says Dr. Madan, SCAD Clinic Medical Director and Interventional Cardiologist.

"Healing the heart, mind and soul is a worthy mission, because if we can restore the person, then we've done our job."

Dr. Madan also works with Dr. Jennifer Amadio, Medical Director of the Schulich Cardio-Obstetrics Clinic. This emerging initiative focuses on the unique needs of women experiencing heart conditions before, during, or after pregnancy. It plays a vital role in mitigating the alarming rates of maternal morbidity and mortality, particularly attributable to cardiovascular disease.

The SCAD clinic currently supports about 250 patients. SCAD mainly affects women aged 30 to 60 and is the most common cause of heart attacks in pregnant women. The clinic treats women with heart attacks resulting from bleeding or tears in their coronary arteries. Donor support also allowed Dr. Madan to produce a 20-page *SCAD Patient and Family Education Guide* to support patients.

"Women's heart health has long been overlooked," says Dr. Madan. "Typically, women are under-represented in research. We need to understand what therapies work well in women and whether our findings are valid in the female population diagnosed with cardiovascular conditions, compared to men."

Dr. Mina Madan leads the SCAD clinic at Sunnybrook, transforming women's heart health.

250

patients currently being supported and treated by the SCAD clinic

85%

of patients seen at the SCAD clinic are women

75%

of patients with SCAD also have fibromuscular dysplasia, causing blood vessel abnormalities in heart arteries and the rest of the body

PILOTING A NEW TOOL AGAINST BLOOD CLOTS

Thanks to your support, Dr. Andrew Dueck, Maggisano Family Chair in Vascular Surgery, is using a new precision-guided procedure to treat patients with blood clots.

As the Maggisano Family Chair in Vascular Surgery, Dr. Andrew Dueck's latest achievement is the CathPilot, a device that can penetrate deeply into vascular plaques and analyze their makeup ahead of an angioplasty or surgery.

"The CathPilot works by entering tiny 'microchannels' present in blood clots, to properly analyze their makeup and tailor the angioplasty or surgery accordingly, to maximize the chance of a successful outcome in patients," says Dr. Dueck.

His goals as the Maggisano Family Chair are threefold: devising treatments to preserve limbs, performing complex aortic surgeries and implanting devices. Helping him achieve these goals is the Blake & Belinda Goldring and Family Hybrid Operating Room that opened in January 2022.

"Our hybrid operating suite is state of the art for endovascular, open, or hybrid surgeries, which sets the stage for both excellent clinical care and further opportunities for innovation in research," says Dr. Dueck.

"Donor support, including the leadership of Dr. Robert Maggisano, inspired Sunnybrook's community to realize its vision for the Goldring Family Hybrid OR. Now, it is opening a world of possibilities for care."

The Maggisano Chair is also supporting the Limb Preservation Program, including an International Limb Fellow from Brazil who is mastering vascular surgery, as well as other key elements of limb preservation such as wound care and physiatry.

Dr. Dueck also recruited the expertise of Dr. Ahmed Kayssi, who holds the Blair Early Professorship at the University of Toronto.

Dr. Kayssi was in Virginia in 2023 to observe the development of a limb preservation centre and will use this experience for a similar initiative at Sunnybrook.

In addition, the Complex Aortic Surgery Fellowship Program is a collaboration between the Temerty Faculty of Medicine's Division of Cardiac Surgery and Division of Vascular Surgery. The fellows are being trained simultaneously at Sunnybrook, St. Michael's Hospital and Toronto General Hospital.

Dr. Dueck recently co-authored six publications and gave five lectures and presentations nationally and internationally.

Sunnybrook's Project Saving Legs is preventing amputations

Thanks to donor support, Sunnybrook's vascular surgeons are racing to change the devastating outcome of amputation in patients with peripheral arterial disease (PAD) under the banner of Project Saving Legs.

Our team performs 250 minimally invasive angioplasties each year to clear blockages and restore blood flow to patients' legs. This treatment often results in immediate relief and patients typically return home the same day. It is also cost-effective, at $7,000 for an angioplasty compared to $70,000 for an amputation.

Project Saving Legs is also building a database that will measure treatment outcomes and discover the most effective treatments. Next, we are working to strengthen this initiative even further with a dedicated patient navigator.

HOW ONE FRIENDSHIP KEEPS SAVING LIVES

Donor generosity is allowing Dr. Gideon Cohen, the Dr. Bernard S. Goldman Chair in Cardiac Surgery, to train new surgeons and draw inspiration from an old friendship.

As the Dr. Bernard S. Goldman Chair in Cardiac Surgery, Dr. Gideon Cohen is part of a team that treats 700 patients with life-threatening aortic defects per year at the complex aortic clinic at Sunnybrook, thanks to ongoing donor support.

The lessons Dr. Cohen learned from the chair's namesake since his junior residency are helping him transform the lives of patients.

"Thanks to donor generosity, we are a well-oiled machine and caring for our patients is our way of giving back," says Dr. Cohen.

Forged by collaborative relationships among diverse specialists, the clinic at Sunnybrook is the first complex aortic centre of its kind in Toronto. This includes everyone from radiologists to geneticists, among others. Plans are underway to bring a nurse practitioner onboard to help run the clinic.

Dr. Cohen says the Goldman Chair allows his team to welcome fellows and trainees from around the world, describing the clinic as a "finishing school," for them to master complex surgical procedures.

The complex aortic clinic serves patients from Toronto north to Sudbury, as there is no other care centre of its kind between the two cities.

Patients are typically referred to the clinic either from emergency care (requiring urgent surgery), or are diagnosed with an enlarged aorta, which is often asymptomatic until it suddenly ruptures. In many instances, the clinic provides coordinated care for patients who would not otherwise receive follow-up exams to monitor potential residual aortic tears.

Dr. Gideon Cohen (R) and a colleague conducting a procedure in-theatre.

An inspiring legacy

To this day, Dr. Cohen credits his friend and mentor for his continued success and the supportive donors for creating a Chair in his name.

"Dr. Goldman is one of a kind: skilled, warm, nurturing and supportive. He pushes you to achieve and accomplish things you wouldn't think were possible," says Dr. Cohen.

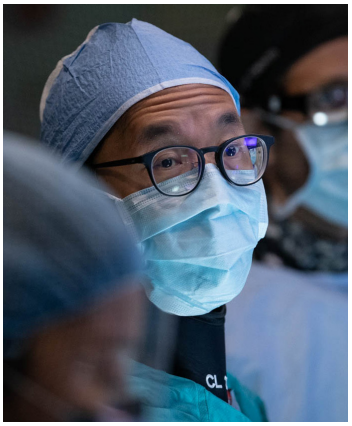
"An incredible surgeon and human being, Dr. Goldman's friendship is cherished as much now as when I was a resident. The opportunity donors have afforded me to hold the Goldman Chair is an honour."

Uncovering gaps in health care

Dr. Dennis Ko is the Jack Tu Chair in Cardiovascular Outcomes Research and the Director of the Schulich Heart Research Program. As the Jack Tu Chair, he has set the stage for a multifaceted program of research devoted to realizing new possibilities for cardiac care among high-risk communities.

Dr. Ko leveraged donor funding to secure a grant of $2 million from the Canadian Institutes of Health Research to investigate ways to reduce unplanned readmissions to hospital after cardiac events. His research also includes a population-based cohort study focusing on health equity, through the investigation of neighbourhood socioeconomic status associations with mortality and care patterns among people hospitalized with heart attacks in Ontario.

People of East and South Asian descent are often at increased risk of cardiovascular disease.



Dr. Dennis Ko is the Jack Tu Chair in Cardiovascular Outcomes Research, currently researching how socioeconomic status affects the outcomes of people who have heart attacks, made possible by ongoing donor support.

The Jack Tu Chair has a large educational component that enables fellows of East and South Asian descent to lead this research.

"Donor support for the Jack Tu Chair allows me to explore innovative methods to improve the way we care for patients with cardiovascular conditions, with a particular focus on vulnerable populations and health equity," says Dr. Ko.

OUR THANKS TO YOU

Sunnybrook's Schulich Heart Program provides trailblazing care for its patients, thanks to the support of our donors.

Your generosity is a key part of our work, allowing us to drive forward innovative new treatments for patients and their families.

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