Organization:

Fillable 2025 Sustainable Operating Room Scorecard

Sustainability Strategy	Score			Criteria
Sustainability Leadership				➔ See The Strategy for Change in the CASCADES Sustainable Perioperative Care Playbook
1. Implement leadership structure to support perioperative environmental sustainability Playbook Section: Green Teams	☐	☐	☐	**Green criteria:** • Formalized Environmental Sustainability Perioperative Committee with broad representation that reports at perioperative meetings and has an executive sponsor, *AND* • Committee structure allows for protected time for clinical staff to participate in regular meetings and implementations **Amber criteria:** • A green team of volunteers who engage in activities to improve sustainability of the operating room has been established
Anesthetic gases				➔ See Minimize Direct Emissions in the CASCADES Sustainable Perioperative Care Playbook

2. Eliminate desflurane for surgical procedures requiring general anesthesia
 	
Playbook Section: Desflurane
	☐	☐	☐	**Green criteria:**
				• Desflurane removed from formulary, *OR*
				• Desflurane completely removed from operating rooms
				Amber criteria:
				• Provide education on environmentally friendly gases, *AND*
				• Implement formal program to discourage use of desflurane, which could include:
				  ◦ Carbon intensity warning stickers placed on desflurane vaporizers
				  ◦ Sevoflurane is the default gas on the vaporizer
				  ◦ Desflurane vaporizers removed from anesthetic machines
				  ◦ Desflurane not available in operating rooms but can still be accessed from automated medication dispensing system (i.e., Omnicell, Pyxis MedStation)

Reusables				➔ See Substitute Reusable Alternatives in the CASCADES Sustainable Perioperative Care Playbook

3. Establish reusable anesthesia equipment in place of single use/disposable products
 	
Playbook Section: Reusable LMAs
 	
Playbook Section: Breathing Circuits
	☐	☐	☐	**Green criteria:**
				• Reusables used instead of single-use products for 2-3 of the following items:
				  1. Circuit face masks
				  2. LMAs
				  3. Breathing circuits (or extended use circuits in lieu of reusables, for ≥ 24 hours)
				Amber criteria:
				• Reusables used instead of single-use products for 1 of the above items

4. Reusable sterile surgical gowns
 	
Playbook Section: Reusable Gowns
	☐	☐	☐	**Green criteria:**
				• Routine use of reusable sterile surgical gowns
				Amber criteria:
				• In the process of transitioning to sterile surgical reusable gowns, which may include:
				  ◦ Removing from custom packs
				  ◦ Removing from sterile core
				  ◦ Developing support from operating room management/leadership
				  ◦ Developing support from clinical staff
				  ◦ Implementing trials of reusable gowns

Achieved the sustainability strategy Partially achieved the sustainability strategy Did not achieve the sustainability strategy

Sustainability Strategy	Score			Criteria
Reusables (Continued)				➜ See Substitute Reusable Alternatives in the CASCADES Sustainable Perioperative Care Playbook

5. Encourage patients to bring their own reusable belongings bags
 	
Playbook Section: Garment Bags
	☐	☐	☐	**Green criteria:**
				• Amber criteria, *AND*
				• Disposable patient belonging bags are provided to no more that 20% of patients (average across ORs, including all elective outpatient/inpatient surgeries and excluding emergency), achieved through a "bring your own" program where patients bring their own bags and/or storage solutions that do not involve disposables
				Amber criteria:
				• Program is in place to reduce use of disposable patient belongings bags by:
				  ○ Encouraging patients to bring their own reusable bags (through appointment communications, surgery pamphlets, and posters), *AND/OR*
				  ○ Providing patients with storage options that do not involve single-use bags (i.e. by providing pillowcases, bins, lockers)

6. Use rigid containers or reusable linens in place of blue polypropylene wrap to protect sterilized trays	☐	☐	☐	**Green criteria:** • Rigid containers and reusable linens are used to protect at least 75% of sterilized trays, *AND* • Blue wrap is used only for equipment that is too irregular in shape or size to be inserted into a hard case and is unsuitable to be wrapped in reusable linens **Amber criteria:** • Rigid containers and linens are used to wrap at least 50% of trays (i.e., 50% or less of trays are wrapped in blue wrap)
Waste Reduction & Management				➜ See Reduce & Manage Waste in the CASCADES Sustainable Perioperative Care Playbook
7. Segregate biomedical and pharmaceutical waste accurately Playbook Section: Pharmaceutical Waste Playbook Section: Biomedical Waste	☐	☐	☐	**Green criteria:** • Education/training on proper waste segregation (pharmaceutical, biomedical and sharps), *AND* • Regular waste audits (minimum once per year) **Amber criteria:** • Educational signage on accurate waste segregation, *OR* • Education/training on proper waste segregation (pharmaceutical, biomedical and sharps)
8. Lean trays and/or custom packs to include only frequently used items Playbook Section: Custom Packs	☐	☐	☐	**Green criteria:** • Amber criteria, *AND* • Each surgical division has at least one lean surgical tray and/or custom pack for at least one high volume surgical procedure **Amber criteria:** • Developed process for yearly review/audit of surgical trays and/or custom packs, *AND* • Developed process to make changes to surgical trays and/or custom packs based on review

The **CASCADES Sustainable Perioperative Care Playbook** provides background information and implementation resources designed to address environmental sustainability in perioperative care.

To access the full playbook, go to cascadescanada.ca/resources/sustainable-perioperative-care-playbook/

Sustainability Strategies	Score			Criteria
Energy Management & Facilities				➔ See Minimize Direct Emissions in the CASCADES Sustainable Perioperative Care Playbook

9. Reduce the use of disposable absorbent blue pads, "bluey"	☐	☐	☐	**Green criteria:**
				• At least 80% reduction of procurement of disposable blue pads by reducing use, repurposing available materials, and/or replacing with reusable alternatives
				Amber criteria:
				• A process has been started to assess and reduce the quantity of disposable blue pads, which may include:
				  ○ Assessing current usage and reduction opportunities:
				  ▪ Quantifying number of pads used over a specific time period, *AND/OR*
				  ▪ Determining the purposes for which blue pads are used (i.e. padding to prevent pressure injury, absorb surgical prep, resorption of body fluids in surgeries, etc.)
				  ○ Discouraging unnecessary use by:
				  ▪ Moving blue pads out of operating room
				  ▪ Providing education/training to clinical staff on the environmental impact of disposable blue pads and reduction strategies, which may take the form of in-services, newsletters, and posters
				  ○ Replacing disposable blue pads, where appropriate, with:
				  ▪ Repurposed materials: existing materials from the operating room set-up (e.g. wrap from surgical sets or trays)
				  ▪ Reusable alternatives: work with procurement on purchasing reusable alternatives for the blue pads

10. Reduce nitrous oxide use and leaks
 	
Playbook Section: Nitrous Oxide
	☐	☐	☐	**Green criteria:**
				• Amber criteria, *AND*
				• Implement the following strategies to reduce nitrous oxide use and leaks:
				  ○ N_2O no longer used as a carrier gas, *AND*
				  ○ No longer using bulk N_2O tank or centralized piped nitrous as a supply source (switch to cylinders at point of use)
				Amber criteria:
				• Provided education/training on minimizing clinical use of N_2O
				• A strategy has been initiated to engage and seek support from key stakeholders, including clinical leads (anesthesia and obstetrics), facilities, biomedical engineering, pharmacy, and procurement. A working group may be established to determine current clinical usage and alternatives to central nitrous delivery.

Strategies achieved across TAHSN				➔ See Minimize Direct Emissions in the CASCADES Sustainable Perioperative Care Playbook
Use ≤0.5L/min fresh gas flow *Note: this item has been achieved at all sites possible across the network.* Playbook Section: Use Low Flow	☐	☐	☐	**Green criteria:** • Routine use of automated control of end-tidal inhalation anesthetic concentration programs with minimal fresh gas flows of ≤ 0.5L/min (EtControl TM on GE or Target Controlled Anesthesia on Draeger) **Amber criteria:** • Provide education to encourage minimal fresh gas flows ≤ 0.5L/min

Additional Sustainability Strategies

Reusables	<u>Use reusable linens</u> • Use exclusively reusable drapes, where appropriate • Wear exclusively reusable scrub hats • Have a program in place that raises awareness of reusable linens and encourages their use <u>Reuse laryngoscopes</u> • Use exclusively reusable laryngoscope blades (standard, Glidescope, C-Mac) <u>Use reusable temperature probes</u> • Use exclusively reusable temperature probes <u>Devise a reuse policy</u> • Review hospital policies to ensure that items in the room (but not on the sterile field or ones that come in contact with the patient) can be returned to shelves, reused, or recycled
Reduce pharmaceutical drug waste	• Use prefilled syringes whenever appropriate for medication/patient • Appropriately sized vials • Constantly monitor expiry dates and label medications that will expire soon as "use first" • Reuse multi-use medications until the vial is empty instead of throwing out at the end of every case (according to <u>Public Health Ontario Policy</u>) • Use single dose vials when possible • Create a program for pharmaceutical waste bins with appropriate education
Waste	<u>Reduce paper use</u> • Reduce and, wherever possible, eliminate the printing of daily operating room lists • Implement electronic dashboards to support communication, and ensure that the OR lists are available electronically <u>Use single peel pouches to decrease waste</u> • When sterilizing individual instruments, use a single peel pouch to decrease waste, unless the manufacturer's instructions (IFU) differ <u>Reduce the use of disposable pads</u> • Reduce unnecessary use of disposable plastic-backed bed pads (e.g. blue pads, abd pads, etc.) • When an alternative is required, utilize alternatives with lower environmental footprint, such as reusable green towels <u>Eliminate use of "bunny suits"/ white disposable polypropylene suits</u> • Use reusable gowns (e.g. yellow or green surgical gowns) for visitors into the operating room (e.g. in obstetrics, guardians or care givers who accompany children for induction, non-clinical staff) • All hospital staff should change into OR-issued scrubs before entering the operating room <u>Pursue re-manufacturing of single-use devices</u> • Where reusable devices are not available and single-use devices are in use, collect these for remanufacturing • Purchase back remanufactured devices when reusable devices are not available <u>Implement medical PVC 123 or PVC 123+ recycling program</u>

Additional Sustainability Strategies (Continued)	
Energy Management & Facilities	<u>Reduce energy consumption from HVAC systems</u> • Implement HVAC timer/setback system for when OR not in use • Implement OR-specific heating/cooling system • Implement heat reclamation system <u>Reduce energy use from operating room lights</u> • Implement LED surgical lights and LED operating room lights • Implement 'Good Night Policy' (i.e. shut off oxygen, lights, and equipment as feasible when room is unoccupied. For lights, either implement a setback to ambient lighting or manually turn them off)
Low-Value Care	<u>Reduce low-value pre- and post-op visits and testing</u> • Decision-tool to aid in consensus around necessity of specific tests in place to eliminate low-value pre- and post-op testing • Lower-carbon test options are considered when testing is necessary • Virtual visits are offered when appropriate <u>Reduce unnecessary blood product wastage</u> • Deliver education around wise blood use • Transfusions only done when clinically indicated • Stock of blood products audited to determine proper ordering frequency/volume • Blood products are ordered in accordance with use (avoid excessive overordering; monitor expiration dates)

Notes

2025 Sustainable Operating Room Working Group

The Sustainable Health System Community of Practice developed this scorecard to assess the current state of sustainable practices in operating rooms across the Toronto Academic Health Science Network (TAHSN). The scorecard is updated annually by the Sustainable Operating Rooms Working Group, which has representation from all TAHSN organizations, and in consultation with additional experts and evidence in literature.

TAHSN Representatives	
SickKids	• Dr. Elaine Ng, Staff Anesthesiologist; Co-chair, Perioperative Care Unit Green Committee; Director of Education, Department of Anesthesia and Pain Medicine • Cameron Irani, RN, MN
Humber River Hospital	• Jhanvi Solanki, RN, MN, Vice President, Clinical Programs
Michael Garron Hospital	• Dr. Tenille Ragoonanan, Anesthesiologist; Perioperative Team Champion for Sustainability • Wissam Halimeh, Quality Manager
North York General Hospital	• Dr. Melissa Ho, Anesthesiologist; Co-lead Perioperative Sustainability
Scarborough Health Network	• Dr. Kim-Chi Tran, Urologist
Sinai Health	• Dr. Soniya Sharma, Anesthesiologist
Sunnybrook Health Sciences Centre	• Dr. Martin Van der Vyver, Anesthesiologist; Co-Chair, Green OR Task Force • Barbara McArthur, Patient Care Manager; Co-Chair, Green OR Task Force
Trillium Health Partners	• Dr. Anita Rao, Anesthesiologist (Working Group Chair); Physician Lead of Environmental Sustainability • Dr. Munir Jamal, Head, Division of Urology
Unity Health Toronto	• Laurie Thomas, Senior Clinical Director of Surgery • Dr. Sarah Ward, Orthopaedic Surgeon, St. Michael's Hospital • Dr. Ali Abbass, Anesthesiologist; Chief of Environmental Stewardship and Sustainability, St. Joseph's Hospital
University Health Network	• Dr. Laura Donahoe, Thoracic & Lung Transplant Surgeon; Operating Room Green Team Lead, Toronto General Hospital
Women's College Hospital	• Dr. Karen Devon, Endocrine and Thyroid Surgeon
Department of Surgery, University of Toronto	• Emily Pearsall, Manager, Best Practice in Surgery
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