

Change Ideas 2024-2025

**Ontario
Surgical Quality
Improvement
*Network***

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**Ontario
Health**



Cut the Carbon

The following *Cut the Carbon* change ideas are in alignment with the [Sustainable Perioperative Scorecard](#)

Cut the Carbon

Indicator: Sustainability Leadership

Change Idea	Process measure
Create a formalized environmental sustainability perioperative committee	% of surgical types where a leadership structure to support perioperative environmental sustainability has been established ↑

Cut the Carbon

Indicator: Low-Value Care

Change Idea	Process measure
Don't perform stress cardiac imaging or advanced non-invasive imaging as a pre-operative assessment in patients scheduled to undergo low-risk non-cardiac surgery.	% of surgeries where unnecessary imaging was ordered ↓
Don't order baseline laboratory studies (complete blood count, coagulation testing, or serum biochemistry) for asymptomatic patients undergoing low-risk non-cardiac surgery.	% of surgeries where unnecessary laboratory studies were ordered ↓
Don't order a baseline chest X-ray in asymptomatic patients, except as part of surgical or oncological evaluation.	% of surgeries where unnecessary x-rays were ordered ↓
Don't perform resting echocardiography as part of preoperative assessment for asymptomatic patients undergoing low to intermediate-risk non-cardiac surgery.	% of surgeries where unnecessary echocardiography was ordered ↓
Don't perform cardiac stress testing for asymptomatic patients undergoing low to intermediate risk non-cardiac surgery.	% of surgeries where unnecessary cardiac stress testing was ordered ↓
Avoid admission or preoperative chest X-rays for ambulatory patients with unremarkable history and physical exam.	% of surgeries where unnecessary x-rays were ordered ↓
Don't routinely perform preoperative testing (such as chest X-rays, echocardiograms, or cardiac stress tests) for patients undergoing low risk surgeries.	% of surgeries where unnecessary testing was ordered ↓
Avoid routine preoperative laboratory testing for low-risk surgeries without a clinical indication.	% of surgeries where unnecessary laboratory studies were ordered ↓
Reduce in-person the number of unnecessary pre and post-operative visits	% of pre and post-operative visits reduced for a given procedure/surgery type ↓ % of pre and post op visits that were conducted virtually ↑
Routine preoperative chest x-rays and baseline laboratory studies, such as complete blood count, metabolic panel, or coagulation studies, should not be obtained in patients undergoing low-risk surgery with no significant systemic disease (ASA I or II) and the absence of symptoms.	% of unnecessary tests ordered ↓, or % of patients where new protocol was used ↑

Cut the Carbon

Indicator: Low-Value Care - Oncology

Change Idea	Process measure
Routine preoperative chest x-rays and baseline laboratory studies, such as complete blood count, metabolic panel, or coagulation studies, should not be obtained in patients undergoing low-risk surgery with no significant systemic disease (ASA I or II) and the absence of symptoms.	% of unnecessary tests ordered ↓, or % of patients where new protocol was used ↑
Avoid colorectal cancer screening tests in asymptomatic patients with a life expectancy of less than 10 years and with no personal or family history of colorectal neoplasia.	% of unnecessary colorectal cancer screening tests ordered ↓, or % of patients where new protocol was used ↑
Contralateral prophylactic mastectomy (CPM) is not recommended for average risk women with early stage unilateral breast cancer.	% of unnecessary CPM performed ↓, or % of patients where new protocol was used ↑

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Indicator: Low-Value Care - General Surgery

Change Idea	Process measure
Development of inguinal hernia perioperative testing protocol	% of patients where new protocol was used ↑
Don't use ultrasound routinely to evaluate clinically evident inguinal hernias.	% of unnecessary ultrasounds performed ↓ or, % of patients where new protocol was used ↑
Consider a watchful waiting approach in patients with asymptomatic or minimally symptomatic inguinal hernias.	% of unnecessary inguinal hernia operations performed ↓ or % of patients where new protocol was used ↑
Don't use computed tomography (CT) for the evaluation of suspected appendicitis in pediatric patients until an ultrasound has been considered as an option.	% of unnecessary CT ordered ↓ or, % of patients where new protocol was used ↑

Cut the Carbon

Indicator: Low-Value Care - Pediatric

Change Idea	Process measure
Do not order radiographs or advise bracing or surgery for a child less than 8 years of age with simple in-toeing gait.	% of patients ordered radiographs, bracing or surgery for simple in-toeing gait ↓
Don't order a routine ultrasound for umbilical and/or inguinal hernia.	% of patients ordered an ultrasound for umbilical and/inguinal hernia. ↓
Don't order c-reactive protein (CRP) levels in children with suspected appendicitis.	% of patients ordered a CRP test with suspected appendicitis. ↓
Don't do computed tomography (CT) for the evaluation of suspected appendicitis in children until after ultrasound has been considered as an option.	% of patients ordered a CT for the evaluation of suspected appendicitis ↓

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Indicator: Low-Value Care - Vascular surgery

Change Idea	Process measure
Don't perform percutaneous interventions or bypass surgery as first line therapy in patients with asymptomatic peripheral arterial disease (PAD) and in most patients with claudication.	% of patients who had percutaneous interventions or bypass surgery as first line therapy in patients with asymptomatic peripheral arterial disease (PAD) and in most patients with claudication. ↓
Don't perform carotid endarterectomies or stenting in most asymptomatic high-risk patients with limited life expectancy.	% of asymptomatic high-risk patients with limited life expectancy patients who had carotid endarterectomies or stenting ↓
Don't perform open or endovascular repair in most asymptomatic patients with small abdominal aortic aneurysms (<5cm in women, <5.5cm in men).	% of asymptomatic patients with small abdominal aortic aneurysms who had open or endovascular repair ↓
Don't perform endovascular repair of abdominal aortic aneurysms in most asymptomatic high-risk patients with limited life expectancy.	% of asymptomatic high-risk patients with limited life expectancy who had open or endovascular repair ↓
Don't perform unnecessarily frequent ultrasound examinations in asymptomatic patients with small abdominal aortic aneurysms. Abdominal Aortic Aneurysms between 4 to 4.9 cm in diameter should be surveyed by annual ultrasound.	% of asymptomatic patients who had more than one ultrasound performed per year for small abdominal aortic aneurysm ↓

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Indicator: Low-Value Care - Orthopedic surgery

Change Idea	Process measure
Don't routinely request pathological examination of tissue from uncomplicated primary hip and knee replacement surgery undertaken for degenerative arthritis.	% of pathological examinations ordered ↓
Don't use post-operative splinting of the wrist after carpal tunnel release for long-term relief.	% of patients whose wrists are splinted post operatively ↓
Avoid performing routine post-operative deep vein thrombosis ultrasonography screening in patients who undergo elective hip or knee arthroplasty.	% of patients ordered post-operative DVT ultrasonography ↓
Do not order routine pathology for uncomplicated interdigital neuroma resection excisions.	% of patients ordered pathology for uncomplicated interdigital neuroma resection excisions ↓

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Indicator: Low-Value Care – Transfusion Medicine

Change Idea	Process measure
Develop new protocol regarding blood transfusion practices	% of patients where new protocol was used ↑
Development of a new protocol for perioperative blood testing.	% of times new perioperative blood testing protocol is used ↑ % of blood tests reduced for a given procedure/surgery type ↓
Don't order unnecessary pre-transfusion testing (type and screen) for all preoperative patients.	% of patients where unnecessary pre-transfusion testing was ordered ↓ % of times new perioperative blood testing protocol is used ↑
Don't perform laboratory blood testing unless clinically indicated or necessary to diagnosis or management in order to avoid iatrogenic anemia	% of unnecessary tests ordered ↓
Don't transfuse more than one red cell unit at a time when a transfusion is required in stable, non-bleeding patients.	% of units ordered ↓ % of unnecessary units transfused ↓ % of patients where new protocol was used ↑
Don't transfuse red blood cells for arbitrary hemoglobin or hematocrit thresholds in the absence of symptoms, active coronary disease, heart failure or stroke.	% of patients where new protocol was used ↑ % of blood transfusions reduced for a given procedure/surgery type ↓

Cut the Carbon

Indicator: Low-Value Care – Transfusion Medicine

Change Idea	Process measure
Don't transfuse red blood cells for arbitrary hemoglobin or hematocrit thresholds in the absence of symptoms, or if no benefit was perceived from previous transfusions.	% of units ordered ↓ % of unnecessary units transfused ↓ % of patients where new protocol was used ↑
Staff education about appropriate blood management	% of staff educated in appropriate blood management ↑
Patient education about appropriate blood management	% of patients/caregivers educated in appropriate blood management ↑

Cut the Carbon

Indicator: Anesthetic Gasses

Change Idea	Process measure
Patients receive a non-desflurane anesthesia - green	% of patients who were given a non-desflurane anesthesia ↑ **Percentage of desflurane purchased. ↓
Provided education on environmentally friendly gases – yellow	% of staff educated about environmentally friendly gasses ↑
Carbon intensity warning stickers placed on desflurane vaporizers - yellow Sevoflurane is the default gas on the vaporizer - yellow Desflurane vaporizers removed from anesthetic machine - yellow Desflurane not available in operating rooms, but can still be accessed from automated medication dispensing system (i.e., Omnicell, Pyxis MedStation) – yellow	% of patients who were given a non-desflurane anesthesia ↑ **Percentage of desflurane purchased. ↓
Routine use of automated control of end-tidal inhalation anesthetic concentration programs with minimal fresh gas flows of $\leq 0.5\text{L}/\text{min}$ (EtControl TM on GE or Target Controlled Anesthesia on Draeger – green	% of surgeries where a <0.5 fresh gas flow was used ↑
N2O no longer used as a carrier gas – green	% of surgeries where N2O was used as a carrier gas ↓
No longer using bulk N ₂ O tank or centralized piped nitrous as a supply source - green	% of surgeries where bulk tank or centralized piped N ₂ O was used ↓

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Indicator: Reusables

Change Idea	Process measure
Use reusable circuit face masks used instead of single use	% of surgeries where reusable circuit face masks were used ↓
Use reusable LMAs used instead of single us	% of surgeries where reusable LMA's were used ↓
Use reusable breathing circuits used instead of single use	% of surgeries where reusable breathing circuits (or extended use circuits were used) ↓
Use reusable surgical gowns	% of surgeries where reusable sterile surgical gowns were used ↓ % of single use sterile surgical gowns were purchased ↓
Patients bring their own reusable garment bag to their procedure	% of surgeries where reusable garment bags were used by patients ↑ % of plastic garment bags purchased ↓

Cut the Carbon

Indicator: Reusables

Change Idea	Process measure
Patients use reusable containers peri-operatively for medication or water	% of surgeries where patient brought their own reusable container ↑ % of Styrofoam cups purchased ↓
Rigid containers and reusable linens are used to protect at least 75% of sterilized trays - green	% of surgeries where rigid containers were used to protect sterilized trays ↑
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 - green	% of blue polypropylene wrap purchased ↓
Rigid containers and linens are used to wrap at least 50% of trays	% of trays wrapped with rigid containers and linens ↑

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Indicator: Waste

Change Idea	Process measure
Use of custom packs optimized for the surgical procedure	% of surgeries where an optimized custom pack was used ↑
Posted clear signage on accurate waste segregation - green	% of ORs where clear signage is displayed on waste bins ↑
Education/training on proper waste segregation -yellow (pharmaceutical, biomedical and sharps)	% of staff educated on proper waste segregation ↑
Regular waste audits (minimum once per year) - green	% of waste audits conducted ↑
Remanufactured single-use devices are purchased back when reusable devices are not available - green	% of remanufactured single-use devices purchased back ↑
Where reusable devices are not available and single-use devices are in use, these are collected for remanufacturing - yellow	% of single use devices collected for remanufacturing ↑



DASH Campaign

Delirium Aware: Safer Healthcare

The DASH change ideas are in alignment with the new Ontario Health delirium campaign. Sign up for [DASH CoP](#) on Quorum.

DASH

Indicator: Delirium

Change Idea	Process measure
Exercise caution when prescribing certain medications (e.g., sedative-hypnotics, benzodiazepines, opioids)	% of patients who are prescribed a medication known to contribute to delirium ↓ % of BSH-naïve patients who are prescribed an in-hospital BSH ↓ % of patients prescribed listed medications during their inpatient stay ↓
Adjust nursing workflow and reschedule non-essential medications during sleep hours (e.g., 22:00-06:00)	% of patients who are administered non-essential medication during sleep hours ↓ % of patients whose nightly care routine is completed before sleep hours ↑
Create a sleep-friendly environment by reducing noise and lights	% of patients where environment is adjusted to be sleep-friendly ↑
Create a sleep-friendly environment by educating patients and caregivers	% of patients and/or caregivers given information on sleep-friendly environments ↑
Create a sleep-friendly environment by surveying patients about sleep quality	% of patients who were issued a survey about the quality of their sleep ↑ % of patients who rate their sleep quality as good or better ↑
Address delirium prevention and management strategies by providing delirium education to staff (e.g., culturally sensitive amenities to promote better sleep)	% of health care professionals who have received education and training in screening for delirium and using standardized, validated tools ↑
Address delirium prevention and management strategies in daily huddles	% of patients discussed for risk factors of delirium in huddle ↑ % of patients whose post admission delirium onset date is recorded ↑ % of people at risk for delirium who have interventions to prevent delirium documented in their care plan ↑
Use an evidence-based delirium assessment tool to identify at-risk patients	% of patients who were evaluated using an evidence-based delirium tool ↑



Enhanced Recovery After Surgery

Enhanced Recovery After Surgery

Change Idea	Process measure
Pre-Admission	
Patients and their caregivers receive pre-admission education on ERAS and their expected recovery	% of patients and caregivers who received pre-admission education
Preop correction of anemia (if appropriate)	% of patients who had preop anemia corrected
Preoperative Care	
Patients receive preoperative mechanical bowel prep	% of patients who received preoperative mechanical bowel prep
Patients receive preoperative oral antibiotics	% of patients who received preoperative oral antibiotics
Patients receive preoperative venous thromboembolism (VTE) chemoprophylaxis	% of patients who received preoperative venous thromboembolism (VTE) chemoprophylaxis
Patients receive clear liquids up to 2 hours before surgery start	% of patients who received clear liquids up to 2 hours before surgery start
Additional Change Ideas	
Teams working on preventing surgical site infection can also consider these change ideas.	
Teams working on preventing urinary tract infection can also consider these change ideas.	
Teams working on preventing pneumonia can also consider these change ideas.	

Enhanced Recovery After Surgery

Change Idea	Process measure
Perioperative Care	
Patients receive regional anesthesia	% of patients who received regional anesthesia
Patients receive perioperative multimodal pain management, with opioids added only when appropriate (Teams working on improving pain management can also consider these change ideas)	% of patients who received perioperative multimodal pain management
Patients receive perioperative anti-emetic prophylaxis	% of patients who received perioperative anti-emetic prophylaxis
Postoperative Care	
Patients receive perioperative anti-emetic prophylaxis	% of patients who received postoperative VTE chemoprophylaxis
Patients receive early postop mobilization	% of patients appropriately mobilized
Patients receive early postop intake of liquids	% of patients with timely intake of liquids
Patients receive early postop intake of solids	% of patients with timely intake of solids
Patients receive timely foley removal	% of patients with timely foley removal
Patients receive appropriate discontinuation of IV fluids	% of patients with timely IV fluid discontinuation



Opioid Prescribing and Pain Management

Opioid Prescribing and Pain Management

Change Idea	Process measure
Patients who are prescribed opioids receive the lowest effective dose of the least potent immediate-release opioid	% of patients prescribed opioids according to the common opioid prescribing protocol
Patients participate in nonpharmacological pain management strategies, such as physical therapy and relaxation techniques	% of patients who participate in nonpharmacological pain management strategies
Patients and their caregivers receive a written transition plan that includes appropriate use of opioids when transitioning from hospital to home	% of patients who receive a written transition plan that includes appropriate use of opioids when transitioning from hospital to home



Pediatric Teams

Pediatric Teams

Change Idea	Process measure
Patients and their caregivers receive pre-admission education on pain management and their expected recovery	% of patients and caregivers who received pre-admission education
Patients should bathe or shower before surgery	% of patients who shower or bathe before surgery
Appropriate bowel prep prior to surgery	% of patients who receive appropriate bowel prep prior to surgery
Remove hair only when necessary, using a clipper outside of the operating room	% of patients with appropriate hair removal
Select and administer the correct antibiotic prophylaxis (based on surgery type) at the appropriate time, dose and duration	% of patients with appropriate selection of prophylactic antibiotic % of patients with timely prophylactic antibiotic administration
Redose appropriately, based on antibiotic type, duration of surgery and blood loss	% of patients who received appropriate prophylactic antibiotic redosing
Select and apply appropriate skin antiseptics	% of patients with appropriate intraoperative skin antisepsis
Maintain normothermia preoperatively, intraoperatively and in the immediate postoperative period	% of patients with normothermic temperature maintained
Surgical closing protocol adhered to including changing gloves and use of new sterile towels and instruments	% of patients for whom a closing protocols were adhered to



Preventing Surgical Site Infection

Preventing Surgical Site Infection

Change Idea	Process Measure
Pre-Operative Decolonization	
Patients should bathe or shower before surgery	% of patients who received a pre-operative bath/shower
Select and apply appropriate skin antiseptics	% of patients with appropriate intra-operative skin antisepsis
Pre-Operative Assessment	
Patients receive a pre-operative health assessment of their risk for developing an SSI	% of patients given a pre-operative health assessment about their risk for developing an SSI
Anti-microbial Coverage	
Select and administer the correct antibiotic prophylaxis (based on surgery type) at the appropriate time, dose, and duration	% of patients with appropriate selection of prophylactic antibiotic % of patients with timely prophylactic antibiotic administration
Redose appropriately, based on antibiotic type, duration of surgery and blood loss	% of patients who received appropriate prophylactic antibiotic redosing
Hair Removal	
Remove hair only when necessary, using a clipper outside of the operating room	% of patients with appropriate hair removal
Glucose Control	
Monitor and control perioperative blood glucose levels in surgical patients as appropriate	% of patients with appropriate blood glucose control

Preventing Surgical Site Infection

Change Idea	Process Measure
Normothermia	
Maintain normothermia pre-operatively, intra-operatively and in the immediate postoperative period	% of patients with normothermic temperature maintained
Wound Care	
Use of closing trays and wound protectors as appropriate	% of patients for whom a separate closing tray was used % of patients for whom wound protection was used
Manage surgical sites effectively in the postoperative period	% of patients with discharge instructions for wound care
Supplemental Oxygen	
Patient is given sufficient supplemental oxygen during major surgery and in the recovery period to maintain a hemoglobin oxygen saturation of more than 95%.	% of patients who maintained a hemoglobin oxygen saturation of more than 95% during surgery and in recovery period.



Preventing Urinary Tract Infection

Preventing Urinary Tract Infection

Change Idea	Process Measure
Limited Use of Urinary Catheters in the Operating Room	
Achieve consensus on the appropriate indications for urinary catheterization	% of patients with unnecessary urinary catheters
Implement restrictive insertion practices as appropriate	
Remove urinary catheters as soon as possible postoperatively, unless there are appropriate indications for continued use	% of patients with urinary catheters removed in the operating room or PACU
Improving Urinary Catheter Insertion Technique	
Use aseptic technique and sterile equipment for catheter insertion	% of patients with urinary catheters inserted using aseptic technique and sterile equipment
Only appropriately trained care providers should insert urinary catheters	% of appropriate staff trained on the correct technique of aseptic catheter insertion and maintenance
Maintaining Urinary Catheters Appropriately	
Maintain a closed drainage system	% of patients with urinary catheters maintained according to recommended Maintain unobstructed urine flow guidelines
Maintain unobstructed urine flow	
Assess Continued Need for Urinary Catheters	
Engage nurses in urinary catheter initiatives	% of nurses trained on correct catheter maintenance and indications for removal
Review urinary catheter necessity daily against prespecified criteria	% of patients with urinary catheter meeting pre-specified criteria
Select interventions for the early removal urinary catheters	



Preventing Pneumonia

Preventing Pneumonia

Change Idea	Process Measure
Incentive Spirometry	
Patients should complete deep breathing exercises 10 times each hour	% of patients who received education or assistance on incentive spirometry
Cough and Deep Breaths	
Patients should take deep breaths and cough every hour	% of patients who received education or assistance on coughing and deep breathing
Oral Care	
Patients should brush their teeth and use mouthwash twice a day	% of patients who received education or assistance on oral care
Patient Education	
Educate patients and family on active participation in recovery, including pain management, deep breathing, coughing, and mobility	% of patients who received appropriate education
Mobility	
Patients should get out of bed regularly	% of patients who received education on the importance of mobility during recovery
Elevate the Head of the Bed	
Elevate patients' heads of beds 30-45 degrees	% of patients who received education on or assistance with elevating the head of the bed



Equity

Equity

Change Idea	Process measure
Roll out education curriculum to improve awareness on health equity related topics	% of staff completed training
Leverage M&M rounds to engage staff on health equity related topic	Self-assessed level of knowledge and awareness
Provide training on how to plan and collect standardized demographic data	% of staff received training on collection of standardized demographic data
<ul style="list-style-type: none">• Provide scenario practice or staff script to common questions patients may ask• Create cheat sheet to help staff provide standard instructions when introduce the data collection tool• Develop training manual that includes explanations to each demographic question	% of staff feel confident and comfortable to support the data collection process
Follow up or interact with patients and clients after reviewing survey	% of patients/clients who provided demographic data received a follow-up to address questions or concerns