



Robotic Oncologic Surgery at Lakeshore General Hospital

Dr. Yasmin Halwani
Dr. Assaad El-Hakim
Tara Glover, inh.



Lakeshore General Hospital



- Community hospital founded in 1965 with private donations coming from businesses and the public;
- At the heart of the Montreal West Island Community;
- Proud McGill University affiliate;
- Newly open GMFU project (family medicine teaching clinic) will exponentially grow our residency program;
- Full suite of clinical services within a community hospital (cardiology, pneumology, gastroenterology, surgery, oncology, nephrology, etc.);
- Lakeshore emulates quality of care for its patient population.

Hospital Care Overview at LGH

2023-2024

CAPACITY

255
SHORT-TERM BEDS



14
OPERATING ROOMS



31
STRETCHERS IN THE
EMERGENCY ROOM



27
DIALYSIS CHAIRS



1
MATERNITY
CENTER



15 171
PHYSICAL HEALTH
HOSPITALIZATIONS

18 949
SURGERIES

38 203
EMERGENCY VISITS

22 163
DIALYSIS TREATMENTS

1 523
BIRTHS

89 542
MEDICAL IMAGING
PROCEDURES

172
MENTAL HEALTH
HOSPITALIZATIONS

11 669
ENDOSCOPY
PROCEDURES

8 860
NUCLEAR MEDICINE
PROCEDURES

VOLUMETRICS

Lakeshore in transformation

Projects Completed:

- Brand new modular emergency room;
- Newly open GMFU project;
- Command Center (2nd deployed in Quebec);
- Robot for orthopedic surgeries (1st Velys Robot in Quebec);
- Artificial intelligence to personalize patient nutrition (1st in Quebec);
- Hospital at home – Virtual Monitoring (2nd in Quebec);
- Artificial intelligence in radiology (1st in Quebec);
- Innovation in respiratory therapy – AI-assisted oxygen therapy (1st in Canada);
- Virtual reality – Treating ICU patients (1st in Canada).

Command Center



New modular emergency



Virtual Reality



Robot for orthopedic surgeries



Hospital at home

Lakeshore in transformation

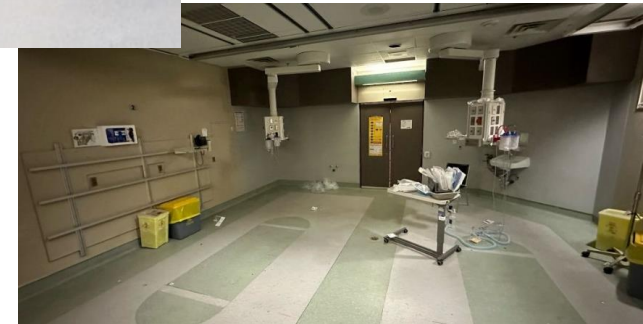
Upcoming Projects:

- Simulation center with smart mannequin and McGill VR (immersive learning);
- Ultraviolet sterilization AI robot (1st in Quebec);
- Hospital cleaning robot;
- Super Sublime (VR Headset)– Treating anxiety
- Brand new 38,000 sqft emergency room by 2028

Cleaning robot

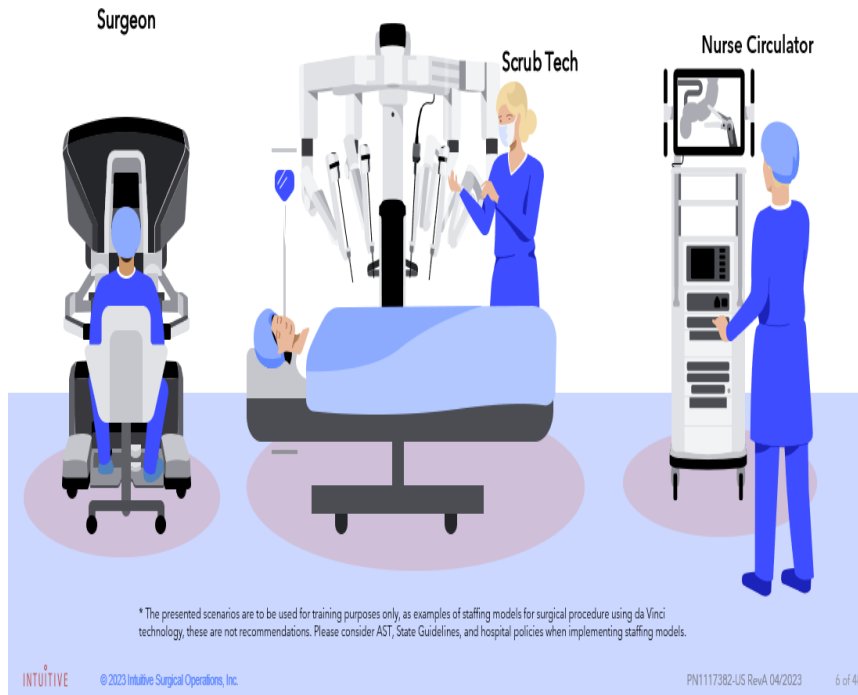


VR headset



Where the future simulation room will be

What is Robotic Surgery?



- **Robotic surgery, a.k.a. RAS**, refers to a **minimally invasive surgical technique** where specialized robotic systems allow the surgeon to **perform procedures with superior precision and control**.
- **Robotic surgery is superior** to open surgery and conventional laparoscopy, as it combines the surgeon's own skills with the robotic platform to **improve the quality and safety of procedure**.
- **More than 8 hospitals in Quebec** use an RAS in both **community and university hospitals**.

Overview of Oncology Program at LGH



Increased complexity of cases due to aging population, comorbidities and increased body mass index .



LGH is about ensuring proximity of care, we offer a full suite from medicine, surgery to diagnostic for our patients.



West Island patients who need access to some specialized or ultra specialized care (ex: robotic assisted surgery) are subject to long, and often hazardous, wait times at other institutions.

Cancer Types at LGH:

- Breast Cancer
- Thyroid Cancer
- Melanoma
- Lymphoma
- Colon Cancer
- Rectal Cancer
- Prostate Cancer
- Renal Cell Carcinoma

Technical benefits of RAS

Precision

Robotic surgical instruments are specially designed to replicate the surgeon's hands' range of motion while filtering out tremors or unintended movements.



Improved access to the narrow pelvis

Critical for colorectal surgery, prostate surgery and gynecologic surgery



Three-dimensional visualization

- High-quality 3D visualization of the surgical field, offering depth perception and spatial awareness that surpasses traditional 2D laparoscopy.
- Improved ability to navigate anatomical structures safely and accurately.
- Allows for better identification of critical structures and precise instrument placement



Enhanced dexterity

- The robotic arms can rotate 360 degrees and allow a greater range of motion.
- Critical for working in small confined spaces and performing complex tasks.



Patient Care Benefits with RAS



- Shorter patient hospitalizations;
 - Many surgeries performed robotically can be performed as day surgery;
- Smaller surgical incisions with improved recovery;
- Reduced intra-operative blood loss and decreased need for transfusion;
- Decreased post-operative pain;
- Decreased length of stay (LOS);
- Faster return to work and activities;
- Decreased emergency room visits and re-admissions;
- Improved cancer control;
- Improved bowel, bladder and sexual function.

Since 1998, over 18,000 peer-reviewed publications and over 2,900 comparative studies with a high level of scientific evidence have demonstrated the clinical benefits of Robotic Surgery.

Applications of Robotic Assisted Surgery at LGH

Urology & Gynecology

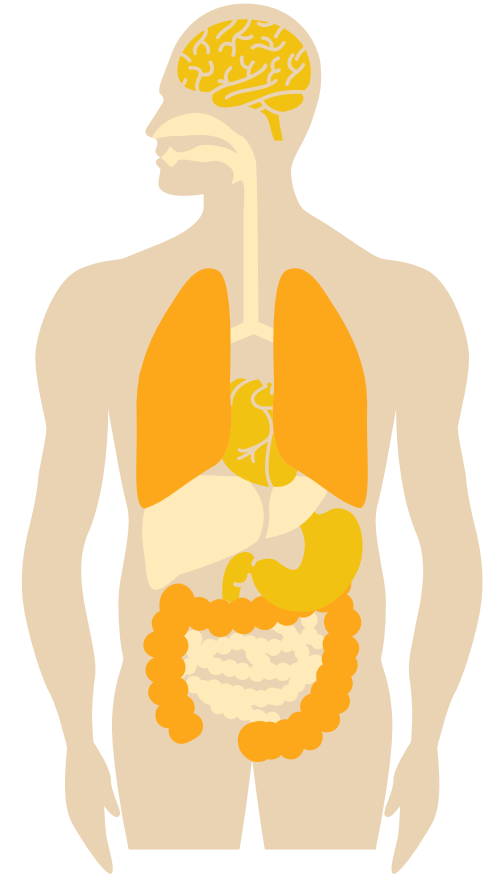
- Surgical procedures that we are doing at LGH in minimal invasive surgery would now be feasible with RAS
- Two new surgeries could now be available at LGH with RAS:
 - In urology – Prostatectomy
 - In gynecology – Hysterectomy

Colorectal Surgeries

- Surgical procedures that we are doing at LGH in minimal invasive surgery would now be feasible with RAS

General Surgery & ENT

- Non-oncological surgical procedures also feasible with RAS

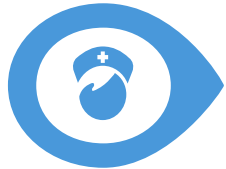


Stronger Surgical Team with RAS



Surgical team

Allowing this state of the art surgery to be performed at the LGH will **attract, recruit and retain the best young graduates** to join the team, as more complex procedures will be performed.



Nursing

As **young nurses wish to be part of the current standard of care**, and form a **dedicated team of nurses sub-specializing in RAS**, which is a natural addition to laparoscopic and laser guided surgical programs (MIS – minimally invasive surgery)



Teaching

The LGH is a **RUIS McGill affiliated teaching center**, the RAS Program **increases availability for medical education** not just in the department of Surgery, by also Anesthesiology & Pain Management, Nursing, Technicians and Technologists.



Research

RAS program will work seamlessly with McGill University, Cedars Cancer Centre, Rossy Cancer Network, and Goodman Cancer Centre to **provide impeccably integrated cancer care for West Island cancer patients**, and **provide access to research protocols when available**.

Cost of Projects

INTUITIVE
SURGICAL®

Medtronic



Acquisition by

2025

Why we need Robotic-Assisted Surgery at LGH?



Technology

Robotic-Assisted Surgery has evolved beyond the experimental stage, and is now considered **standard of care in pelvic surgery**. Patients are increasingly seeking access to surgeons and hospitals with access to this technology.



Center of Excellence

Lakeshore General Hospital has an opportunity to **become a center of excellence in advanced minimally invasive surgery** for its growing population.



Improved Efficiency

Lakeshore has experienced surgical teams ready to utilize this technology that will lead to **improved patient outcomes, increased surgical efficiency, decreased surgical waitlists and result in health care system savings**.



Academic Mission

Access to Robotic-Assisted Surgery will **strengthen our academic mission and partnership with McGill University**, allowing Lakeshore to attract and retain top talent in medicine, nursing and respiratory therapy.



Excellence in Patient Care

Our hospital must be part of the technological evolution that is extending the capabilities of health teams to **provide excellence in patient care**.



Thank You!