No longer an idea confined to science fiction, robot-assisted surgery is becoming a treatment option for more medical conditions than ever before. **From spinal care to joint replacements, Nova Scotia is a national leader in surgical robotics thanks, in part, to the extraordinary generosity of QEII Foundation donors.**

Currently, the QEII Health Sciences Centre is the only hospital in Canada that's home to four surgical robots: da Vinci X for cancer surgeries, Medtronic Stealth Autoguide for brain surgeries, Stryker Mako for orthopaedic surgeries, and, most recently, MAZOR X for spinal surgeries.

Donors have supported three of these four surgical robots; making their adoption into clinical care a reality for the Atlantic region. **It's a prime example of the QEII Foundation's$100-million We Are campaign at work and the impact our donor community makes possible – not only on the lives of patients, but the healthcare system as a whole**.

While the procedures and purpose vary with each of the QEII's robots, many benefits are consistent – regardless of the technology – including surgeries tailored to the individual patient, increased surgical precision, shorter hospital stays, and quicker recoveries to name a few.

The QEII Foundation is proud to partner with Nova Scotia Health and Nova Scotia Health Innovation Hub on helping to transform healthcare delivery and ensuring high-impact, donor-funded solutions for our region, like access to surgical robotics.

These initiatives are some of many game-changing projects that are revolutionizing care here at home, through our We Are campaign.

SURGICAL ROBOTICS HIGHLIGHTS

Nearly **1,000 robot-assisted surgeries have been performed** at the QEII.

Recruitment and retention of top medical talent thanks to robotics, including **two robotic surgeons and several researchers and trainees** to date.

For some procedures, the robotics technology enables extremely precise and **minimally-invasive surgeries that otherwise wouldn't be possible**.

4,395 donors have invested in surgical robotics through the QEII Foundation's $100-million We Are campaign.

Unlocks patient access to some of the country's most personalized and precise surgeries – providing faster healing, shorter recoveries and, in many cases, improved outcomes.

SURGICAL ROBOTICS AT THE QEII: A TIMELINE

2019

February 2019

Atlantic Canada's first robot-assisted surgery is performed using the da Vinci X; the $8.1-million initiative is fully donor-funded by the QEII Foundation.

2021

July 2020

The QEII becomes the first centre in Canada to use the Medtronic Stealth AutoGuide robot for brain biopsies.

November 2021

The QEII's first robot-assisted, partial knee replacement surgery is performed using Mako SmartRobotics. The QEII Foundation is raising $2.5 million to fully fund the robotics technology and the accompanying research.

2022

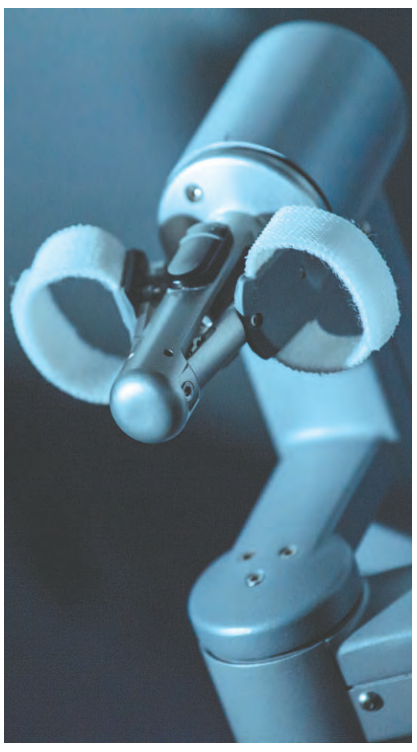
July 2022

Canada's first patient procedure using the MAZOR X spinal robot happens at the QEII, putting the hospital on a national stage. The QEII Foundation is raising $3 million for the initiative.

da Vinci X for cancer surgeries

This technology includes four robotic arms and a 3D camera to help surgical teams perform the most minimally-invasive cancer surgeries possible. The surgeon performs the procedure, controlling the robotic arms while watching a 3D, high-definition video. This technology is currently utilized for certain prostate, kidney, gynecological and ear, nose and throat (ENT) cancer surgeries at the QEII. The da Vinci X is Atlantic Canada's first surgical robotics technology.

Donor support: This $8.1-million initiative is fully funded by the QEII Foundation.



Medtronic Stealth Autoguide for brain surgeries

The Stealth AutoGuide is used for various types of brain surgeries that involve precisely reaching a target in the brain – this includes brain biopsies and placing electrodes in the brain for diagnostic and therapeutic purposes. The surgical planning of the robot-assisted procedure uses the patient's imaging and is done on a computer before the actual surgery. The QEII was the first in Canada to use this robotics technology for brain surgery.

Clare (left) pictured with her daughter

"I'm very grateful to the donors who've put their support and faith into this incredible technology. The impact it's having on patients, like me, is huge."

– Clare Lane,
spinal robot patient

Stryker Mako SmartRobotics for orthopaedic surgeries

The Mako SmartRobotics system — a robotic arm controlled by a surgeon during hip and knee surgeries — allows for unique, case-by-case surgery customized for each patient's anatomy. The robot allows for a joint implant to be positioned more precisely than with the human eye, making orthopaedic surgery more personalized and effective. The QEII was the second centre in Canada to perform a robot-assisted knee surgery using this technology.

Donor support: The QEII Foundation is raising $2.5 million to fully fund the robotics technology and the accompanying research.

MAZOR X for spinal surgeries

The robotics technology uses 3D cameras to develop a 3D simulation of the procedure, which can be planned and visualized prior to the actual surgery or in real-time in the OR. This planning allows surgeons to completely tailor the procedure to the patient and, in some cases, operate in smaller, more precise areas of the spine. The QEII was the first hospital in Canada to perform a patient procedure with the MAZOR X spinal robot.

Donor support: The QEII Foundation is raising $3 million to fully fund the robotics technology and contribute to the leading-edge research and evaluation that will accompany it.