SAINT JOHN
REGIONAL HOSPITAL
FOUNDATION

THE CAMPAIGN FOR SURGICAL EXCELLENCE, **RIGHT HERE AT HOME.**

TOGETHER, WE WILL RAISE $4 MILLION TO ESTABLISH **A STATE-OF-THE-ART ROBOTIC SPINAL SURGERY PROGRAM.**

Mazor™ Robotic Guidance System, MEDTRONIC PRODUCT ™®, Medtronic, Inc.

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YOU AND YOUR LOVED ONES DESERVE THE VERY BEST CARE, **RIGHT HERE AT HOME.**

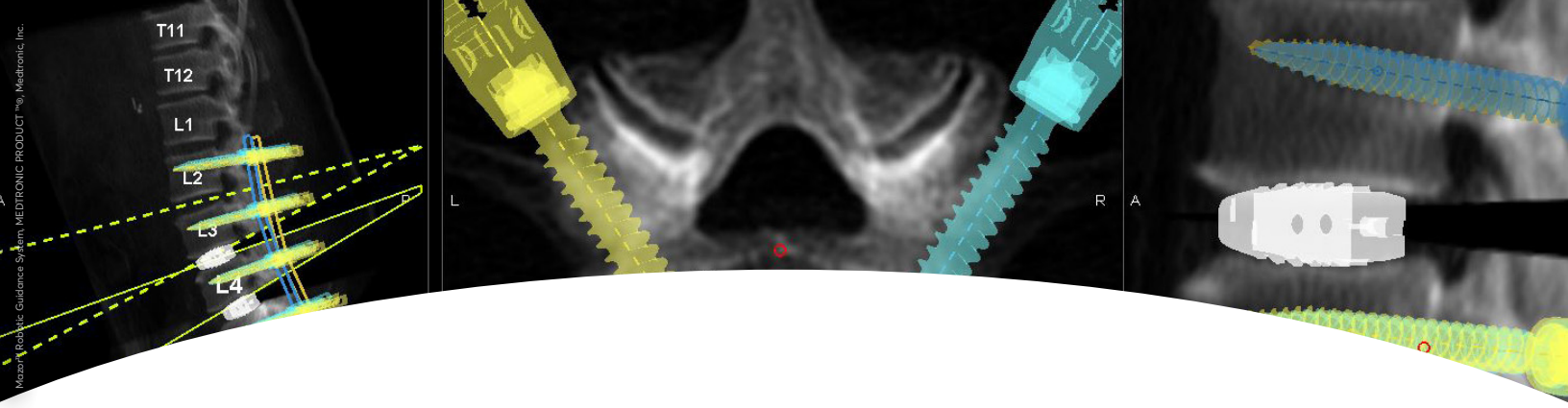
Health care across Canada is under immense strain, and New Brunswick is no exception. We are a growing and aging province with patients spread across rural and urban areas. Wait times are lengthening, demand is increasing, and competition for health care professionals is fierce.

And everyday, over one million people depend on the Saint John Regional Hospital for life-changing and life-saving care.

That's why we are embarking on an immediate campaign to raise $10.5 million to fund two transformational projects: $6.5 million to establish Atlantic Canada's most advanced Hybrid Operating Room and $4 million to create one of the first robotic spine surgery programs in all of Canada.

The Robotic Spine Surgery Program will place the Saint John Regional Hospital among Canada's leaders in advanced surgical technology. With the Mazor X Stealth system, we can offer minimally invasive spine surgeries with unmatched accuracy, reduced recovery times, and better outcomes for patients. It's a giant step forward for our region and a beacon for top-tier surgical talent.

This is our moment to shape the future of health care in our province. Together, we can bring the best technology in the country close to home, to provide exceptional care today and in the years ahead.



PRIORITY

Spinal Robotics Program

$4 Million

The use of robotic systems in various surgical fields has transformed surgery in the past decade, especially in specialties like Urology, General Surgery, and Gynecology.

In 2022, the team at the Saint John Regional Hospital successfully completed the first robotic-assisted surgery case in New Brunswick, using a donor-funded da Vinci surgical system.

Now we are ready to take the next step in our journey as a leader in the field of robotic surgery with the addition one of Canada's first Spinal Robotics Programs to our hospital.

While the da Vinci robot is highly valuable in soft tissue surgeries like those seen by Urology, Thoracic, and General surgery departments, it does not have the specialized abilities needed for advanced Neurology and Spinal surgery.

Spinal robots are in a class of their own, and at the top of the pack is the Mazor X Stealth Edition spinal robot—a magnificent, cutting-edge machine specifically designed for complex Neurology and Spinal surgeries. It is one of the newest and most innovative surgical technologies in the world. It is an essential tool in advancing the skills of today's top spine surgeons and attracting top talent to our hospital in the coming years.

MORE SUPERIOR PRECISION THAN EVER BEFORE IN MEDICAL HISTORY.

Spinal surgeries have traditionally been performed by securing a bone graft to promote fusion between spinal vertebrae and the metal screws that surgeons use.

In many hospitals, this delicate operation is performed by surgeons free-hand, with the aid of fluoroscopy and CT. Due to the highly delicate nature of the spine, surgeries on it are associated with potential complications such as improper screw placement and malposition, which may lead to damaged blood vessels and nerve roots, which can result in deep wound infection and blood loss.

Here at the Saint John Regional Hospital, our surgeons are already using advanced surgical techniques and minimally-invasive technologies, but there is an opportunity to do more and firmly establish our hospital as a national leader in neurological and orthopaedic spinal surgeries.

Like all robotic surgical tools, Mazor X Stealth Edition spinal robot enhances the surgeon's skills to beyond what a human is capable of alone, to deliver superior precision – all while the surgeon retains full control of the procedure. It is cutting edge technology because it enables surgeons to use 3D cameras to create an individualized 3D surgical plan before ever stepping foot in the operating room.

Once surgery begins, the surgeon uses the Mazor X Stealth Edition Spinal Robotic arm to hold key instruments in the exact place they need to be for each patient, based on their

individualized 3D plan. This ensures precision in situations where a millimetre can make the difference between a patient being able to walk or becoming permanently disabled.

Robotic guidance not only vastly improves the accuracy of intervention. Since the surgeon executes the custom 3D surgical plan through incisions, it means the patient's body experiences less trauma, leading to a faster recovery.

Robotic assistance in spinal surgery combines a higher level of assurance and a clear, tailored treatment plan to deliver impressive results.

Recent North American studies show:

98% of patients have recovered without complications at 90 days post-surgery

Hospital stay is 2.6 days shorter compared to patients who receive the open free-hand and fluoroscopy method

This leads to a cost savings of **$2,000 to $3,000**/case

95–99% accuracy in screw placement

5.8 times lower risk of surgical complication

11 times lower risk for revision surgery

OUR DIVISIONS OF NEUROSURGERY AND ORTHOPAEDICS:

The Department of Neurosurgery consists of four neurosurgeons who all practice general neurosurgery, with individual surgeons having specialized interest/training in minimally invasive and complex spine surgery, cerebrovascular, pituitary, neuro-oncology, and anterior/lateral skull base surgery.

The Department of Orthopaedics consists of 3 fellowship-trained spine surgeons with expertise on minimally invasive techniques, paediatric and adult scoliosis and spinal deformity, traumatic spinal injuries, arthritis, and tumour and infection management.

The Neurosurgery Department is associated with Dalhousie University's Medical School and teaches the New Brunswick cohort.

The Neurosurgery team conducts research in a number of areas, with a focus on degenerative and traumatic pathology of the spine. They work in conjunction with the Canada East Spine Centre. They are a member of Canadian Spine Outcomes and Research Network, Praxis, and the National Trauma Registry, which is utilized for specialty research purposes.

Together, the Neurosurgery and Orthopaedics Departments serve over half the population of New Brunswick (~400,000) with a caseload of over 1,000 cases per year.

EMERGING AS A CANADIAN **LEADER AND PIONEER.**

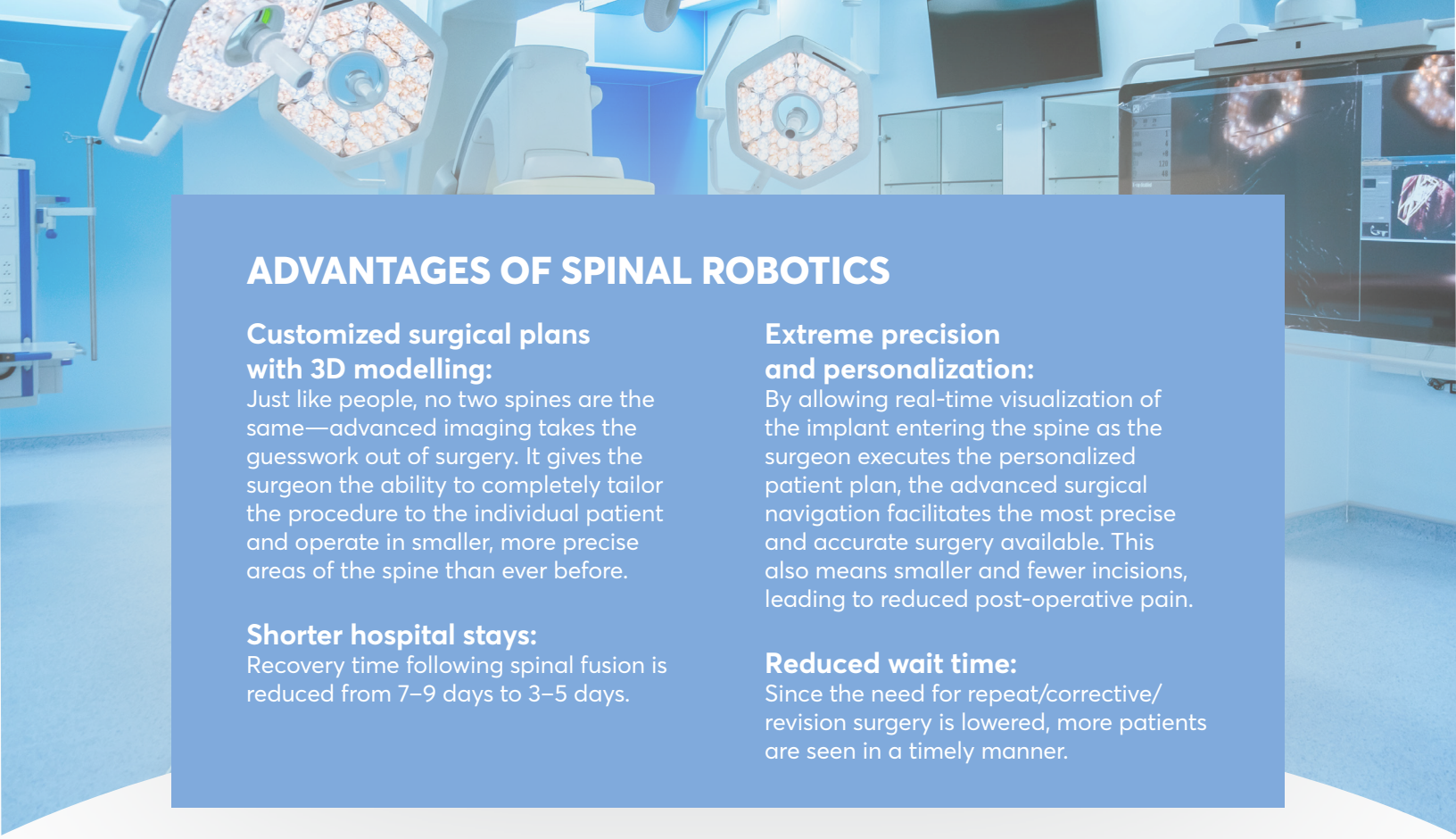
Having a Spinal Robotics Program will place the Saint John Regional Hospital among the first hospitals in Canada to adopt this new technology. The QEII in Halifax was first to introduce a program in July 2022, and performed over 80 surgeries in the first two years. The London Health Sciences Centre in Ontario announced that its team had performed their first spinal robotic surgery in April 2024.

Approximately 30,000 Canadian adults undergo spinal surgery each year. The ability to perform surgeries on extremely delicate tissues and nerves is highly specialized work. We anticipate a vastly increased need for this speciality as our population ages.

The Mazor X Stealth Edition Spinal Robot will transform our ability to conduct surgeries on cases like: spinal fusion, correcting herniated discs, spinal stenosis, degenerative disc disease, and the effective treatment of scoliosis in children. The equipment is also critical for best treatment in emergencies and traumas such as a spine that is injured during a car accident.

We have a unique opportunity in Atlantic Canada to build on the success of spinal robotics at the QEII Health Sciences Centre and establish a regional hub that embodies excellence and a 'virtuous cycle' of innovation. When up and running, the program we envision for the Saint John Regional Hospital will be among the largest in the country and allow us to stand as a national pioneer in this space.

> We are already at the cutting edge in Atlantic Canada. But with the Spinal Robotics Program, we will take things to a whole new level. This can be compared to advancing from a fighter jet to a rocket ship. We will be leading with the most advanced technological solutions available today.
>
> **- Dr. Naj Attabib,**
> Spinal Neurosurgeon



ADVANTAGES OF SPINAL ROBOTICS

Customized surgical plans with 3D modelling:
Just like people, no two spines are the same—advanced imaging takes the guesswork out of surgery. It gives the surgeon the ability to completely tailor the procedure to the individual patient and operate in smaller, more precise areas of the spine than ever before.

Shorter hospital stays:
Recovery time following spinal fusion is reduced from 7–9 days to 3–5 days.

Extreme precision and personalization:
By allowing real-time visualization of the implant entering the spine as the surgeon executes the personalized patient plan, the advanced surgical navigation facilitates the most precise and accurate surgery available. This also means smaller and fewer incisions, leading to reduced post-operative pain.

Reduced wait time:
Since the need for repeat/corrective/ revision surgery is lowered, more patients are seen in a timely manner.

NEUROSURGICAL **FELLOWSHIP.**

If we invest in spinal robotics equipment, we must also invest in the people who use them, ensuring we have the skills and departmental capacity. As part of advancing our goal of surgical excellence, and in tandem with the development of our spinal robotics program, the Saint John Regional Hospital hopes to establish New Brunswick's first-ever Fellowship Program in the province: a General Neurosurgical Fellowship.

This funding will cover the salary of one fellow each year, for five years. It will also provide a modest budget to support the fellow's participation in research and allow them to travel to other centres in Atlantic Canada to observe, learn, present, and attend conferences.

The ability to offer neurosurgical fellowships is a hallmark of leading centres and will enable our hospital to attract outstanding young surgeons for advanced training under the guidance of our expert surgeons for a period of one year. This will be especially important as we position ourselves as a leading centre for new technologies and look to attract excellent young surgeons who want to work with state-of-the-art surgical equipment and technology.

Clinical fellowships in neurosurgery are essential in developing a new generation of highly skilled surgeons. Providing additional specialized clinical and research training to qualified young surgeons wishing to advance their skills and further specialize is imperative to growing this program.

Each year, the visiting fellow will help run the Neurosurgical Department at the Saint John Regional Hospital with oversight from surgical leaders. On OR days, the fellow will assist and, dependent on the type of case and the fellow's level of skill, actively participate and advise on cases.

Fostering the development of trainees and young surgeons is essential to expanding the capacity of the department, as well as positioning the Saint John Regional Hospital as a high-profile destination for top future talent. home.

ADVANCING **SPINAL RESEARCH** TO TRANSFORM PATIENT CARE.

New Brunswick is home to the Canada East Spine Centre (CESC), a nationally renowned research institute under the Horizon Health Network, and one of the leading spine surgery research facilities in Canada. Affiliated with Dalhousie Medicine New Brunswick and collaborating closely with the University of New Brunswick, CESC boasts a multidisciplinary team comprising orthopaedic spine surgeons, orthopaedic surgeons, neurosurgeons, physiatrists, nurses, physiotherapists, students, and researchers. CESC are leading contributors to the Canadian Spine Outcomes and Research Network (CSORN), a Praxis Spinal Cord Institute site and co-founders of the Paediatric Registry for Spine Outcomes and Research Metrics.

The Spinal Robotic Program at the Saint John Regional Hospital will offer a unique opportunity to harness the expertise of the CESC to drive groundbreaking spine research.

Through its Robotics Research Program, CESC will assess the impact of robotic-assisted surgery on patient outcomes, robotics training, and overall health systems.

A key component of the program will be collaborating to conduct a national prospective study through the CSORN, encompassing 22 centres across Canada, to collect and analyze comprehensive pre- and post-operative patient data.

Additional research priorities include evaluating surgeon learning curves and their effects, analyzing the economic impact of robotic-assisted surgery on hospital systems, patients, and the broader health care system, and studying both the immediate and long-term outcomes of robotic-assisted surgery across diverse and at-risk patient populations.

TOGETHER, WE CAN BRING THE **FUTURE OF SURGERY HOME.**

With your support, we can usher in a new era of surgical excellence, right here at home.

Philanthropy is at the core of our ability to provide state-of-the-art health care to New Brunswickers. Every contribution—a monthly gift, a leadership gift, or a gift in your will—is significant, and impacts the future of health care in our province.

Your investment in the Campaign for Surgical Excellence will ensure that we are here for you and your loved ones when it matters the most. With your help, we can provide our community with the very best standard of care, right here at home.

Let's bring the future of surgery home, together.

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