World Congress of Enhanced Recovery After Surgery and Perioperative Medicine

ERAS Collaborative Team Report
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Washington, DC

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Description
The report provides highlights – as recorded by representatives of the provincial ERAS Collaborative – from the World Congress of Enhanced Recovery After Surgery and Perioperative Medicine. The May 2015 for World Congress of ERAS and Perioperative Medicine was hosted by the American Society for Enhanced Recovery (ASER, www.aserhq.org) and encompasses the 3rd World Congress of the Enhanced Recovery After Surgery (ERAS) Society for Perioperative Care (www.erassociety.org) and the 14th Congress of Evidence Based Perioperative Care (EBPOM, www.ebpom.org). The Congress aimed to bridge the gap between disciplines and professionals in healthcare. The Congress offered a unique platform for education in perioperative care. It was an opportunity for key industry professionals, key opinion leaders and all committed to the improvement of perioperative care to share knowledge, network, exchange ideas, debate and discuss the very latest clinical data and developments, face to face, all under one roof.

The Congress featured lectures, workshops, scientific communications and a discussion addressing the latest clinical controversies and research advances in the field. Please see Full Program in the appendix for details.

1 In March 2015, the Specialist Services Committee (SSC) announced that it would support the full participation of four ERAS Collaborative team members at the World Congress of Enhanced Recovery After Surgery and Perioperative Medicine (May 9-12, 2015, Washington DC). The SSC invited interested ERAS Collaborative team members to submit their names via email to the ERAS Collaborative Project Manager. ERAS Collaborative representatives had to commit to formally sharing their learning with the rest of the Collaborative at learning session 3, including planning meetings, writing a report, and preparing presentations. Since more than four requests were received, the delegates were selected by lottery with the following order of priority:
1. We will aim to send a multi-disciplinary team by filling spots with different professions.
2. We will aim to send a geographically diverse team by filling spots with different regional representation.
3. We will aim to send delegates from both new and well-established ERAS teams.
Toward Sustainability with Education

A key to sustaining any initiative is the education of key stakeholders. There is inevitable turnover in the multidisciplinary team that cares for patients in an Enhanced Recovery Protocol. Sites need to develop a strategy to educate and re-educate staff so they remain familiar with enhanced recovery principles and specific practices, and to reinforce the value of ERAS on patient experience and outcomes.

Frequent education sessions – ideally, every three to six months – would capture new staff and provide opportunities to refresh and update the knowledge of existing staff. Education materials should incorporate information, such as patient stories and current ERAS process and outcome measures, which reflect the value of ERAS and help to identify implementation areas of excellence and those needing improvement.

Closing the Gap between Compliance and Optimization

The use of multimodal analgesia can be defined as using more than one analgesic modality to achieve effective pain control while reducing opioid related side effects. There are a wide variety of analgesic techniques available. The optimal, procedure specific strategy for open and laparoscopic colorectal surgery is unclear. Within our minimal data set the use of multimodal therapy analgesia is defined as per ERIN (Enhanced Recovery in NSQIP)\(^2\). Good compliance with this process may be reported, meeting our current definition, even though multimodal analgesia may not actually be optimized. Over reliance on opioid analgesia may still be an issue in spite of compliance with our current definitions. Sites should make an effort to understand the types of multimodal analgesia commonly being used for their patients.

Another option is a 4 quadrant laparoscopic assisted TAP block (Tranversus abdominis plane) by surgeons. It has been described in the literature and is currently being used at a variety of centres at the conclusion of a laparoscopic procedure, as opposed to ultra-sound guided blocks by

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\(^2\) Collaborative sites indicate whether a multi-modal approach to pain management was used per the following ERIN definition, current as of January 1, 2015: Multimodal pain management refers to use of non-opioid analgesics to reduce opioid-related side effects. Strategies or medications that would qualify include:

- Non-steroids anti-inflammatory drugs (NSAIDs) (including ibuprofen, ketorolac, cyclooxygenase-2 inhibitors)
- Non-steroids anti-inflammatory drugs (NSAIDs) (including ibuprofen, ketorolac, cyclooxygenase-2 inhibitors)
- acetaminophan
- ketamine
- glucocorticoids (if used for pain control)
- intravenous lidocaine
- thoracic epidural
- spinal analgesia
- regional blocks
- continuous wound infusion with local anesthetics (e.g., Marcaine pump, bupivacaine pump, etc.)
anaesthesia. Studies have been published suggesting it is more efficacious than infiltration with local at port sites.

References:


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<th>Redefining Recovery</th>
<th>New ideas</th>
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<td>Recovery after surgery is a complex concept. Different outcomes are important at different phases of the post-operative period. McGill University Health Centre has been doing research on appropriate metrics for recovery. Their research has shown that clinicians and patients often define recovery differently. In order to reflect this difference, outcome measurement should shift from common audit measures to more patient- and recovery- centric measures, such as quality of life, energy level, walking capacity, and returning to normal activities. Patients should be actively involved in their post-operative assessment. It will be important to collect data during recovery after discharge, though this may be more challenging than in-patient data.</td>
<td>• The Collaborative could help more advanced sites to consider more patient centered, post discharge outcomes. • The Collaborative could coordinate a provincial conversation to look at ways to continue to promote recovery at home after discharge, specifically developing a post-discharge plan for ERAS patients.</td>
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References:


Selected available, though not ideal, measures:
The COMET (Core Outcome Measures in Effectiveness Trials) Initiative brings together people interested in the development and application of agreed standardised sets of outcomes, known as ‘core outcome sets’. [www.comet-initiative.org](http://www.comet-initiative.org)

CHAMPS: a physical activity questionnaire for older adults [http://dne2.ucsf.edu/public/champs/resources/qxn/download.html](http://dne2.ucsf.edu/public/champs/resources/qxn/download.html)
Six Minute Walk Test (6MWT) The original purpose of the six minute walk was to test exercise tolerance in chronic respiratory disease and heart failure. The test has since been used as a performance-based measure of functional exercise capacity in other populations including healthy older adults, people undergoing knee or hip arthroplasty, fibromyalgia, and scleroderma. It has also been used with children. 
http://www.rheumatology.org/practice/clinical/clinicianresearchers/outcomes-instrumentation/6MWT.asp

SF-36: A generic measure that yields an 8-scale profile of functional health and well-being scores as well as psychometrically-based physical and mental health summary measures and a preference-based health utility index. 

Surgical Recovery Score (SRS) http://surgicalrecovery.weebly.com/

Postoperative Quality of Life (PQL)

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<td>Compared to the patient education strategies of other international jurisdictions, the Collaborative’s teams are quite advanced in addressing all components of patient teaching, including patient education booklets and pre-operative instructions that cover carbohydrate loading drink, bowel preparation, and supplies to pack, such as chewing gum etc. Most sites provide both written and verbal descriptions of what patients can expect in hospital. Collaborative sites also use pre- and post-operative order sets and a patient discharge booklet. An additional option for patient education would be online teaching materials (modules) or a video for patients to review pre-operatively.</td>
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<td>Research supports more visuals for learning and retention by adult patients. Due to low literacy levels in Canada, it would also be valuable to incorporate pictorial diagrams into our teaching handouts to make them more understandable for those who may have trouble reading. McGill has a pictorial diagram that many sites have purchased for a fee of approximately $250.</td>
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<td>Alberta health services has a learning module that is very good; the Collaborative should assess the feasibility of creating something similar – to cover basic ERAS principles – for patients to understand what to expect during their hospital stay and recovery. Creating a video and/or module may take quite some time and cost, however, the impact to patient understanding and compliance with care could substantially improve.</td>
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<td>Finally, Sweden has a video outlining an actual patient journey showing the Pre-Screening Clinic, Pre-op and post-op ward areas with video of a patient ambulating and eating, etc. The video could be site-specific to show to show</td>
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• The Collaborative could consider incorporating McGill’s patient education materials provincially.
particular locations within a facility, or it could be generic by limiting content to the ERAS principles and processes. This project would take significant time and resources but again, it may be very impactful to the patient experience.

**Fluid Management**

**Decreasing Use of Colloids**
Many jurisdictions are decreasing the use of colloid (particularly starches) for goal directed fluid therapy. Only Duke is still using albumin 5% for fluid boluses; most sites are using LR or Normosol in the OR. For fluid replacement, we should use a conversion of 1: 1.3 to 1 to 1.6 for colloids to crystalloid. Experts suggest to split down the middle: 500 cc starch/5% albumin is equal to 500 X 1.45= 725 cc of crystalloid.

**Addressing Oliguria**
Fluid management affects patient outcomes. Low peri-operative urine output is equivalent to a vital sign, and IV fluids should be monitored like other IV medications. Normal saline is no longer considered a choice for reversal of oliguria, rather, RL for volume replacement is better; evidence to support this has been available since 1911. We need to be mindful of transient oliguria as a defence mechanism. Urine output is a poor indicator of the adequacy of kidney (tissue) perfusion.

**Orthostatic Intolerance**
Early mobilization is important for postoperative recovery but is limited by orthostatic intolerance (OI) with a prevalence of 50%, 6 h after major surgery. The pathophysiology of postoperative OI is assumed to include hypovolemia as well as dysregulation of vasomotor tone. Increasing studies suggest that it is less likely to be due to hypovolemia and instead impaired total peripheral resistance. Epidurals are often unfairly blamed for this phenomenon. OI is very common in the first 24 hours postop and staff will need to help the patient get through it. Patients should not be put back to bed nor empirically treated with fluid boluses.

**References**


**The Value of ERAS Nurses**
Patients are partners throughout the ERAS journey and need to be engaged, especially during key transition points. A common strategy in European and US sites is to have an ERAS nurse, or a nurse navigator who is an expert in the process and protocol of ERAS care, such as the perioperative journey and

**New Ideas**
- The Collaborative needs to standardize the use of colloids if we are tracking total fluids received, particularly if no monitor is used for GDFT.
- The Collaborative could provide clearer guidance on best practice to support patients with (transient) low urinary output during the immediate post-operative time period.
- Sites could develop and test an ERAS nurse role to support transitions in care.
community follow-up. Denmark has designed their ERAS care to include telephone call follow-ups by one of the unit nurses who cared for the patient. Ideally, the ERAS nurse provides continuity of care with patients from time of referral to discharge, for example, by contacting patients prior to surgery, during their hospital stay, and then again within 24 hours of discharge. This clinical support can respond immediately to a patient’s needs and differs from the NSQIP follow-up, where only a sample of patients are called at home 30 days after discharge. At minimum, the ERAS nurse, as a member of the care team can help to identify and support those patients at highest risk, and work closely with patients, families and the broader community to support the best care and results (a triage approach to care continuity). Recognized pillars in care transition include medication self-management, personal care planning (health record), timely primary health care and specialty care follow-up, and knowledge of red flags that indicate a worsening patient condition and how to respond. The aim of an ERAS nurse is to proactively improve patient access to timely care, progress care, re-organize existing patterns (culture, process) of service delivery, and support sustainability through resource management for maximum efficiency and optimal outcomes.

### Prolonged Ileus and Potential Prevention

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<td>Sites could test the prolonged ileus prevention strategies described above.</td>
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Ileus is prolonged if > 3 days for laparoscopic procedure or > 5 days for open procedure. Potential prevention methods were presented. IV lidocaine may be a benefit. Protocols may need to be created for the selective use of IV lidocaine on the ward. Currently, only protocols for OR & PACU are typical. Magnesium may help. Alvimopan (Entereg) has been shown to decrease ileus and decrease hospital stay by 1.5 days (uncertain of availability and cost of drug in Canada). There is no benefit to giving metoclopramide; there is no improvement in tolerance of oral fluids or time to passage of flatus or stool. Despite this lack of evidence for any benefit metoclopramide is still typically ordered.

### Returning to Baseline for ERAS

Initial ERAS programs for open colon surgery, introduced over 15 years ago, used only a few essential principles of ERAS:
- preoperative patient education
- narcotic sparing analgesia
- avoidance of fluid overload
- early mobilization
- early feeding
- elimination of NG tubes, surgical drains

Since the introduction of these baseline ERAS programs, those six principles are now supported by increasingly firm evidence. Using conventional criteria for discharge these early programs demonstrated a decreased length of stay compared to traditional care. Medical complications were also reduced.
Data from the last 15 years have shown relatively slow progress in the implementation of ERAS. This could be partially explained by the requirement for multidisciplinary collaboration as well as psychological and organizational factors that delay change in traditional care. However, the introduction of more complicated/multifactorial ERAS programs, with up to more than 17 components, may have contributed to delayed implementation.

As our Collaborative moves forward it is important that we keep in mind the original ‘essential’ ERAS principles. Some components, while arguably relevant, remain debated in the literature and may not be necessary for a successful postoperative course. Examples include carbohydrate loading, gum chewing, VTE prophylaxis regimen, bowel preparation. As we focus on sustainability and spread of our ERAS initiative in the setting of limited resources, we may have more success if we focus on the key elements. This will be of special importance for sites with limited resources for data collection, sites with a low volume of patients, or sites where clinicians are reluctant to change practices if there is ambiguity in the literature. These essential principles should also serve as the starting point for spread of ERAS from colorectal to other procedure types.