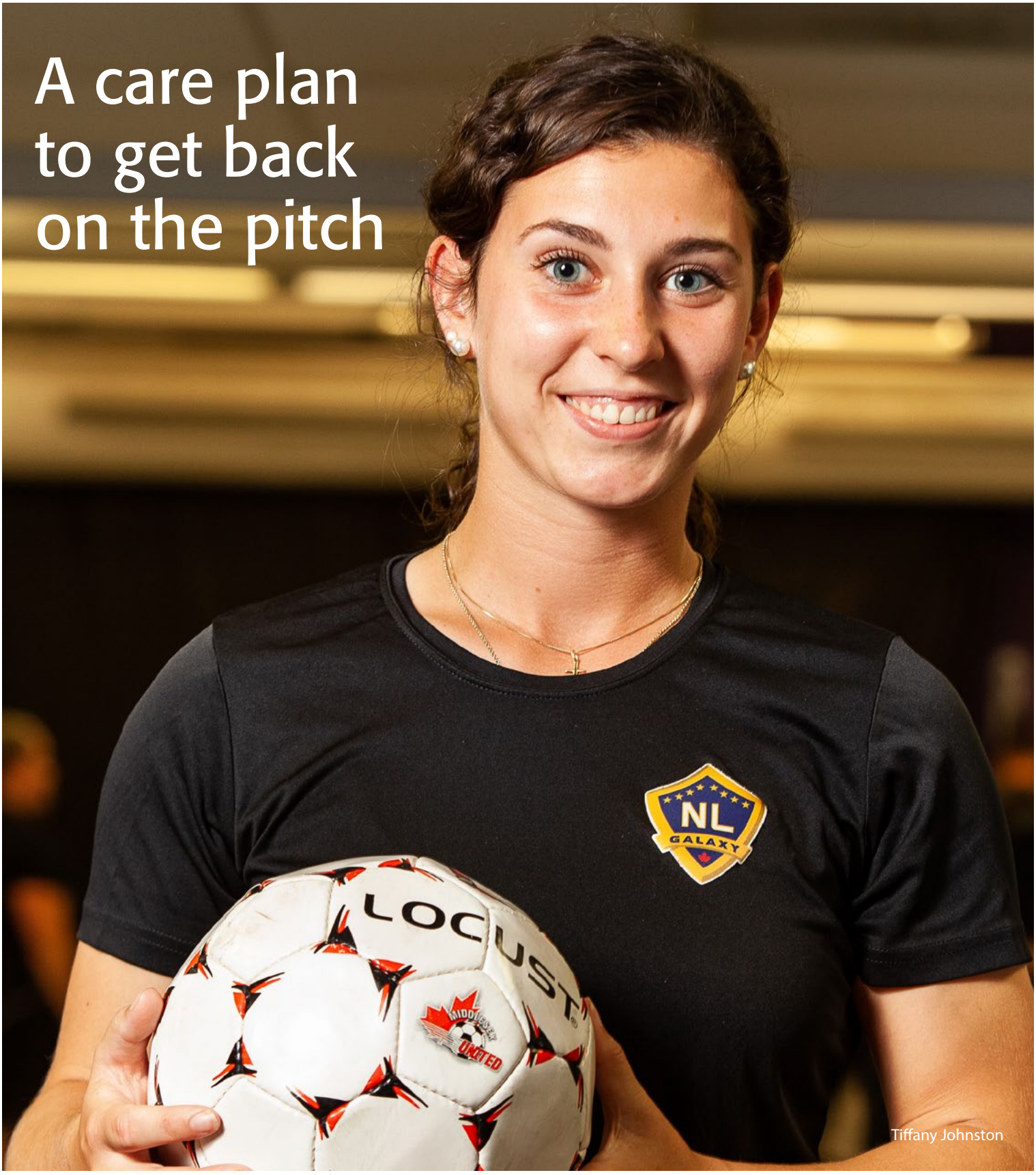
London Health Sciences Foundation

Your IMPACT

ISSUE 03 | WINTER 2019

A care plan to get back on the pitch



Tiffany Johnston

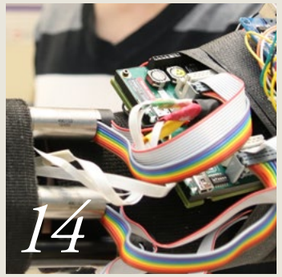
Your IMPACT

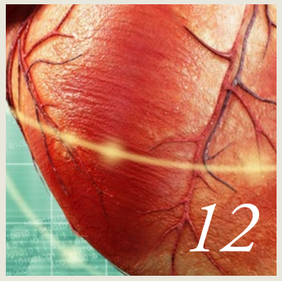
Welcome to the 2019 Winter issue of *Your IMPACT* magazine, where we highlight some of the amazing and unique ways donors like you support advanced treatment, education and research at London Health Sciences Centre (LHSC).

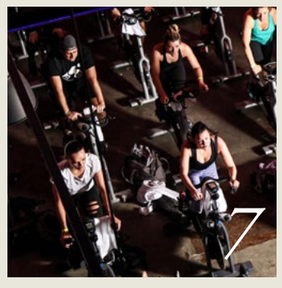
All of the items and projects featured in this magazine were bolstered by the generous support of you, our donors. As you will read, the effects of these contributions are tremendous in enhancing patient care and moving forward life-saving research.

Quite simply, you are making an incredible difference to the patients and families LHSC cares for each and every day.

Thank you.







Message from the Foundation CEO

MESSAGE FROM JOHN MACFARLANE

What a remarkable year it's been – we have so much news to share with you, our donors. This magazine features just some of the ways your support is making a true impact on the care of the patients and families at our hospital.

Highlights of this issue include new breakthroughs in cancer research, the story of an athlete who uses donor-funded equipment to get her back on the soccer field, and the development of a first-of-its-kind prostate cancer detection probe. We are also excited to share that you are helping to purchase new state-of-the-art ultrasound machines that are vastly improving women's health.

We are truly grateful for the incredible generosity of our donors and volunteers for all of your support. Thank you very much.

John MacFarlane
President & CEO
London Health Sciences Foundation

Fowler Kennedy gets varsity soccer player game ready

When a knee injury almost ended Tiffany's varsity soccer career, the team at Fowler Kennedy Sport Medicine Clinic (FKSMC) created a care plan to get her back to where she belongs.

Before she came to London for university, Tiffany tore her anterior cruciate ligament (ACL) – one of the key ligaments that help stabilize the knee joint – and received reconstruction surgery in Toronto. But Tiffany was still in pain while playing for Western University's varsity soccer team.

"I had recovered from my first surgery already, but my range of motion was awful," Tiffany says. The team doctor recommended she have it looked at by Dr. Kevin Willits, an orthopaedic surgeon at LHSC. He discovered Tiffany had a torn meniscus (cartilage between the thighbone and shinbone) and performed a scope surgery to repair it and remove the inflamed tissue.

Following the procedure, Tiffany was happy she chose to go to FKSMC. She says, "It wasn't very long before I was back on my feet."

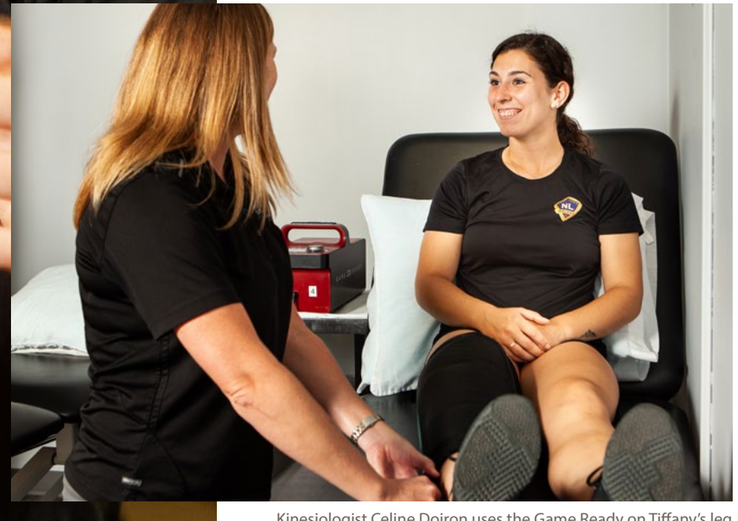
Tiffany's physiotherapy was personalized towards her specific sport.

"They had me doing a lot of agility, and some sprinting and strength training as well," Tiffany says. "A lot of my exercises were focused on stabilizing my knee."

Each of her physiotherapy sessions ends with a machine called Game Ready, which played a big role in Tiffany's quick recovery. Game Ready is a donor-funded piece of equipment that is a part of nearly every FKSMC patient's recovery plan. Game Ready is a cooling and compression system proven to decrease pain, muscle spasms and swelling, while improving physical therapy and reducing the need for pain medication. It can be used on legs, arms, ankles, and shoulders.

Tiffany is so grateful for the care she continues to receive at FKSMC. "After having complications after ACL reconstruction surgery, I wasn't sure I was ever going to be able to play again," she says. "With the help of extensive health care practitioners including sport medicine doctors, surgeons and physiotherapists, Fowler has allowed me to get back into the game."

FKSMC focuses on returning people to their active lives through diagnosis, treatment and rehabilitation and is dedicated to educating patients on how to prevent injury and stay healthy. Donors play a vital role in funding state-of-the art technology and equipment, education and research, and enhanced patient care.



Kinesiologist Celine Doiron uses the Game Ready on Tiffany's leg

The first look – an unforgettable moment

One of the most profound experiences for a pregnant woman and her family is the first ultrasound – the heart beating, the baby moving and the realization that she is nurturing new life.

This experience is now even better thanks to new donor-funded ultrasound machines, which provide detailed imaging and video for parents.

For the care team, the ultrasound is the "window" to the developing baby and mother's health. That window is now clearer with these precise ultrasound technologies that not only provide extensive information about the baby's health and growth – but are also used to detect gynecologic disorders and screen for cancer. Quite simply, they are improving care for women by replacing the older, outdated machines.

A CLOSER LOOK

Features of the new equipment include:

- Touchscreen high-resolution colour monitor that provides exceptional image quality
- Advanced capabilities across a wide range of applications and specialties
- The ability to record and easily save video
- 3D and 4D capabilities
- Full integration with hospital software that optimizes workflow and productivity

One of the new ultrasound machines

"These new ultrasound machines make a world of difference. Not only do they provide a better visual experience for the patient, but they give us more insight into how the baby is developing, which ultimately helps us provide better care."

– Dr. Barbra de Vrijer, Division Head, Maternal-Fetal Medicine, Obstetrics & Gynecology, LHSC

Spin event provides needed updates to cancer program

Blood, Sweat & Spin

Blood, Sweat & Spin – a community event raising money for the London Regional Cancer Program (LRCP) – hosted their inaugural event this past March. The event raised an astounding $42,000 towards patient assistance, research grants and a refresh of the hospital's inpatient adult oncology unit on the C7 floor at Victoria Hospital.

The C7 unit provides care to cancer patients who require lengthy hospitalization in order to receive treatment, so staff members on C7 want to create a more healing environment for their patients.

The program will add new photos to each of the four wings, with each wing representing a different part of Canada. The team on C7 also plan on purchasing mandala art pieces. Mandalas are colourful designs that represent healing and self expression. The program believes that introducing activities such as music nights, crosswords, and colouring will have a positive impact on the experience for patients that stay with them.

Adrienne Fulford, who is a Nurse Practitioner on C7, is confident that these seemingly minor changes will transform the unit into an environment that encourages healing and strength. She says, "Many of our patients are confined to their rooms for the duration of their stay. Small changes like this can have a significant effect on their experience here, and offer a much-needed distraction."

The team on C7 also hopes to use the funds to enhance the experience for the families of patients. Upgrades to their quiet room may include a new tea cart and coffee maker for visitors staying for long periods. They also plan to provide updated information and pamphlets in the quiet room so that patients and their families can access the proper resources necessary to thrive both during and after their stay. All of these updates are designed to improve the patient experience.

Other funds raised by Blood, Sweat & Spin are supporting the Gene Goodreau Cancer Patient Assistance Fund, which helps patients afford treatment-related expenses such as wigs and transportation; and the Catalyst Grants program, which offers seed funding to get life-changing research projects off the ground.

Blood, Sweat & Spin is looking forward to their second event coming up in March 2020. Visit lhsf.ca/events in the new year for details.

Mandala art

Adam Gosney, Social Worker, and Josie Swan-Merrison, Therapeutic Recreation Specialist, with the Nutritower

A helping hand in the darkest hour

Words can't quite describe the impact of the Mental Health Patient Assistance Fund, which is 100 per cent donor funded. For those on the receiving end, it can be life-saving.

Jake* was already a patient of LHSC's Prevention and Early Intervention Program for Psychoses (PEPP) when he came home from a group session to find his mother had died by suicide in the apartment they shared together. Reeling from the trauma, he immediately called PEPP. Not only did the program provide psychological and emotional support during this unbelievably distressing time, but also financial support through the Patient Assistance Fund. Jake received grocery gift cards and bus tickets to help him meet his basic needs, as well as YMCA passes.

Sabrina, another patient of PEPP, battles with psychoses and has taken long breaks from work to focus on getting well. Her social worker gave her grocery cards so she could put food on the table, as well as Walmart gift cards, which allowed her to put a few presents under the tree for her young children at Christmas. This has allowed Sabrina to continue caring for her family, while also taking care of herself.

* A pseudonym

Another patient emigrated from the Congo as a teenager and struggles with memories of his birthplace and a lack of cultural community. For this young man, mental illness led to homelessness until he found PEPP and started on his path to healing.

The Mental Health Patient Assistance Fund is available for patients in emergency, short-term situations when funding from other sources is not available.
It provides items such as toiletries, grocery cards, bus tickets, clothing, prescription funding and child care. The fund directly helps about 350 patients each year in the Mental Health program.

Donations to the Patient Assistance Fund also helped launch a new micro-gardening initiative called the Nutritower. Housed within the PEPP program at Victoria Hospital, the Nutritower allows patients to grow herbs and plants that they can then cook and share with other patients, including patients in the Emergency Department.

"It's been a useful psycho-therapeutic tool that encourages healthy peer interactions," social worker Adam Gosney says. "They can watch their efforts grow before their eyes."

Another initiative the fund supported is a new group treatment modality called Action-Based Cognitive Remediation (ABCR). This program combines the use of interactive technology with a variety of skill-building opportunities to improve cognitive function.

Ultimately, this money helps patients in vital ways – getting them the necessities and treatments they need to get back on their feet, and then supporting them as they transition to employment and stable housing.

"People often come to us [PEPP] from marginalized communities that are relying on social services support for their bare necessities," says Heather Lumley, Director of LHSC's Mental Health Care Program. "Many are young people who never had the chance to integrate into a society that wasn't chaotic due to their illness, environment or circumstances. Donors essentially serve as these patients' anonymous surrogates – providing the bridge between a life negatively impacted by mental illness and one where they can get the help they need to enjoy and contribute to their communities."

The Baines Centre: Where life-saving breakthroughs are made

Dr. Sarah Mattonen, Baines Research Chair in Translational Cancer Imaging

At the Gerald C. Baines Centre for Translational Cancer Research, clinicians and researchers are able to join forces in identifying and solving complex medical puzzles posed by cancer.

Established in 2010 with a donation of $1 million from the Baines Foundation, along with the support from other passionate community members, the Centre has grown and expanded to become a game changer for cancer research and discoveries.

Dr. Sarah Mattonen, who joined the Cancer Research Laboratory Program earlier this year, is making research breakthroughs in two crucial areas. In lung cancer research, she and her team of students and collaborators are extracting information from medical images and patient information to build computer models that help identify the individuals most likely to be cured of their disease. These tools can help physicians determine the best treatment option for those patients.

Dr. Mattonen is also working on a new collaboration with radiation oncologists who are treating head and neck cancers to analyze computerized tomography (CT) images to plan a patient's radiation treatment. The goal is to see if they can identify image features that will predict the outcome and radiation side effects.

Moving forward, Dr. Mattonen and her colleagues will continue to pursue donor-supported research on how to best use patient imaging, and develop software tools to help physicians in clinical decision making, all with the goals of enhancing care and improving patient outcomes.

Donor support has provided the Baines Centre the resources to seek out and develop new diagnostics and treatments that truly change lives.

Baines Imaging Team Dr. Aaron Ward, Dr. Sarah Mattonen and Dr. David Palma

Donors help researchers trace hidden cancers

Dr. Glenn Bauman and Wayne Smith

Cancer is one of the most pervasive and widespread diseases that affects all of us, whether directly or indirectly. Some cancers light up in an imaging scan or can even be visible to the naked eye. Others are so small that they're difficult to detect using even the most advanced imaging.

LHSC physicians may soon be able to spot even the most covert prostate cancers, thanks to new research into the use of injectable probes that seek out the cancer.

This breakthrough will help patients like Wayne Smith, whose suspected prostate cancer is not easily detected in conventional scans or biopsies. Wayne's blood work indicated prostate cancer, but he had several negative biopsies before one revealed cancerous cells at the back of his prostate. To be safe, he decided to have his prostate removed. When his blood tests raised alarm bells once again, doctors ordered a positron emission tomography (PET) scan for Wayne as part of a research trial led by Lawson Health Research Institute, the research arm for LHSC and St. Joseph's Health Care London.

"Nothing showed up on the scan, but that was good news; it meant the cancer was microscopically small," Wayne said.

Dr. Glenn Bauman, Wayne's radiation oncologist, felt confident offering radiation therapy to Wayne's initial tumour site because the PET scan eliminated the guesswork in determining if the cancer had spread.

The potential to reveal sites of cancer when blood tests suggest prostate cancer recurrence is why Dr. Bauman is researching the molecular imaging probe, invented at John Hopkins University and brought to Ontario in collaboration with the Centre for Probe Development and Commercialization. The probe is an injectable tracer that spreads through the body to find spots of cancer, which are then detected by a PET scanner.

Dr. Bauman is co-leading a multi-centre clinical trial in Ontario for patients whose cancers are difficult to identify through standard imaging. The goal is to gain important information to seek Health Canada approval, which would make these PET probes accessible across Canada as a standard of care for all patients with prostate cancer.

"At its most treatable stage, recurrent prostate cancer is often present at only very low levels in the body, making it extremely difficult to detect," Dr. Bauman says. "With this probe, we'll have a better chance of seeing where the cancer is recurring and designing the most appropriate treatment for the patient."

Visionary donors believed in this research from the beginning, leading to this stage of development of the probe – an innovation that promises to change the standard of care for men with prostate cancer.

Genetic research reveals new frontiers of cardiac care


Dr. Jason Roberts

It is shocking when we learn of a young professional athlete who has collapsed and died mid-sport at the height of their career, presumably in peak physical condition. One of the underlying conditions in many cases is Arrhythmogenic Ventricular Cardiomyopathy (ARVC) – a genetic disease of the heart muscle that's aggravated by strenuous exercise.

Though rare compared to certain heart diseases, ARVC affects a wide range of people and may be fatal, whether the individual is an athlete or not. If the gene is present, there's a good chance it can lead to symptoms that range from an erratic heartbeat to cardiac arrest. Until now, treatment is largely palliative, meaning doctors do what they can to protect their patients from dying suddenly, but are unable to address the underlying molecular drivers of the disease.

This is devastating news for patients, especially those who love to stay active or young women who wish to start a family, but who worry their pregnancy or labour may trigger a fatal heart attack.

However, LHSC Cardiologist Dr. Jason Roberts and his collaborators across the globe may be on the cusp of an exciting breakthrough that could help prevent the development of the disease. Through research studies, they are discovering how certain genes can lead to structural changes in the heart causing arrhythmia, and how to prevent those changes. This could lead to a new therapy that can prevent the gene from causing irreversible heart damage.

Thanks to donors who left estate gifts in support of cardiac research, Dr. Roberts was able to move this project forward and is publishing his novel research.

"These kinds of discoveries often require large teams with expertise that reaches from basic science labs to the clinical bedside," Dr. Roberts says. "Donor support is critical to making these kinds of coordinated efforts possible."

Tremor suppression possible with donor-supported glove

Imagine trying to type an email or cook dinner, but your arm is shaking so uncontrollably that you're unable to accomplish these basic tasks.

Many patients with Parkinson's disease – a progressive nervous system disorder that affects movement – have persistent shaking in their arm that makes everything from brushing their teeth to falling asleep difficult. But new hope exists in the form of brand-new wearable technology made possible through donor funding.

LHSC Neurologist Dr. Mary Jenkins, in collaboration with computer, mechanical and electrical engineering researchers at Western University, is developing a tremor suppression glove that could significantly improve patients' quality of life.

This is the first glove of its kind to control the tremor of the entire arm, including the hands and fingers, in two ways:

1. Wires apply a mechanical force that stabilizes and suppresses the tremor
2. Electrical stimulation of the opposing muscles counteracts the tremor

Previous glove prototypes have used either one of these methods individually, but never combined. By using both methods, Jenkins and her team are able to minimize the amount of machinery required, allowing patients to perform day-to-day activities, tremor-free with minimal bulk.

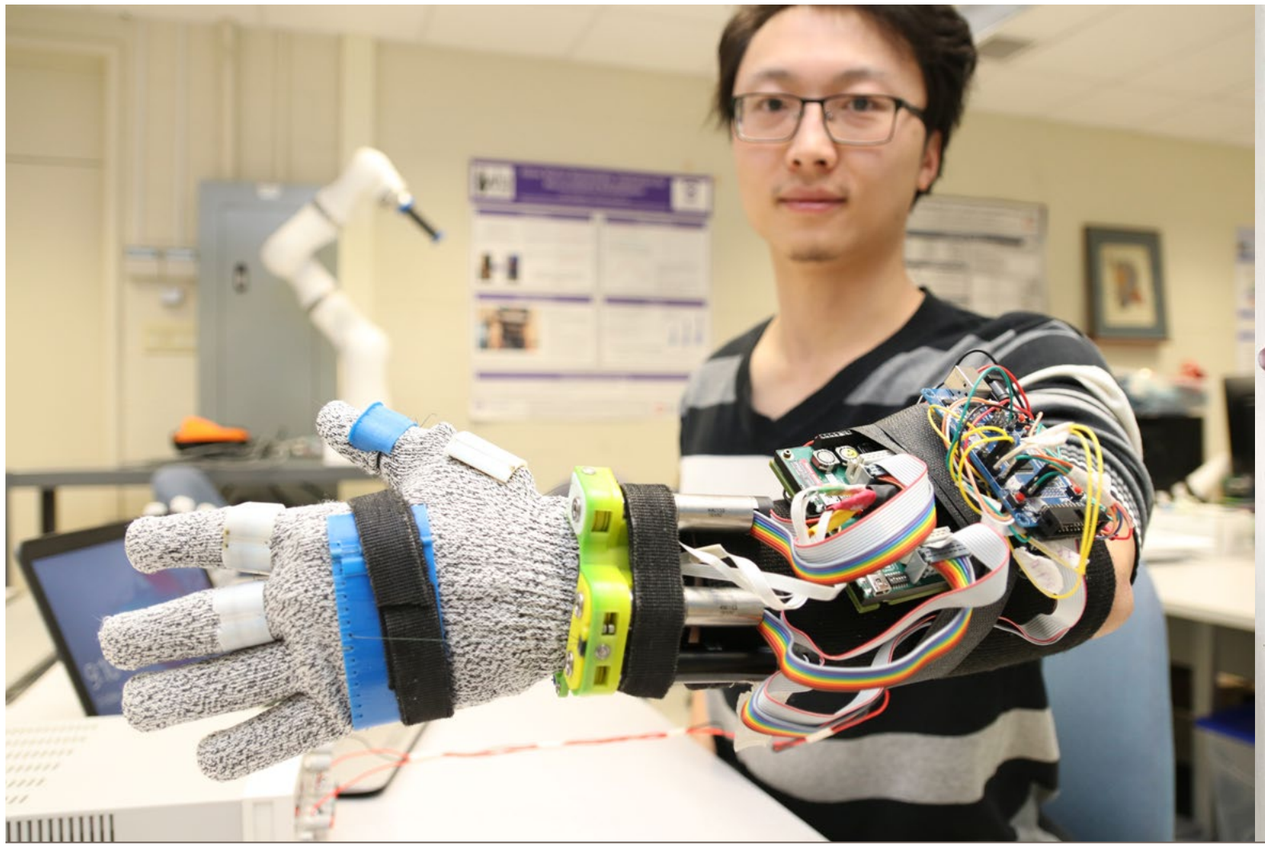
This project is one of the ways Dr. Jenkins is working to help patients with Parkinson's disease manage everyday life until a cure is found. With the help of donors, she's able to take advantage of new technologies, web-based caregiver training and deep brain stimulation programs to help improve the lives of her patients.

"Some of my patients are working and very active," Dr. Jenkins says. "Our goal with this research and with the glove is to manage patients' symptoms enough so that they can lead comfortable and functional lives."

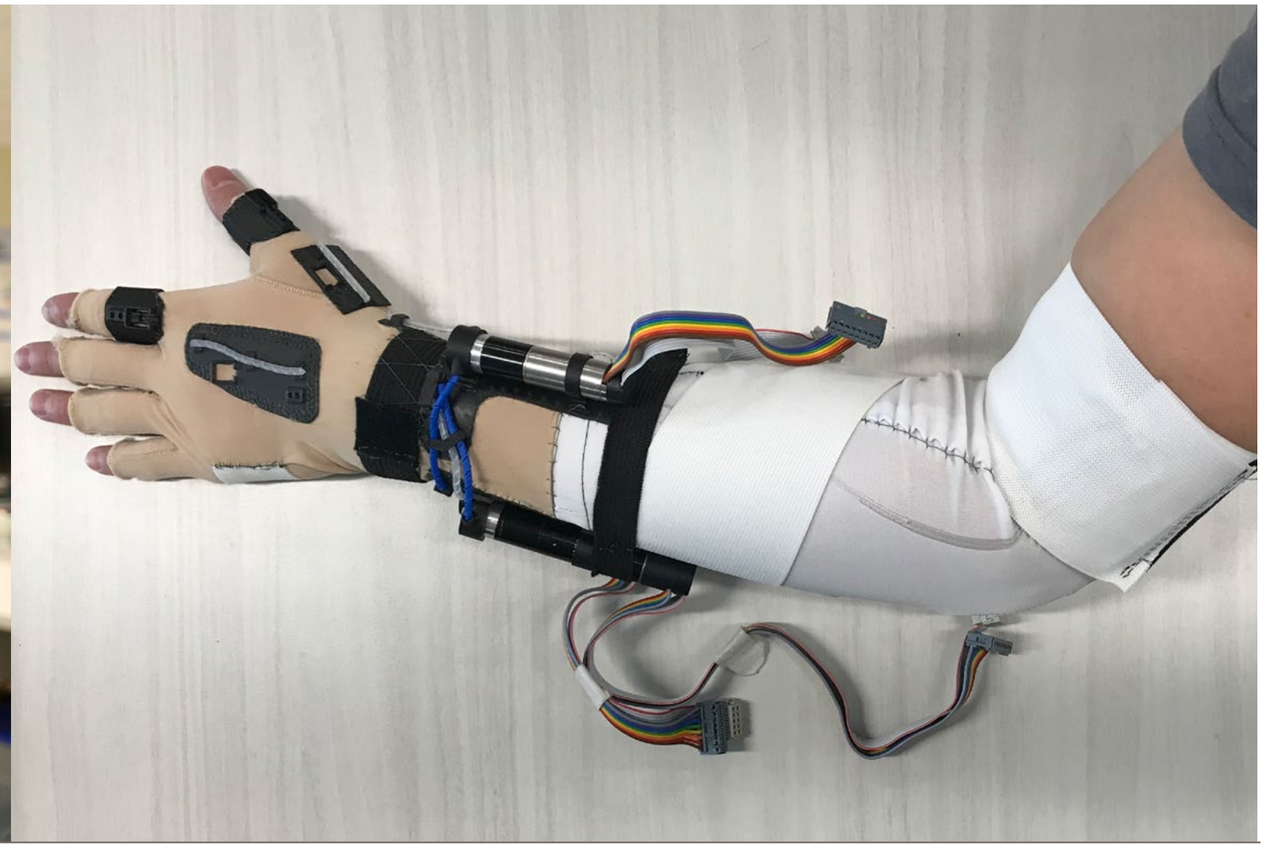
The team is now refining the glove prototype and will focus their next phase of research on trialling the technology on participants who are excited by the possibility of an end to their tremors.

"Tremors are unrelenting," said Ken, a patient and research partner of Dr. Jenkins. "Dr. Jenkins' work on this glove gives me hope that a wearable solution will soon be available for myself and the rising number of people diagnosed with Parkinson's disease each year."

Western University PhD Student Yue Zhou showing one of the first prototypes (Photo courtesy of Paul Mayne)



The glove in its current, more advanced stage of development



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