excellence health preventive shorter strategies found considered team national outcome opportunity overall experience growing part time members research medicine implementation programs benefit recovery 2 years up-to-date across champion must true Involved fast iust 🖁 best improve working **quality** evidence-based Cess example **b** multimodal Multiple 1 well of arisen Spreadility reduce multidisciplinary innovation develop demand olayer multiple become & U ្<mark>តី p</mark>internationally system humanize body documented contributions clinical Currently long–term patient many practice

e Lammarian



Rapid Surgical Recovery at the RCH: the ERAS era

Richard N. Merchant MD FRCPC
Anesthesia and Perioperative
Medicine
RCH

American College of Surgeons



Dedicated to improving the care of the surgical patient and to safeguarding standards of care in an optimal and ethical practice environment





What NSQIP Is

- Web-Based data collection software
- Quality improvement tool
- Risk-adjusted, outcomes-based data
- Clinically Validated data
- Benchmarking





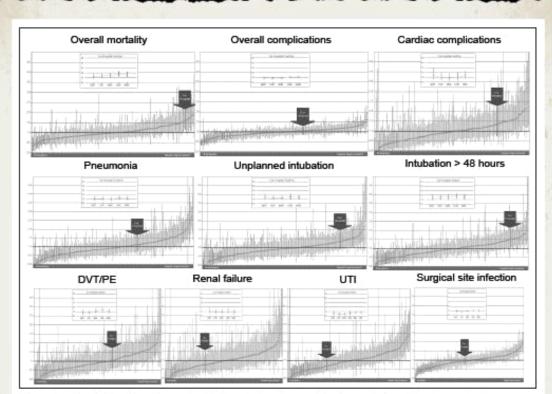
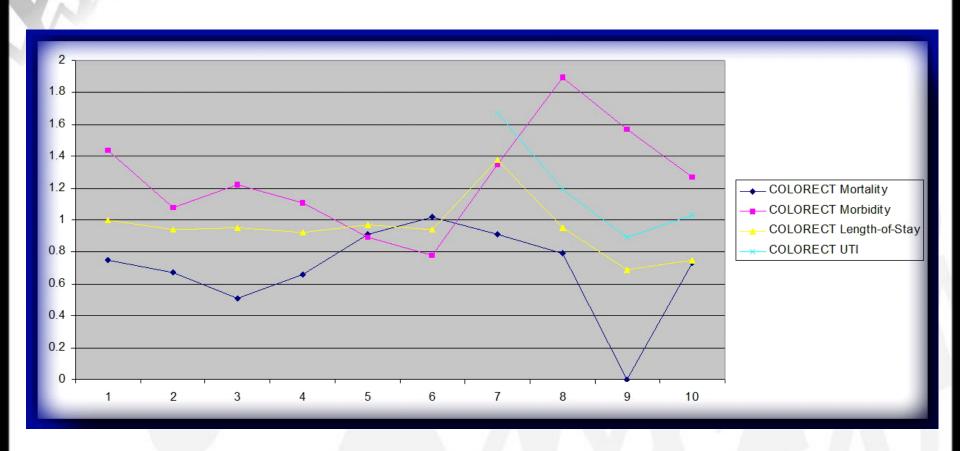


Figure 5. Risk-adjusted semiannual NSQIP report for all complication at all hospitals. The rank of a particular hospital is indicated by the large arrow within the group of all participating hospitals.

DVT/PE = deep venous thrombosis/pulmonary embolism; NSQIP = National Surgical Quality Improvement Program; UTI = urinary tract infection



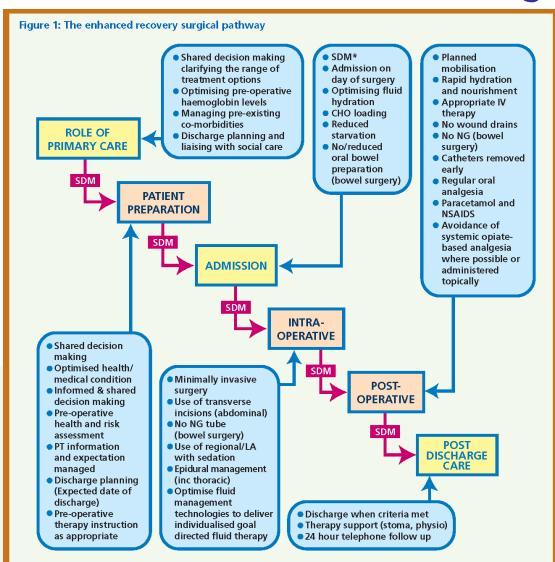
RCH NSQIP Colorectal details



Odds Ratio to comparator group of the given event, 2008-2012 (courtesy of the NSQIP team)

NHS **Enhanced Recovery Partnership FULFILLING THE POTENTIAL** A BETTER JOURNEY FOR PATIENTS AND A BETTER **DEAL FOR THE NHS** Published on behalf of the Enhanced Recovery Partnership by NHS

Enhanced Recovery











ERAS Society

"The immediate challenge to improving the quality of surgical care is not discovering new knowledge, but rather how to integrate what we already know into practice". [Urbach DR, Baxter NN. BMJ 2005]



José E. de Aguilar-Nascimento ^f, Markus Schäfer ^g Dileep N. Lobo ^h, Nicolas Demartines ^g, Marco Bra of the ERAS® Society, the European Society for C

Association for Surgical Metabolism and Nutritio

in Colorectal Surgery

Enhanced Recovery After Surgery (ERAS) Group Recommendations

Kristoffer Lassen, MD, PhD; Mattias Soop, MD, PhD; Jonas Nygren, MD, PhD; P. Boris W. Cox, MD; Paul O. Hendry, MBChB, MRCS; Claudia Spies, MD, PhD; Maarten F. von Meyenfeldt, MD, PhD; Kenneth C. H. Fearon, MD, FRCS; Arthur Revhaug, MD, PhD; Stig Norderval, MD, PhD; Olle Ljungqvist, MD, PhD; Dileep N. Lobo, DM, FRCS; Cornelis H. C. Dejong, MD, PhD; for the Enhanced Recovery After Surgery (ERAS) Group

REVIEW ARTICLE

Consensus Review of Optimal Perioperative Care

www.erassociety.org

"Dedicated to the development and implementation of evidence-based, multi-disciplinary pathways for surgical patients that reduce complications and facilitate more rapid return of pre-operative functional status."



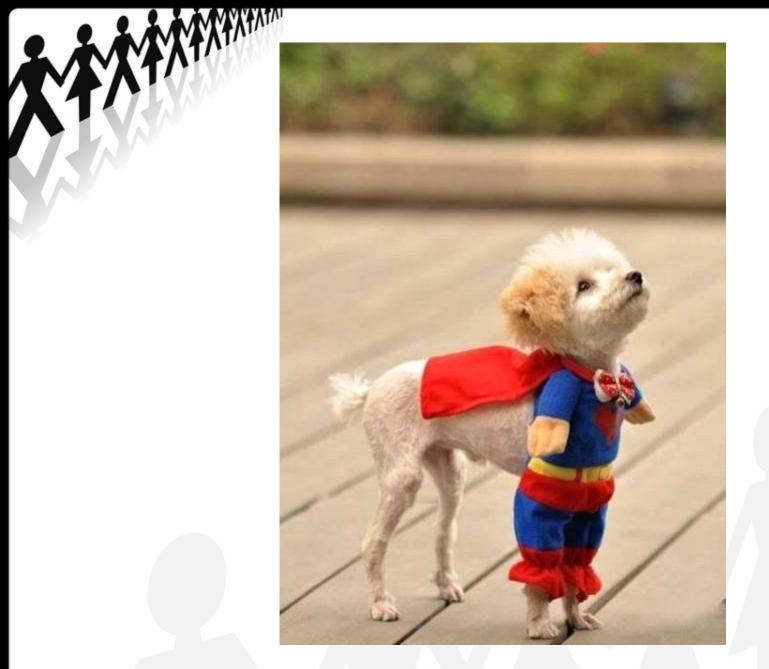
Enhanced Recovery Society of Canada

www.enhancedrecovery.ca

...an ERAS sister society



Rapid Recovery in Cardiac Surgery: 1995





Expected Outcomes of the Rapid Recovery Program

- Maintain or improve quality by:
 - Reducing variation in care & treatment
- Contain or reduce costs by:
 - Decreasing length of stay
 - admit-day-of-surgery
 - transfer out of CSICU within 24 hours
 - discharge home within 4 days for CABG surgery
 - discharge home within 6 days for valve surgery
 - Decreasing routine diagnostic testing

Quality care and patients' safety can be maintained when care delivery systems are redesigned, as shown at the Royal Columbian Hospital in New Westminster, BC. More than 600 cardiac surgeries are performed annually in this 400-bed acute care facility. In 1996, a multidisciplinary, cardiac surgery, quality improvement team created an innovative and cost effective rapid recovery program.

FROM THEORY TO PRACTICE:
PREVENTING PAIN AFTER CARDIAC SURGERY

By Jocelyn Reimer-Kent, RN, MN. From the Cardiac Surgery Program, Royal Columbian Hospital, Fraser Health Authority, New Westminster, British Columbia, and the School of Nursing, University of British Columbia, Vancouver, British Columbia.

AMERICAN JOURNAL OF CRITICAL CARE, March 2003, Volume 12, No. 2



Prevent Postoperative Nausea

Prevent
Postoperative
Respiratory
Compromise

Prevent Postoperative Pain

Prevent Postoperative Constipation

Prevent Postoperative Immobility



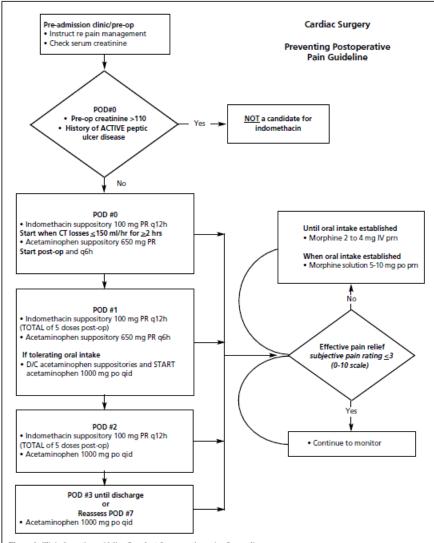


Figure 1 Clinical practice guideline flowchart for preventing pain after cardiac surgery.

CT Indicates chest tube: D/C, discontinue: IV, Intravenously: po, orally: POD, postoperative day; post-op, postoperatively: PRN, rectally: pre-op, preoperatively: PRN, as needed: qid, four times a day: q6h, every 6 hours: q12h, every 12 hours.

Reprinted with permission from Royal Columbian Hospital, New Westminster, British Columbia.



J.R-K AJCC

- The frequency of postoperative nausea decreased considerably, from 60% in 1996 to 12% in 2000.
- The percentage of patients who had their first postoperative bowel movement within 3 days of surgery was 96% in 2000 compared with 81% in 1996.
- The prevalence of postoperative psychosis, confusion, and/or delirium was less than 1%, much lower than the 3% to 18% reported in the literature



Rapid Surgical Recovery: Polarity Management

What do we value? What do we reward?

Rapid Surgical Recovery

Preop information **Cptimised** organ function

No nutritional defects No alcohol preop Stop smoking preop Neuraxial blockade Minimal invasive op'n Anxiety, fear Normothermia Preop organ dysfunction Nausea prevention Surgical stress response lleus prevention Hypothermia Early feeding Nausea, vomiting Good oxygenation Good sleep Semi-starvation Cpioid-sparing Hypoxaemia EB post-op care Poor sleep

Wellness Paradigm

Calm

Seamless

Delayed Surgical Recovery

lleus

Drains, tubes Catheters

Illness Paradigm

Fragmented

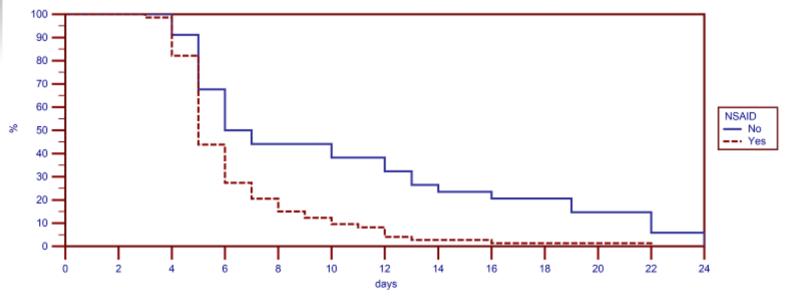
Chaos

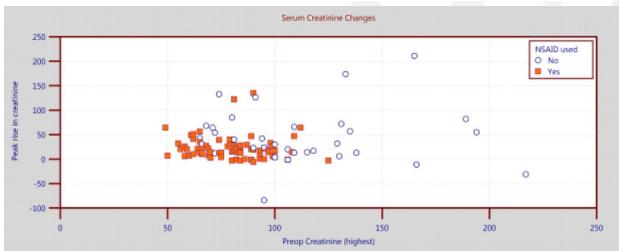
www.medicine.ox.ac.uk/bandolier/band119/b119-5.html



CABG

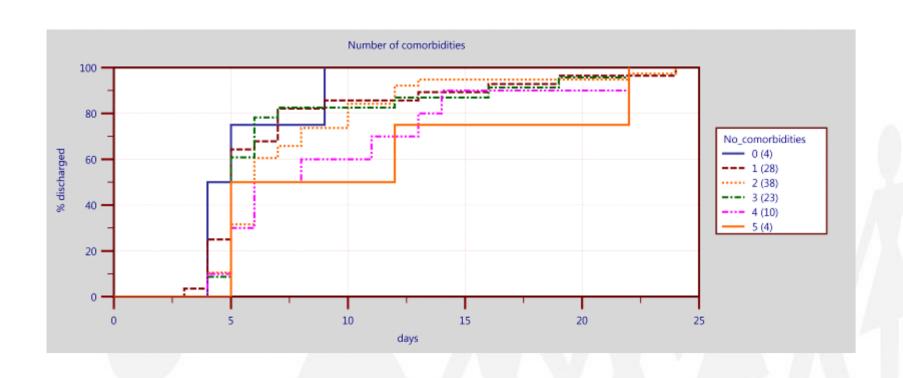








Discharges 2008 by comorbidities











McGill: Our First Team (2008)

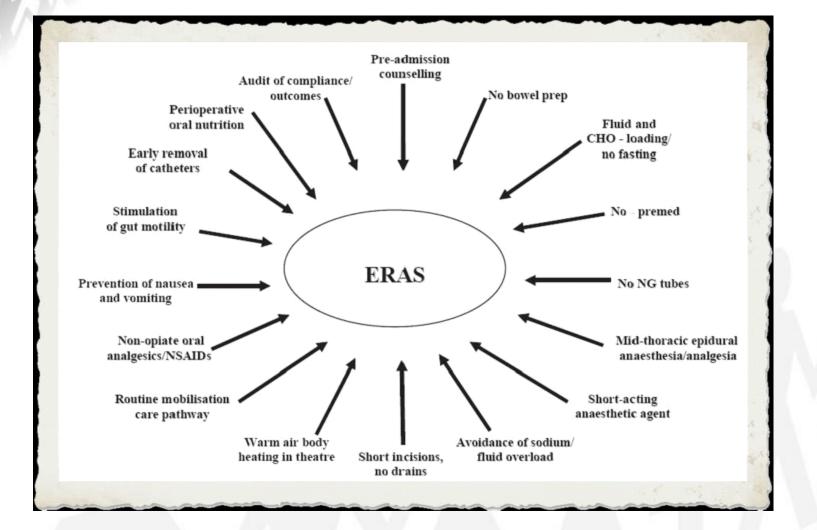




McGill: Our Multidisciplinary Team

- Dr. Liane Feldman, surgeon--leads the team
- Dr. Franco Carli, anaesthesiologist
- Dr. Gabriele Baldini, anaesthesiologist
- Debbie Watson, Nurse, Care Pathway Coordinator
- Donna Stanbridge, MUHC associate director of nursing of perianesthesia services
- Michelle Bourgeois, Physiotherapist
- Eleanora Eckert, Nutritionist
- Suzanne Fournier, Pharmacist
- Oliver Cachero, Nurse Manager-18th floor, General Surgery
- Tara Landry, Librarian
- Krista Brecht, Clinical Nurse Specialist, Pain service
- Nancy Posel, Julia Thomas, David Fleiszer: McGill Molson Medical Informatics.





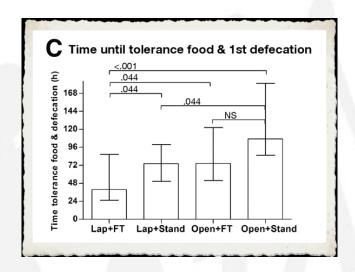
This study provides objective data indicating that laparoscopic surgery and 'fast-track' (FT) care improve recovery of GI transit compared with open colectomy and standard care, contributing to faster clinical recovery.

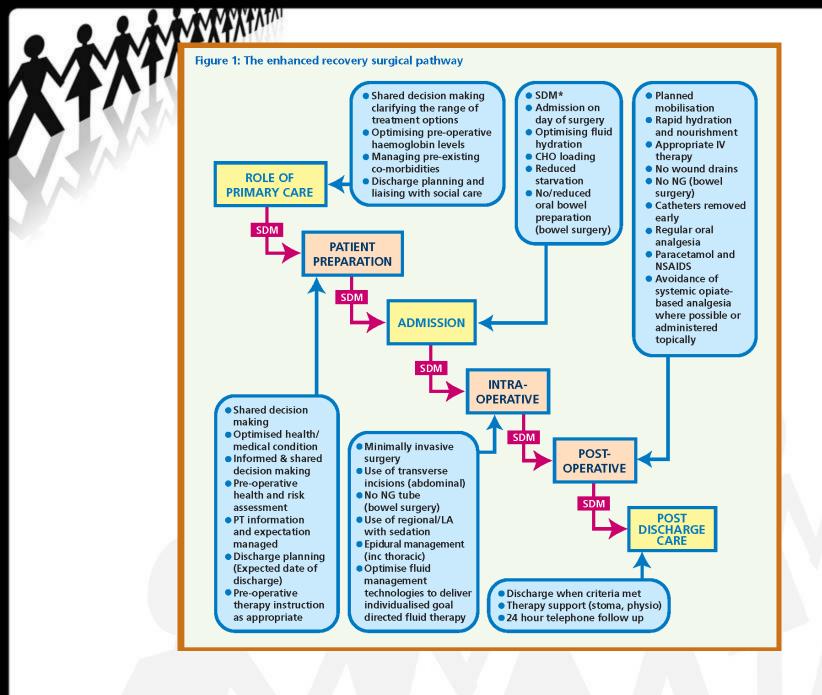
GASTROENTEROLOGY 2011:141:872-88

Faster Recovery of Gastrointestinal Transit After Laparoscopy and Fast-Track Care in Patients Undergoing Colonic Surgery

SJOERD VAN BREE, MALAIKA VLUG, WILLEM BEMELMAN, MARKUS HOLLMANN, DIRK UBBINK, WAS KOOS ZWINDERMAN, WOUTER DE JONGE, SUSANNE SNOEK, KAREN BOLHUIS, ESMERIJ VAN DER ZANDEN, FRANS THE, ROEL BENNINK, ANG GUY BOECKYSTAENS****

Departments of 'Gastroenterology, *Surgery, *Anesthesiology, 'Quality Assurance & Process Innovation, *Clinical Epidemiology and Biostatistics, and *Nuclear Medicine, Academic Medical Center, Amsterdam, The Netherlands; and "Department of Gastroenterology, University Hospital Leuven, Catholic University of Leuven Puerus Pelairium."







What is ERAS?

- AKA Fast-track or ERP
- Developed by Kehlet in Denmark in colonic surgery
- Gradually has gained world-wide acceptance
- Originally described in Open Surgery but same advantages seem to apply for Laparoscopy



- Patient and family information and preparation
 - Carbohydrate drinks
 - 4 night before surgery if having bowel prep
 - •2 morning of the surgery
- No mechanical bowel preparation
 - Enema morning of surgery for L) sided cases
 - •? Changing to bowel prep with oral antibiotics

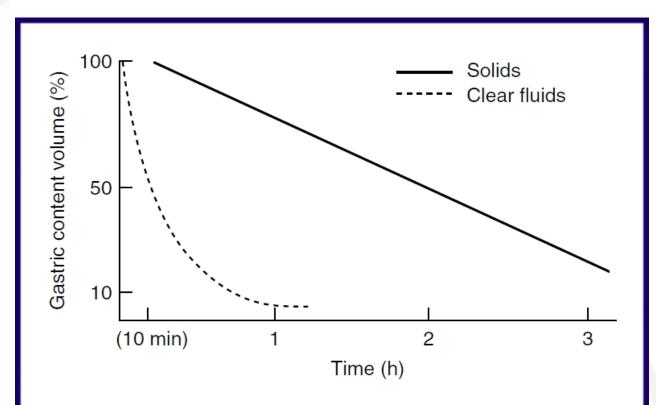


Fig. 1 Gastric emptying of solids and clear fluids in healthy volunteers. Adapted from data in references 21 (n=180) and 22 (n=4)

British Journal of Surgery 2003; 90: 400–406



- "The main objective of preoperative carbohydrate treatment is to produce the change in metabolism that normally takes place when breakfast is eaten. This elicits an endogenous release of insulin that turns off the overnight fasting state of the metabolism. The easiest way to accomplish this change is to give carbohydrate."
- "Further evaluation of this carbohydrate-rich preoperative beverage has revealed that it improves subjective well-being compared with placebo (water). While both drinks reduce preoperative thirst, the addition of carbohydrate also reduces hunger and anxiety, and improves overall well-being (as measured by 12 variables including pain, fatigue and fitness)"





3.4. Insulin resistance

The effects of preoperative carbohydrate treatment on the development of postoperative insulin resistance are shown in Table 4. Three studies utilised the hyperinsulinaemic-euglycaemic clamp technique to measure relative changes in insulin sensitivity and demonstrated significant reduction in development of postoperative insulin resistance in preoperative carbohydrate treatment patients when compared with control. Three further studies utilised Homeostasis Model Assessment-Insulin Resistance [HOMA-IR] calculations to determine changes in perioperative insulin resistance; with two demonstrating a reduction in postoperative HOMA-IR values between preoperative carbohydrate treated and control patients. Finally, a study that utilised the Qualitative Insulin Sensitivity Check Index [QUICKI], to derive a crude estimate of changes in perioperative insulin sensitivity, demonstrated significant reduction in the postoperative insulin resistance index in the preoperative carbohydrate treatment group.









- Complex CHO
- 100 Grams 12 hours pre-op
- 50 Grams 2 ½
 hours pre-op
- "Preload™ is a neutral-tasting presurgery carbohydrate loading powder drink mix used to enhance patient recovery after surgery."





Intra-op: Surgery

Thoracic epidural analgesia Incision choice

- Transverse for R) sided
- Mid-line or laparoscopic for L) sided

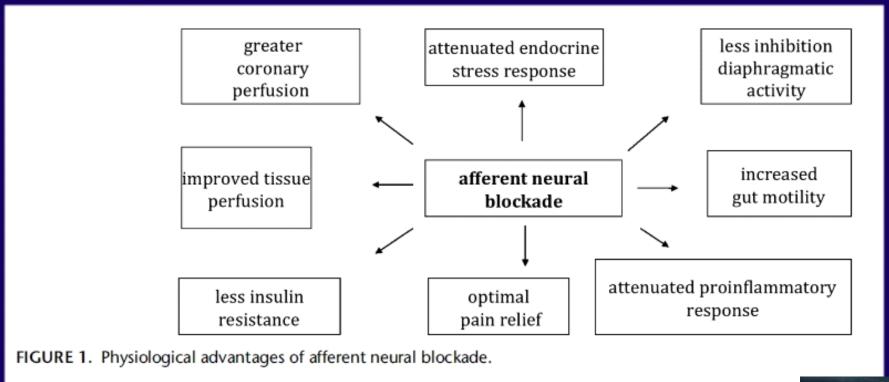
Avoidance of drains and naso-gastric tubes Limited intra-operative fluid therapy

- Aiming to max of 1.5-2 I
- Goal directed

Warming, antibiotics, thrombosis prophylaxis, etc.



Intra-op



Francesco Carli, MD, MPhil, FRCA, FRCPC, Henrik Kehlet, MD, PhD, Gabriele Baldini, MD et al. *Evidence Basis for Regional Anesthesia in Multidisciplinary Fast-Track Surgical Care Pathways.* Reg Anesth Pain Med 2011;36: 63-72



Drains

ABDOMINAL DRAINS

- 1999 (Ann Surg) Meta-analysis
- No difference in studied outcomes
- Only 1 in 20 anastomotic leaks detected
- 2004 (Cochrane)
- 6 RCT's, 1140 pts
- No significant difference in leak/outcomes, (OR 0.85)

Nasogastric tubes

- Fever
- Atelectasis
- pneumonia



Urinary drainage

- Risks for need / risk for urinary retention
 - men, prostatic hypertrophy, open approach abdominal operations, preoperative radiation, resection of large pelvic tumors, abdomino-perineal resection, ?obesity
- Colon resection
 - Summary and recommendation (evidence level: low (few studies, extrapolated data), recommendation grade:strong)
 - None, if no epidural
 - Remove POD 1 if epidural
 - Consider prolonged drainage if TEA and high risk by history
- Pelvic resection
 - Summary and recommendation
 - Same, except for ultralow and combined urologic procedures



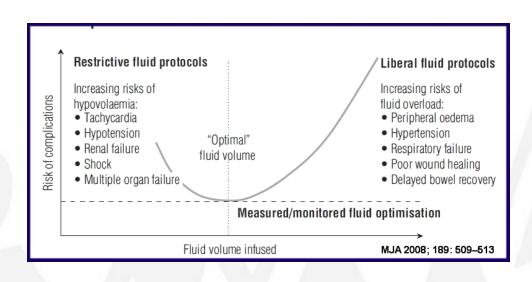
NUTRITIONAL EDEMA: ITS EFFECT ON THE GASTRIC EMPTYING TIME BEFORE AND AFTER GASTRIC OPERATIONS

P. M. Mecray, M.D., Robert P. Barden, M.D., and I. S. Ravdin, M.D., Philadelphia, Pa.

(From the Harrison Department of Surgical Research and the Department of Roentgenology, School of Medicine, University of Pennsylvania)

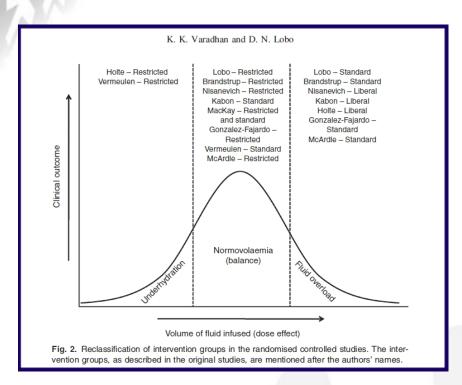
Surgery 1:53-64 (1937)







Fluid Therapy



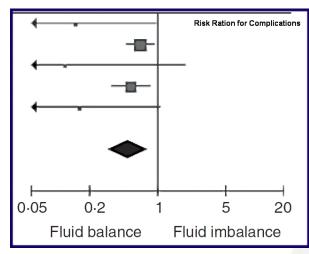
Conference on 'Malnutrition matters'

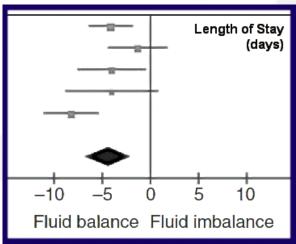
Symposium 3: Death by drowning

A meta-analysis of randomised controlled trials of intravenous fluid therapy in major elective open abdominal surgery: getting the balance right

Krishna K. Varadhan and Dileep N. Lobo*

Division of Gastrointestinal Surgery, Notinipham Dispetive Diseases Centre, NIHR Biomedical Research Unit,
Notinipham University Hospitals, Queen's Medical Centre, Notinipham NG7 2UH, UK







Ensuring the patient has the best possible management during their operation

Anaesthetic factors

Individualised goal-directed fluid therapy²¹

When intravenous fluid is given, the benefits of maintaining circulatory filling and organ perfusion must be weighed against the risk of excess fluid accumulation in the lungs causing hypoxia, and, in the gut, causing nausea and delayed return of gut motility (ileus).

When there is not enough fluid in the bloodstream, the stroke volume falls – that is, there is a fall in the volume of blood ejected by the heart each heartbeat.

New monitors (such as the oesophageal Doppler) allow just enough intravenous fluid to be given to maximise the amount of blood ejected by the heart each heartbeat, without giving excess fluid which can accumulate in the tissues and slow recovery from surgery.

In a typical regime enough colloid is given to maintain the stroke volume, but no more. This allows circulatory volume and organ perfusion to be maintained with the minimum of administered fluid, which minimises fluid accumulation in the tissues. Eight studies have shown that when fluid administration is guided by a Doppler there is a reduction in complications and a typical reduction of two days in the length of stay after major colorectal²², trauma²³, gynaecological and urological surgeny³⁴.

Optimising fluid

The use of Intra-operative fluid optimisation for major surgery at Medway NHS Foundation Trust has been shown to have a positive impact on length of stay. Medway purchased oesophageal Doppler monitors for its 10 inpatient operating theatres, and made flow-directed optimisation mandatory for colorectal surgery (It is encouraged for all other major surgery).

The trust found that patients who have Intraoperative fluid optimisation using the oesophageal Doppler go home earlier, tolerate feeding earlier, and have fewer post-operative compilications. There was a 3.1 reduction in mean length of stay in this group of patients; this equates to a saving of more than £1,000 per patient. Go to www.dh.gov.uk/ enhancedrecovery to see full version.

Use of anaesthetic agents

- Quick offset agents should be used to allow a quick recovery from anaesthesia.
- Use agents with good recovery characteristics.

Intra-Op: Fluid Therapy

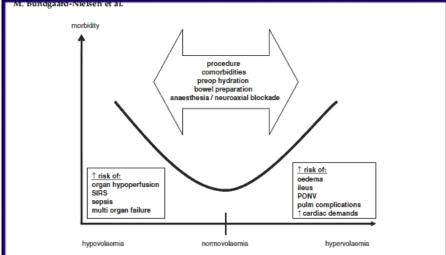


Fig. 2. Relationship between perioperative administered fluid volume and post-operative morbidity and factors influencing shift of the curve (arrow). Boxes indicate the risk of complications associated with deviation from normovolaemia. Modified from Bellamy. SIRS, systemic inflammatory response syndrome; PONV, post-operative nausea and vorniting.

NHS

Enhanced Recovery Partnership Programme

Delivering enhanced recovery

Helping patients to get better soone after surgery



Conventional "hemodynamics" (HR and BP)



- Central venous pressure
- Pulmonary artery catheter (PCWP and/or CO)

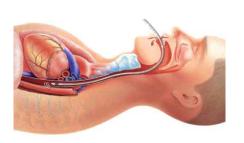


Urine output



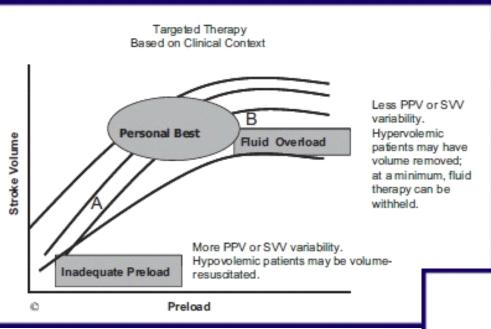
- Echocardiography (TEE or TTE) ("Perioperative hemodynamic echocardiography")
- **Esophageal Doppler (CardioQ)**
- Pulse pressure variation/Waveform Analysis (FloTrac/Vigileo/EV1000, Lidco, PiCCO)
- Fick principle (Nico)

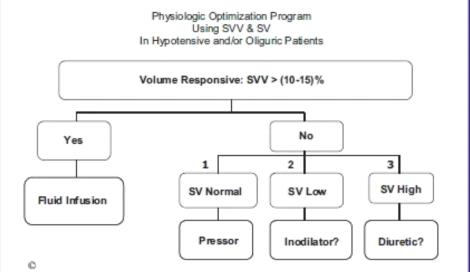














After surgery

Cessation of intravenous fluids

- unless clinically indicated
- Pressors for epidural hypotension

Regular pre-emptive antiemetics

ondansetron as first line

On arrival to the ward

- Patient sits up
- Starts drinking protein drinks





After surgery

World J Surg (2009) 33:2557–2566 DOI 10.1007/s00268-009-0104-5



Systematic Review and Meta-Analysis of Chewing-Gum Therapy in the Reduction of Postoperative Paralytic Ileus Following Gastrointestinal Surgery

J. Edward F. Fitzgerald · Irfan Ahmed

- Chewing gum postop (PACU on)
- · Limited evidence of effectiveness...
- Not harmful



ERAS - Worth it?

Figure 5. Forest plot of comparison: I Primary analyses ERAS versus conventional, outcome: I.2 All complications.

	ERAS		Conventional			Risk Ratio	Risk Ratio			
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% CI			
Anderson 2003	5	14	7	11	14.1%	0.56 [0.24, 1.29]				
Gatt 2005	9	19	15	20	33.9%	0.63 [0.37, 1.08]				
Khoo 2007	9	35	18	35	23.3%	0.50 [0.26, 0.96]	-			
Serciova 2009	11	51	27	52	28.6%	0.42 [0.23, 0.75]	·			
Total (95% CI)		119		118	100.0%	0.52 [0.38, 0.71]	•			
Total events	34		67							
Heterogeneity: Tau ² =	= 0.00; Ch	101 010 015 1 1 1 1 1 1 1 1 1 1 1 1 1 1								
Test for overall effect	Z= 4.07	0.1 0.2 0.5 1 2 5 10 Favours eras Favours conventions								

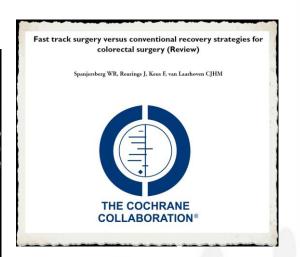


Figure 10. Forest plot of comparison: I Primary analyses ERAS versus conventional, outcome: I.7 hospital stay [days].

	ERAS		Conventional				Mean Difference	Mean Difference		
Study or Subgroup	Mean [days]	SD [days]	Total	Mean [days]	SD [days]	Total	Weight	IV, Fixed, 95% CI [days]	IV, Fixed, 95% CI [days]	
Anderson 2003	4	1.8	14	7	2.1	11	23.4%	-3.00 [-4.56, -1.44]	·	
Gatt 2005	6.6	4.4	19	9	4.6	20	7.1%	-2.40 [-5.22, 0.42]	*	
Khoo 2007	5	8.5	35	7	14.75	35	1.8%	-2.00 [-7.64, 3.64]	+	
Serciova 2009	7.4	1.3	51	10.4	3.1	52	67.8%	-3.00 [-3.92, -2.08]	-	
Total (95% CI)			119			118	100.0%	-2.94 [-3.69, -2.19]	•	
Heterogeneity: $Chi^2 = 0.27$, $df = 3$ (P = 0.97); $I^2 = 0\%$								-4 -2 0 2 4		
Test for overall effect	:∠= 7.65 (P < U	.00001)							ERAS Conventional	



"ERAS Care System"

- ERAS Protocol an evidence-based care protocol developed by the ERAS Society.
- ERAS Implementation Program a change management program specifically developed for the perioperative team of surgical clinics performing major operations.
- ERAS Interactive Audit System a software program designed to ensure compliance to the protocol, maintain tight control of patient information at every step, and monitor the results. It is used by both the health care staff as well as administration.



ERAS Society

The ERAS Society was officially founded in 2010. The mission of the Society is to "develop perioperative care and to improve recovery through research, audit education and implementation of evidence-based practice."

The ERAS Society has its roots in what was called the ERAS Study Group. Comprised of leading surgical groups, the ERAS Study Group was assembled by Professor Ken Fearon and Professor Olle Lungqvist in 2001 to further develop ideas put forth in the 1990's by Professor Henrik Kehlet concerning the concept of multimodal surgical care. In addition to the above, Profs Arthur Revhaug, Univ Tromsö, Profs Martin von Meyenfeldt and Cornlius deJong, Univ Maastricht were the original members of the ERAS Study Group.

The ERAS Study Group soon discovered that there were a variety of traditions in use in different units. There was also was a great discrepancy between the actual practices and what was already known to be best practice, based on the literature. This prompted the group to examine the process of change from tradition to best-practice.



Mid-thoracic epidural
anesthesia/analgesia
No nasogastric tubes
Prevention of nausea and vomiting
Avoidance of salt and water overload
Early removal of catheter
Eraly oral nutrition
Non-opioid oral analgesia/NSAIDs
Early mobilization
Stimulation of gut motility
Audit of compliance and outomes

Preadmission counseling
Fluid and carbohydrate loading
No prolonged fasting
No/selective bowel preparation
Antibiotic prophylaxis
Thromboprophylaxis
No premedication

Postoperative Preoperative

Intraoperative

Short-acting anesthetic agents
Mid-thoracic epidural anesthesia/analgesia
No drains

Avoidance of salt and water overload

Maintenance of normothermia (body warmer/warm intravenous fluids)



Home Events ♥ ERAS Care System ♥ Resources ♥ ERAS Guidelines News Members ♥ Support ♥ About us.. ♥

Home

ERAS Care System

ERAS Implementation Program

ERAS Implementation Program (EIP)

V

The ERAS Implementation Program is a ERAS specific training program designed and customized for your perioperative care team to implement, reach and mantain a high compliance level to the different ERAS Protocols available. It focuses on building well-functioning teams from various units involved in surgical care, introducing highly specific changes to current routines to conform to best-practice, and providing the tools to monitor and analyze the effects of those changes, through ERAS Interactive Audit System.

Implementing the ERAS Care System requires commitment. It requires changing the way some things have been done in the past. It requires tight, coordinated teamwork among those involved in perioperative care. In addition, the active involvement of the management team of the hospital is critical. With these in place, your surgical center is well on its way to achieving improved quality of life for your patients, much improved control of the perioperative care process for your staff and management, and the proven and significant savings that the ERAS Care System provides.

Example of how a program of 10 months can be outlined:

Seminars: Month 2, 4, 8 and 10
Action Periods: Month 1, 3, 5, 6, 7, 9

Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month7	Month 8	Month 9	Month 10
Prep.	1-day Seminar	Action	2-day Seminar	Action	Action	Action	1/2-day Seminar on-site	Action	1-day Seminar

Becoming an ERAS Qualifed Professional

ERAS Qualified Professional is person who has been through all 4 training sessions (has completed the entire ERAS Implementation Program course)





ERAS Interactive Audit System (EIAS)



Adjust and improve based on known facts. No more guesswork.

ERAS Interactive Audit System – Data Entry and Analysis & Reports

To reach full control and acieve "best practise" in perioperative care all patient data relevant to ERAS Protocol(s) must be entered and monitored in ERAS Interactive Audit System (EIAS). This enables continous follow up, ensures the perioperative team work together to reach and uphold a high level of compliance to ERAS Protocol(s) and it is the only way to ensure a that high level of quality for the patients is upheld over time.

EIAS is a webbased online software tool used to enter patient data related to the patients journey as well as to ensure that all members of the team conform to the standard ERAS care procedures. Further this allows the team to maximize the benefits of the ERAS Protocol in terms of reduction in patient recovery time, reduction in the rate of complications, and improvement of the quality of care. By continous follow up, analysis, adjustments and improvements the perioperative team can not only ensure a high quality of care for the patient but also increase the understanding of the perioperative care process and thus motivation of the staff involved is raised. EIAS becomes a crucial support in the daily decision making process and an important quality assurance tool.



SPONSORED BY THE SPECIALIST SERVICES COMMITTEE BC PROVINCIAL ERAS WORKING GROUP RETREAT SEPTEMBER 28TH, 2013

ACCOMPLISHMENTS & RECOMMENDATIONS

Initiative Title – On a go forward basis this initiative will be known as the <u>BC Provincial ERAS</u> Collaborative.

ERAS Collaborative Definition – This ERAS Collaborative will be framed on the Institute for Healthcare Improvement (IHI) Breakthrough Series (BTS) improvement methodology. This method is a time-limited effort that will bring surgical sites from all BC health authorities (HA) together around a common aim for the purpose of spreading existing evidence-based best surgical practices. An assumption in this model is that teams will freely and openly share their expertise and data with one another creating the climate and culture where "everyone learns, everyone teaches." Throughout the process we must clearly articulate, over and over, supported by reference to peer reviewed literature and consensus recommendations that it is within the reach of HA teams to deliver care that will support superior surgical outcomes.



Recommendations:

- Implement new standards of care that incorporate improved pre-operative assessment, preparation and triage, intra-operative care, and improved use of post-operative resources.
- Establish pre-operative assessment at a much earlier stage in the patient pathway, in order that decisions can be made about fitness for various procedures.
- Encourage clinical teams to spend relatively small amounts of money on technology that will save greater amounts of money in other areas.
- Prioritise the rational use of critical care resources, for patients undergoing major surgery.
- Analyse data and evaluate the differences seen in patient outcomes between NHS centres and those in other countries.

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Modernising the Care Of Patients Undergoing Major Surgery in UK

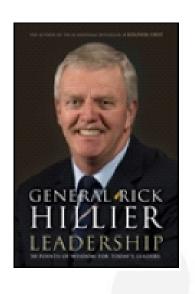
Monty G Mythen

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NHS Enhanced Recovery Partnership Programme



The 95-5 rule



- Don't waist time and energy with the 5% of people that resist change trying to get them on board.
- Invest your energy with the 95% who get it and move forward.



