



# Conference Programme



## 3<sup>rd</sup> ERAS UK Conference

8<sup>th</sup> November 2013    Birmingham    UK

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#ERASUK

## Organising Committee

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Yeovil District Hospital

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Örebro University Hospital

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Dr Rachael Barlow  
Cardiff University

Ms Olga Tucker  
University of Birmingham

Dr P Balaji  
Hull and East Yorkshire NHS Trust

Dr Fiona Carter  
ERAS UK

*Dear colleague,*

*Welcome to Birmingham and the third ERAS UK Conference.*

*The programme is very varied this year, with two interesting breakout sessions. We hope you will tweet about your thoughts and experiences today using #ERASUK.*

*We would like to thank those of you who took part in the pre-conference surveys on Patient Experience and Nutrition. The outcomes will be reported during the conference today.*

*Finally, we really want your feedback on the conference and have set up a short on-line evaluation form here:*

[www.surveymonkey.com/s/ERASUK3c](http://www.surveymonkey.com/s/ERASUK3c)

*Enjoy your day,*

*ERAS UK Conference  
Organising Committee*



# 3<sup>rd</sup> ERAS UK Conference Timetable

TIME	SESSION	FACULTY	VENUE
8.30	Registration and coffee		Foyer
9:15	Welcome  <b>Opening address:</b> Pathophysiological and stress response following surgery	Mr N Francis  Prof O Ljungqvist	Alexander Suite
9:45	<b>Session 1:</b> Management of Pain  Report on ERAS UK survey on post-operative analgesia after colorectal surgery  Debate: Who should decide the mode of post-operative analgesia after abdominal surgery: the surgeon or the anaesthetist?  Perspectives on post-operative analgesia following MSK surgery	Chairs: Dr R Barlow, Mrs W Lewis  Mr J Foster  Prof K Fearon Dr M Scott  Mr D McDonald	Alexander Suite
10:30	Coffee/ networking/ poster walk		
11:00	<b>Workshop 1:</b> Implementing, spreading, refreshing or sustaining ER in practice – an interactive workshop  Facilitators: Mr T Wainwright, Mrs W Lewis, Mr D McDonald  Introduction: Facilitators  Oral abstract presentation: <b>811002</b> Clinical Audit of ERAS Success and Sustainability Strategies and Nottingham University Hospitals <b>H Bernard</b>  Interactive workshop  Q&A and Summary	<b>Workshop 2:</b> Patient experience – how to measure it and how to improve  Facilitators: Mr N Francis, Ms E Jones, Prof R Fitzpatrick  Introduction: Prof R Fitzpatrick  Oral abstract presentation: <b>811006</b> A Phenomenological Study of Patients Lived Experience of Undergoing Laparoscopic Colorectal Resection on an Enhanced Recovery Programme <b>I Fecher</b>  Report on 1 <sup>st</sup> and 2 <sup>nd</sup> round ERAS UK member surveys on measuring patient experience <b>E Jones</b>  Interactive workshop, Q&A and Summary	

12:00	Lunch, posters and trade exhibition	
13:00	<p><b>Session 2: Oral Abstract Presentations</b>  Chairs: Chairs: Ms O Tucker, Mr D McDonald, Ms W Lewis</p> <p><b>811012</b> Looking Beyond Hospital Length of Stay Reduction. <b>A Chana</b></p> <p><b>811014</b> Surgically placed paravertebral catheters: a viable alternative to the thoracic epidural, and a key part of a successful ERAS programme in Oesophagectomy management. <b>M Daunt</b></p> <p><b>811023</b> Stepping Stones to my Recovery a patient perspective. <b>N Spruce</b></p> <p><b>811024</b> Tinzaparin (LWM heparin) compliance on discharge following elective colorectal surgery. <b>R Meskell</b></p> <p><b>811025</b> How satisfied are patients and carers with ERP? An evaluation of gynaecological oncology patients and carers. <b>G Marples</b></p> <p><b>811026</b> The importance of a dedicated facilitator in the roll-out of enhanced recovery programmes. <b>E Tustian</b></p> <p><b>811031</b> Patient information: One Size Does Not Fit All. <b>J Voll</b></p> <p><b>811037</b> Development of a Structured Traffic-light Telephone Questionnaire to Provide a More Accurate, Safer Evaluation of Post-discharge Recovery. <b>D Gane</b></p> <p><b>811039</b> Does Metoclopramide Reduce Incidence of Ileus in Enhanced Recovery Patients? <b>M Crockett</b></p> <p><b>811040</b> Black Friday-Does Day of Surgery Affect Outcome? <b>M Crockett</b></p>	
14:15	Tea break and trade exhibition	
14:45	<p><b>Session 3: Frontiers of Enhanced Recovery</b></p> <p>Cardiopulmonary exercise testing and it's role in upper GI and HPB Surgery</p> <p>Report on ERAS UK Survey on optimisation of nutrition</p> <p>Update on ERAS for HPB surgery</p> <p>Applying ER to unplanned surgery and emergency laparotomy: national audit</p> <p>ER and acute medicine</p>	<p>Chair: Prof K Fearon</p> <p>Prof M Grocott</p> <p>Ms O Tucker, Dr R Barlow</p> <p>Dr C Jones</p> <p>Dr C Peden</p> <p>Prof B Benjamin</p>
16:30	<b>Session 4: International Frontiers for ERAS; Future for ERAS UK</b>	Prof O Ljungqvist, Mr N Francis
16:50	Oral presentation + poster prizes; conference summary and close	Organising Committee

# Pre and Post Surgery Nutrition

Preload and Pro-Cal shot have been used as part of an enhanced recovery programme (ERAS)<sup>1,2,3</sup>

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1. Data on file at Vitaflow International Ltd.

2. Noblett S, Watson D, Huang H et al. Pre-operative oral carbohydrate loading in colorectal surgery: a randomized controlled trial. *Colorectal Disease* 2005; 8:563-569.

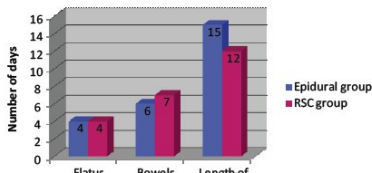
3. Sharma M, Wahed S, O'Dair G et al. A randomized, controlled trial comparing standard post-operative diet with low volume, high-calorie oral supplements in colorectal patients. *Colorectal Disease* 2013; 15:885-891

## Rectus Sheath Catheter Set

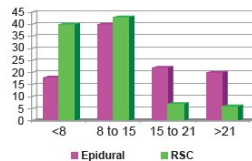
### Enhanced recovery with Rectus Sheath Catheter

Epidurals have been used for many years to help facilitate post-operative pain management but the complications and management issues are well known.

Evidence shows that using the Rectus Sheath Catheter Set (RSC) for post-operative pain management can help facilitate early mobilisation and subsequent release from hospital for patients undergoing a midline abdominal incision.



Outcome measure after radical cystectomy (20 patients, 10 for epidural group and 10 for RSC group)



Length of stay over a 3 year period after colo-rectal surgery  
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# Conference Faculty

## **Dr P Balaji**

### **Consultant Anaesthetist, Hull and East Yorkshire NHS Trust**

Due to his special interest in regional anaesthesia during his training he has been an avid faculty member in RA-UK (Regional Anaesthesia UK) activities for the past 8 years including Blockit courses and various regional, national and international Ultrasound Guided Regional Anaesthesia meetings. Dr Balaji has been on the faculty for World Congress for Regional Anaesthesia (WCRA) for the last two meetings and with lectures and workshops. He has supported the advancement of standards and education in Regional Anaesthesia in the United Kingdom.

Dr Balaji has taken an active interest in Enhanced Recovery after Surgery in Orthopaedics for last 3 years with support from his Orthopaedic Surgical Colleague. They have formulated pathways and have been instrumental in organising Hip and Knee classes for patient education locally. In addition, they organised "ERAS study day" in Hull last April 2013 and have designed a website ([www.hulleras.co.uk](http://www.hulleras.co.uk)) for education about ERAS. Dr Balaji has been involved with research for many years and has published his research works related to regional anaesthesia, Enhanced Recovery and ultrasound guided neuraxial blocks in peer-review journals. He has delivered lectures at national and international RA meetings and has been actively involved with teaching.

## **Dr Rachel Barlow**

### **Lecturer, School of Healthcare Studies, Cardiff University**

Rachael qualified as a dietitian in Cardiff in 1994 and after a short stint in London, returned to Cardiff to work as a clinical dietitian. She has many years experience of service improvement having worked closely with surgical colleagues and managers over the years.

She has a keen interest in the prevention and treatment of malnutrition, nutritional management of major surgical and critical care patients and intestinal failure. She also has a keen interest in wound management.

In 2003, she won a Fellowship grant from the Health Foundation, entitled 'Leading Practice through research', which enabled Rachael to develop her clinical leadership skills, whilst conducting research. She obtained a PhD from Cardiff University School of Medicine in 2008.

In 2009 she took up a part-time Lecturer position in Cardiff University to enable her to pursue her research interests. She also teaches future health professionals and medical students about clinical nutrition and principles of Enhanced Recovery.

Rachael has won several National prizes for her research including the British Journal of Surgery prize, The Nutrition Society prize and British Association of Parenteral and Enteral Nutrition prize. She sits on several UK committees.

Rachael was instrumental in the launch of the [Enhanced Recovery after Surgery \(ERAS\)](#) Programme in Wales in 2010, and is now the Clinical Lead for the 1000 Lives Plus ERAS Collaborative.

## **Professor Ben Benjamin**

### **Acute Medicine Consultant, Director of Research and Development, Torbay Hospital**

## **Professor Ken Fearon**

### **Professor of Surgical Oncology, University of Edinburgh, Consultant Colorectal Surgeon, Western General Hospital, Edinburgh**

Professor Fearon has conducted several of the largest prospective randomised intervention trials in cancer cachexia and had a major interest in nutritional pharmacology. He has also been a founding member of the Enhanced Recovery After Surgery (ERAS) Group and is Chairman of the Board of the ERAS Society. He was presented with the Cuthbertson Medal from the Nutrition Society in 1991, the Hippocrates Award from the Society on Sarcopenia, Cachexia and Wasting Disorders (SCWD) in 2009 and the Arvid Wretling Lectureship from the European Society for Clinical Nutrition and Metabolism in 2011. Peer reviewed original publications 153. Chapters and Reviews 75.



## **Professor Ray Fitzpatrick**

### **Professor of Public Health and Primary Care, University of Oxford**

Prior to moving to Oxford in 1986, he was a lecturer in the Academic Department of Psychiatry, Middlesex Hospital Medical School, University of London and from 1975-78 a research officer, Department of Neurological Sciences, St Bartholomew's Hospital Medical School. He was a member of Council, MRC, 1998-2003 and served as panel member or chair in the Research Assessment Exercises of 2001 and 2008. He is a Fellow, Academy of Medical Sciences.

He is Director, NIHR Health Services Research Programme and (from 2004-2011) Chair, Scientific Committee, National Prevention Research Initiative. During 2008 and 2009, he chaired the Public Health Research Board, Office of Strategic Coordination of Health Research (OSCHR).

## **Mr Jake Foster**

Jake Foster is a Specialist Registrar in General Surgery with an interest in Colorectal Surgery. He is currently taking time out of his clinical training programme to undertake full-time clinical research at Yeovil District Hospital and Imperial College London.

Jake's medical training was at Cambridge University and University College London, where he was awarded the University of London Gold Medal for highest overall achievement. Following Core Surgical Training in Manchester and the North West, Jake was appointed to the Wessex General Surgery Specialist Training rotation.

Jake has authored a number of publications in peer-reviewed journals, and his research interests are in particular the management of rectal cancer and laparoscopic colorectal surgery. Jake has a strong interest in surgical clinical trials and evidence-based surgery.

## **Mr Nader Francis MBChB FRCS PhD**

**Consultant Colorectal Surgeon, Chair of ERAS UK, Director SWSTNc.i.c., Yeovil District Hospital NHS Foundation Trust, Honorary Senior Lecturer, University of Bristol.** Since taking up his post in Yeovil, Mr Francis has continued to develop his laparoscopic colorectal practice. In addition to his role as a preceptor within the south west surgical training network, Nader also Chairs the steering board of ERAS UK. His research background including a PhD on laparoscopic surgical training and assessment with Sir Alfred Cuschieri, has underpinned Nader's leadership of a national 'Training the Laparoscopic Colorectal Trainers' course. Other research interests include methods of pain control after laparoscopic colorectal resections, analysis of low rectal resection techniques and optimal methods of perineal reconstruction. Nader also Chairs the Site Specific Group for the Avon, Somerset and Wiltshire Cancer Network and is the lead for the Western NIHR Comprehensive Clinical Research Network (Surgery)

## **Professor Mike Grocott**

**Professor of Anaesthesia and Critical Care Medicine at the University of Southampton (UoS).** Mike leads the Centre for Human Integrative Physiology. He is also a consultant in Critical Care Medicine at University Hospital Southampton NHS Foundation Trust (UHS) where he leads the critical care research area of the UHS-UoS NIHR Respiratory Biomedical Research Unit. He also leads the Caudwell Xtreme-Everest Hypoxia Research Consortium and the Fit-4-Surgery Group. Mike is Director of the NIAA Health Services Research Centre and chairs the National Emergency Laparotomy Audit. His research interests include human responses to hypoxia, measuring and improving outcome following surgery, acute lung injury, and fluid therapy.

## **Emma Jones**

Emma is an Extended Scope Musculoskeletal Physiotherapist specialising in the lower limb and a National Institute for Health Research (NIHR) research therapist at Yeovil District Hospital NHS Foundation Trust. She supports NIHR portfolio trials across the stroke, surgical and diabetes research networks. Emma is leading the design of multiple collaborative NIHR grant applications, working in particular on patient experience measurement within enhanced recovery after surgery pathways, orthopaedic device surveillance and shoulder pain diagnostics. Emma is keen to encourage effective

implementation of meaningful patient and public involvement throughout the whole research process. She has also been leading the development of a patient advisory panel which uses an IT platform to facilitate shared learning and communication between patients, clinicians and researchers. Emma is also interested in overcoming barriers to ensure that high quality evidence can successfully translate into practice which produces benefits for patients and their relatives or carers.

### **Dr Chris Jones**

**Royal Surrey County Hospital**

### **Wendy Lewis**

**Enhanced Recovery Programme Manager and Improvement Practitioner, Advancing Quality Alliance (AQuA).** Wendy is a nurse who since qualifying in 1993 has enjoyed a range of clinical, managerial and service improvement roles. She completed a post graduate certificate in clinical education in 2006 and is completing a Masters in facilitating change in clinical practice.

Wendy joined the Enhanced Recovery Partnership in 2008 initially contributing as a local ER Lead and colorectal manager within an Acute Trust and latterly as a National Improvement Lead for the Department of Health and NHS Improvement. Within the partnership she has been the Nursing Advisor for 3 years, representing the contribution made by nursing to the spread and adoption of ER.

Wendy is currently the Programme Manager for AQuA's ambitious ER programme in the North West of England that offers support for ER implementation through the ER Clinical Leads Network, the continued development of a benchmarking tool. AQuA's ER network is committed to involving patients and families in service evaluation and redesign and supporting new colleagues with their lessons learnt along their ER journey.

### **Olle Ljungqvist**

**Professor of Surgery, Örebro University Hospital, Örebro. Affiliated Professor of Surgery, Metabolism & Nutrition, Karolinska Institutet, Stockholm, Sweden.** He is clinically active in the field colorectal surgery. Olle Ljungqvist is a co-author of several original publications, reviews and book chapters and editorials. A tutor of 12 PhD students and 2 ongoing students. Appointed Editorial Board of several leading international journals in surgery and nutrition. Invited to give key lectures at over 20 major conferences annually world wide the last 10 years. He gave the Arvid Wretling lecture at ESPEN Istanbul 2006 and was awarded the Jonathan Rhoades lecture at ASPEN in Vancouver 2011. Olle Ljungqvist initiated the idea of preoperative carbohydrate treatment instead of fasting, now recommended in international and national fasting guidelines. He has held several leading positions in the European Society for Clinical Nutrition and Metabolism (ESPEN) and is the current President of the International Association for Surgical Metabolism and Nutrition (IASMEN), part of the International Surgical Society. He chairs the Europeans Nutrition for Health Alliance, serves the Danish Research Council as Chairman of the Fund for Strategic Clinical Research. and is a reviewer for funding for many international bodies. Olle Ljungqvist cofounded the Enhanced Recovery After Surgery study group in 2001 and initiated the ERAS Society in 2010, where he is serving as the Chairman

### **David McDonald**

**Service Improvement Manager, Whole System Patient Flow Improvement Programme, Scottish Government** David graduated as a physiotherapist in 2001 and became the lead orthopaedic physiotherapist in 2005 at the Golden Jubilee National Hospital (GJNH). In 2007 David formed a key role in development of their own ERP. From 2010 he was supporting the Scottish Government part time to help develop and implement ERP in orthopaedics across Scotland and improve the standards of care by decreasing variation of practise around the country. The programme continues to evaluate and improve the evidence base for ERP in orthopaedics. Recently he has moved full time to support the Whole Patient Flow Improvement Programme across all specialism's.

**Dr Carol Peden, BSc, MB ChB, MD, FRCA, FFICM, FFMLM, MPH.**

Associate Medical Director for Quality Improvement, and Consultant in Anaesthesia and Intensive Care, Royal United Hospital, Bath. Lead for the Critical Care work stream of the South West Patient Safety programme and Peri-operative Lead for the Danish Safety programme. She is an author of papers, books, reviews and standards including “The higher risk general surgical patient” DoH/RCS. She was a Health Foundation Quality Improvement Fellow at the Institute for Healthcare Improvement (IHI) and completed a Masters degree in Clinical Effectiveness at Harvard. She is the Chair of the Executive Board of the Dr. Foster Global Comparators project, composed of hospitals around the world collaborating to improve outcomes. She is a founder of the emergency laparotomy network, quality improvement lead for the National Emergency Laparotomy Network and National Clinical Director for Enhanced Recovery pathways in Emergency General Surgery. She was a member of the “Keogh” review team and is a member of the new Care Quality Commission Inspectorate

**Dr Mike Scott**

**Consultant in Anaesthesia and Intensive Care Medicine.**

Mike has been a consultant in Anaesthesia and Intensive Care Medicine at The Royal Surrey County Hospital and St Luke’s Cancer Centre in Guildford for 10 years. His main work is performing anaesthesia and perioperative care for major cancer surgery. He has an interest in fluid therapy, cardiac output, and oxygen utilisation. Mike was a member of the working party for ER in Colorectal Surgery and co-organises the Association of Anaesthetists of Great Britain and Ireland (AAGBI) ‘Enhanced Recovery for Colorectal Surgery ‘ Courses. Mike is on the working party and educational sub group for the WHO Global Pulse Oximetry Project. He is a member of the Editorial Board of the Resuscitation Council (UK) and contributor for the Advanced Life Support , Immediate Life Support Manuals and teaching materials. He has also contributed to the European Advanced Life Support, EPLS,PLS, BASICS course and Resuscitation for the UK Citizen books.

**Olga Tucker, MD, FRCSI, FRCS (Eng)**

**Senior Lecturer and Consultant Upper GI Surgeon, University of Birmingham and QEH Birmingham.**

Olga Tucker graduated from the Royal College of Surgeons in Ireland, and completed her training in Ireland, the UK and the USA. She was awarded an MD degree by University College Dublin. Her research interests are optimising patient outcomes following major oesophagogastric surgery, and she is actively involved in a number of translational and laboratory based research projects on oesophagogastric malignancy. She is the local Principal Investigator (PI) for OCCAMS, CRUK-funded ICGC, NIHR-HTA funded BOSS, and CRUK-funded Familial Gastric Cancer Studies, UK Chief Investigator for the European multi-centre Nestle funded IMPACT study, Co-Investigator of MRC funded VINDALOO study, and committee member of the NCRI UGI CSG.

**Mr Tom Wainwright**

**Clinical Researcher in Orthopaedics, The Royal Bournemouth Hospital** Tom led the design and implementation of an award winning, and internationally recognised orthopaedic enhanced recovery pathway at The Royal Bournemouth Hospital. He is passionate about the benefits of enhanced recovery pathways, and now combines research and quality improvement work to help spread its wider adoption. Tom originally worked as a physiotherapist and more recently has held managerial and research roles within the National Health Service (NHS). For the last 4 years he has worked as an independent quality improvement consultant and has worked with hospitals in both the UK and abroad.

In combination with this work, Tom is also highly active academically. He is a Visiting Associate at Bournemouth University and is currently finishing his PhD. His thesis examines how to understand, appreciate, and account for variability when managing healthcare systems and enhanced recovery pathways.

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## Oral Presentations (Abstracts)

**811002 Clinical audit of ERAS success and sustainability strategies at Nottingham University Hospitals (NUH)** Helena Bernard, Helen Scrimshire, Mr C Maxwell-Armstrong. Nottingham University Hospitals NHS Trust [helena.bernard@nuh.nhs.uk](mailto:helena.bernard@nuh.nhs.uk)

**Background** Our journey to adopt ERAS pathways in many specialities across the Trust began in 2006 when the 2 large hospitals in Nottingham merged into a single Trust. A small team started a trend which now sees ERAS widespread at NUH, dramatically improving patient experience. NUH produced an ERAS protocol for colorectal surgery in 2010 and this is audited annually. ERAS success rates for colorectal in 2012 were 13.8%, a marked drop from previous audit results. The low rates for colorectal surgery suggested poor protocol sustainability.

**Objectives** To evaluate ERAS success rates in colorectal surgery at Nottingham University Hospitals NHS Trust using audits conducted in 2010, 2011 and 2012.

**Methods** Pre-, peri- and post-operative surgical colorectal patient data was collected via a re-audit prospectively for a period of 3 months in 2012 then compared to audit data from 2010 and 2011.

**Results** ERAS success for colorectal dropped from 45.7% in 2010 to 13.8% in 2012. Univariate colorectal analysis highlighted 11 protocol components significantly associated with ERAS success, including the use of spinal anaesthesia and the removal of urinary catheter on Day 1.

**Conclusion** The significant drop in protocol compliance in colorectal surgery over the past 3 years indicates poor protocol sustainability. Past errors are challenging colorectal clinicians to examine the strategy for the implementation of ERAS and seek innovative methods of educating and supporting patients and clinical staff to improve compliance of ERAS protocols in colorectal surgery.

**811006 A Phenomenological Study of Patients' Lived Experience of Undergoing Laparoscopic Colonic Resection on an Enhanced Recovery Programme.** Imogen Fecher, Claire Tailor. University Hospital Southampton NHS Foundation Trust. [imogen.fecher@uhs.nhs.uk](mailto:imogen.fecher@uhs.nhs.uk)

**Aims** To explore and interpret the physical and emotional experience of undergoing laparoscopic colonic resection on an enhanced recovery programme(ERP).

**Method** Eleven patients with cancer who have undergone laparoscopic colonic resection on an (ERP), were interviewed at home two weeks following discharge. The interview texts were transcribed and interpreted using a qualitative method known as phenomenology.

**Findings** Interpretation of the transcripts using a validated method of analysis identified four themes, which were reflected in all participants reported experiences.

Themes:

*Expectation:* Participants had expectations of a swifter recovery through active participation, this improved their compliance to the programme but often resulted in unrealistic expectations of recovery.

*Control:* Participants expected to be in control of their own recovery and were keen to regain their independence.

*The need for comfort:* As participants became more independent, the nursing presence became more distant. As a consequence of the emphasis on physical recovery, psychological needs of participants were not always recognised.

*The need to regain and maintain a state of wellness:* Throughout the programme, the ultimate goal for participants was to return to full health and normality, having achieved early discharge many became frustrated due to fatigue and discomfort at home.

### **Discussion and Conclusion**

The experience of undergoing laparoscopic surgery on an ERP was about achieving enhanced physical recovery through compliance and independence. The focus on physical recovery resulted in psychological recovery being underestimated by participants and overlooked by nurses. Further research is necessary to understand the patients' experience of ERP without cancer.

**811012 Looking Beyond Hospital Length of Stay Reduction.** Avninder Chana, Anand Jayaraman, Rangaraj Sethuraman, Rik Kapila. Nottingham University Hospitals NHS Trust [avninder@cantab.net](mailto:avninder@cantab.net)

As we look for new ways to quantify the benefits of Enhanced Recovery, we set out to show clinical value beyond the financial implications of reduced hospital length of stay.

The phased introduction of our thoracic ER programme allowed us to evaluate the impact of increasing our physiotherapy provision on the incidence of respiratory complications following lung resection.

**Methods** We conducted a retrospective case note and imaging review of patients who underwent thoracotomy 'before' (December 2011 – February 2012) and 'after' (December 2012 – February 2013) restructured physiotherapy provision. We used baseline FEV1 to assess homogeneity between groups and recorded the incidence of postoperative respiratory complications: i) pneumonia (clinically or radiologically diagnosed), and/or ii) respiratory failure.

**Results** Average physiotherapy working days per month increased from 37.5 'before' to 64.7 'after' organisational changes.

Data was collected for 50 consecutive patients in each period. Baseline FEV1 (mean(SD)) was 1.97(0.76)L in the 'before' group and 2.10(0.79) L in the 'after' group ( $p=0.42$ ).

Respiratory complications fell from 29% before to 12% after restructuring of physiotherapy services ( $p<0.05$ ).

**Discussion** The data shows a reduction in the incidence of respiratory complications after lung resection following restructuring of physiotherapy provision to incorporate mobilisation milestones and incentive spirometry, along with patient education to facilitate engagement and empowerment using ER principles. This demonstrates a benefit of ER principles beyond the financial incentive of a shorter hospital length of stay. Further benefit may be gained through incorporating preoperative aspects of ER with increased preoperative physiotherapy input for these patients.

**811014 Surgically placed paravertebral catheters: a viable alternative to the thoracic epidural, and a key part of a successful ERAS programme in Oesophagectomy management.** Matthew Daunt, James Catton, Adam Carney. Nottingham University Hospitals NHS Trust. [mattdaunt@doctors.org.uk](mailto:mattdaunt@doctors.org.uk)

**Aim** Analgesia for Oesophagectomy traditionally includes a mid-thoracic epidural catheter. Epidurals are described as 'gold standard', but carry significant risk.<sup>1</sup>

Laparoscopically-assisted surgery has allowed us to decrease the use of epidurals in favour of surgically-placed paravertebral catheters.

We assessed the success of paravertebral catheters, by reviewing analgesic benefits, length of stay (LOS), fluid and vasopressor requirements in comparison to epidurals.

**Methods** We conducted a retrospective review of oesophagectomies performed in our hospital over a 12 month period.

**Results** Eighty-four patients were identified. 13 cases were inoperable, leaving 71 case-notes reviewed. 26 patients had a paravertebral catheter (PV) and 45 had an epidural catheter (Epi).

Neither post-operative pain scores, nor analgesic interventions (Local anaesthetic or opioid bolus, rate change or resite of catheter) were significantly different between the two groups.

The median ICU LOS was 20 hours (PV) compared to 24 hours (Epi). The median hospital LOS was 10 days (PV) compared to 11 days (Epi).

There was no difference in fluid administration between the two groups. Noradrenaline was used post-operatively in 31% (PV) compared to 40% (Epi).

ERAS protocols were completed in 58% of the PV group, but in only 44% of the Epi group.

**Conclusion** Surgically placed paravertebral catheters used within an ERAS protocol for oesophagectomies are equivalent to the 'gold standard' epidural analgesia. Their use shows trends towards successful completion of the ERAS pathway and decreased length of ICU and hospital stay.

**811023 Stepping Stones to my Recovery a patient perspective. Nuala spruce Gwen Pantak. Whiston Hospital st Helens and Knowsley trust. [Nuala.Spruce@sthk.nhs.uk](mailto:Nuala.Spruce@sthk.nhs.uk)**

We recognised that patients entering the enhanced recovery programme needed to be fully prepared and informed in order to take on the partnership role required with enhanced recovery programme. If patients are expected to take responsibility for their recovery partnerships need to form at the earliest opportunity." To ensure this we set up a 'Bowel School' for pre op patients to attend on the ward.

**Enhanced Recovery is our standard approach to care**

St Helens and Knowsley NHS Trust has committed to delivering ER to our patients as the standard of normal care. IT is not a project and has followed a sustainable plan for implementation with good progress and results. Delivering enhanced recovery is every nurse's job every day with every patient.

**Team Approach to Supporting Recovery**

Our poster describes the team involved in delivering enhanced recovery for colorectal patients. It describes the patients' perspectives of each of these roles and the goals that they work to together.

**Learning from patient feedback**

We actively seek patient opinion on the care that we deliver and use this to develop our service to the highest standard. We will be attending a patient and family engagement event in September with colleagues from the North West in order to ensure that our patients are able to contribute to the wider discussion around their role in enhanced recovery.

Stepping stones to recovery is a clear and concise way of describing our patients' journey through their surgical journey.

**811024 Tinzaparin (LWM heparin) compliance on discharge following elective colorectal surgery. Rachel Meskell, Paula Harrison, Mr Dominic Slade. [Rachel.meskell@srft.nhs.uk](mailto:Rachel.meskell@srft.nhs.uk)**

Aim: Monitoring compliance to Nice guideline CG 92 (Feb 2010) for all elective colorectal patients being discharged on LMW heparin (LMWH), within the ERP.

Method: In accordance with Nice guidelines and Trust policy all patients being discharged from SRFT who have had pelvic/abdominal surgery for malignancy should be given 28 days of LMWH from day of surgery unless contraindicated. For Patients on the ERP this often involves them having several days of injections at home. Data was collected for 47 patients from May 2012 to January 2013.

Results: 47 patients were discharged May 2012- January 2013 having had pelvic/abdominal surgery for malignancy, 30 patients were discharged on LMWH. 9 were discharged before day 7, 5 patients of those were referred to their GP for blood tests.

Of the 17 that didn't receive LMWH 1 developed a DVT within 30 days of discharge. This was brought to the attention of ward and medical staff and action plans put in place to ensure the guidelines were being followed. Patients are informed of the need for LMWH pre operatively and on discharge and given thrombosis pack preoperatively by the ERP coordinator. At this time the patient is asked if they would be willing to self administer the LMWH and if so the ward staff teach the patient/relative. Both the colorectal nurses and the ERP nurse also support the nurses with teaching and guidance to ensure the patients are discharge with the appropriate prescription. Further data collection will be carried out to ensure 100% of patients discharged on LMWH.

It was identified that patients undergoing the same surgery as an emergency were not following the guidelines so the audit and action plans will include these patients to ensure they receive the same standard of care.

Conclusion: Collection of data is essential to understand that all patients are being discharged with the appropriate prescription.

**811025 How satisfied are patients and carers with ERP? An evaluation of gynaecological oncology patients and carers. Marples, Gwen, Yvonne Anderson; Dr Karen Roberts; Dr Rachel O'Donnell. Northumbria University. [gwen.marples@northumbria.ac.uk](mailto:gwen.marples@northumbria.ac.uk)**

Interest in the enhanced recovery programme (ERP) continues to gather momentum worldwide. In the UK this more augmented rehabilitative approach to surgery is now becoming firmly embedded in a range of specialities within the NHS. To date, however, there has been little work undertaken actually looking at patient experience and satisfaction with the process (Billyard 2007).

This particular project that considers patient satisfaction with ERP, forms part of a wider evaluation study funded by Macmillan Cancer Support looking at the implementation of ERP into a tertiary gynaecological oncology centre in northern England. The Centre caters for patients from a considerable geographical area, both urban and rural in nature.

Patients undergo a range of surgical procedures by both laparoscopically assisted and open surgery. The ERP approach is now being adopted with appropriately selected patients undergoing laparotomies by both surgical approaches.

This presentation reports on findings from a number of telephone interviews (x30) conducted with patients (and their carers where applicable) undergoing gynaecological oncology surgery using the ERP approach during the period of April to September 2013. Patients were interviewed approximately 30 days post-discharge, using an amended structured qualitative interview schedule (Blazey et al 2010) to ascertain their views about their management and care via ERP. Patients were also encouraged to maintain a reflective diary post-discharge detailing their recovery if they so wished. These qualitative outcomes will be supplemented by routine monitoring data collected by the Trust and will provide details such as re-admission rates, patient morbidity and mortality etc.

**811026 The importance of a dedicated facilitator in the roll-out of enhanced recovery programmes. Elaine Tustian. Oxford University Hospitals NHS Trust.**

**[Elaine.Tustian@ouh.nhs.uk](mailto:Elaine.Tustian@ouh.nhs.uk)**

The importance of a dedicated facilitator in the roll out of enhanced recovery programmes  
A facilitator is “a person responsible for leading or coordinating the work of a group”. A good facilitator engages group members, creates enthusiasm and commitment, they are able to keep the momentum of the project going and can drive successful change.

The development of an enhanced recovery programme requires involvement from different professions (nurses, doctors, anaesthetists and allied health professionals). Without additional clinical commitments, a dedicated facilitator can coordinate meetings which enable the multi-disciplinary team to map the patient’s journey and agree on a standardised evidence-based pathway. A dedicated facilitator can allocate time for on-going education and to streamline the change process. They gain valuable information and feedback, which is used to review the pathway and drive further change. Oxford University Hospitals NHS Trust (OUH) has set up, rolled out and evaluated enhanced recovery programmes for Upper GI surgery, Colorectal surgery and Hepato-biliary surgery. To achieve successful implementation of enhanced recovery at the OUH the facilitator:

- Developed Trust standardised templates
- Identified all stakeholders
- Arranged multi-professional group meetings to decide programme goals
- Led discussions on pathway designs
- Embedded sustainable processes to ensure consistency
- Audits the process to ensure compliance
- Regularly feeds back progress to the team

At the OUH we have a designated facilitator to lead the roll out of enhanced recovery within general surgery as we believe they are the key to successful implementation and sustainability.



**811031 Patient information: One Size Does Not Fit All. Jessika Voll, Damian Bragg, Charles Maxwell-Armstrong, Nottingham University Hospitals. [jessika.voll@hotmail.com](mailto:jessika.voll@hotmail.com)**

Introduction: Patient education in enhanced recovery programmes (ERPs) is an important component of both compliance and outcome. With such variation in the methods of information delivery now available, including electronic media, we intended to investigate which methods were the most preferable for patients undergoing this form of surgery, with particular attention to more novel techniques.

Aim: To evaluate patients' preferences in the various methods of information delivery in those undergoing colorectal resections as part of an ERP.

Methods: Questionnaires based on the Likert scale pertaining to methods of information delivery, were given to patients undergoing treatment for colorectal conditions as part of an ERP. Methods investigated included: verbal, leaflets, podcasts, websites, DVD-video and email. Scoring was ranked on a linear scale from "strongly disagree" to "strongly agree" with 5 iterations in total.

Results: Acceptable modalities occur when patients specified either "agree" or "strongly agree" to a modality. 12/32 (38%) accepted video, 10/32 (32%) accepted email, 7/32 (22%) accepted websites, 3/32 (9%) accepted podcasts, 23/32 (72%) accepted leaflets and 20/32 (63%) accepted verbal explanations.

Conclusions: There was a marked trend towards receiving information via the traditional routes (verbal and leaflet). However, when subgroup analysis by age was investigated, we found that the younger age groups were more accepting of modern information deliverance (website/video). Our study concludes that patients in ERPs are given multiple media options to receive information as part of their operative experience.

**811037 Development of a Structured Traffic-light Telephone Questionnaire to Provide a More Accurate, Safer Evaluation of Post-discharge Recovery. Dawn Gane, Lisa Hayward, Anne Pullyblank. North Bristol NHS Trust. [dawn.gane@nbt.nhs.uk](mailto:dawn.gane@nbt.nhs.uk)**

Background: Patient feedback has consistently demonstrated the value of post-operative support provided to patients after discharge which consists of four daily nurse-lead contact calls. Following a complaint, it became apparent that the outcome of follow-up calls was dependent on experience and knowledge of the nurse managing the call and their ability to interpret information provided by the patient/carer. The patient responses were also dependent on personal interpretation and understanding of what was being asked by the nurse.

Aim: To develop a structured telephone questionnaire with clear management pathways associated with the response

Method: A telephone checklist was developed based on seven categories designed to capture evidence of recovery from bowel surgery, with a supporting guide to aid the staff with the call. In contrast to the pre-existing checklist which was designed just to identify post operative complications, the new structured checklist captured additional information relating to co-morbidities which could potentially cause post-operative problems.

Improvements in the quality of the telephone conversation were implemented through a traffic light system that identified high, medium and low risk factors within each of the seven categories of question, with an additional 'other relevant clinical concern question individual to each patient'.

Answers falling within the red, amber and green zones direct staff to corresponding mandatory actions to safeguard patients. Early evaluation suggests this is more comprehensive than previous open-ended questions

Conclusion: A structured 'traffic light' post-operative telephone questionnaire has improved accuracy of information provided by enhanced recovery patients leading to safer post-operative care.

## 811039 Does Metoclopramide Reduce Incidence of Ileus in Enhanced Recovery Patients?

Matthew Crockett, Dawn Gane, Lisa Hayward, Anne Pullyblank. North Bristol NHS Trust.

[matthew.crockett@nbt.nhs.uk](mailto:matthew.crockett@nbt.nhs.uk)

**BACKGROUND:** In our enhanced recovery (ER) protocol implemented in November 2008, patients routinely received metoclopramide on the basis that it improves gastric emptying. It was discontinued in November 2009 after concerns were raised by pharmacists that it was contraindicated in post operative patients.

**AIM:** To determine if metoclopramide altered incidence of ileus in ER patients.

**METHOD:** Data was extracted from a prospectively collected ER database on patients who received routine metoclopramide before November 2009 (Group A) and those after (Group B). We analysed time to first flatus (FF), time to bowel opening (BO) and length of stay (LOS). Complications are recorded separately and a patient was considered to have had ileus if there was a delay in discharge and 'ileus' or 'delayed bowel function' given as the reason. Rates of nausea/vomiting were recorded in the same way.

**RESULTS:** Group A contained 270 patients, Group B 269. The operations performed in both groups were comparable. Mean LOS was 5.3 & 5.1 days respectively. Mean FF was 2.3 & 2.4 days and mean BO was 3.3 & 3.5 days respectively. In Group A, 42 (16%) patients developed ileus, in Group B 35 (13%). There were no recorded cases of nausea/vomiting in Group A but 9 (3%) in Group B.

**CONCLUSION:** Although metoclopramide may be useful for reducing post-operative nausea and vomiting where this leads to delayed discharge, it does not reduce the incidence of ileus and does not contribute to a reduction in LOS.

## 811040 Black Friday-Does Day of Surgery Affect Outcome? Matthew Crockett, Dawn Gane;

Lisa Hayward; Anne Pullyblank. North Bristol NHS Trust. [crockettmatt@hotmail.com](mailto:crockettmatt@hotmail.com)

**Background:** There is a strong political move towards 7 day working. Enhanced recovery programmes try to ensure systems are in place to ensure patients are discharged as effectively at weekends as during the week. However, despite this, formal stoma care is not always available and the number and seniority of doctors is reduced. In addition, there has been concern that patients operated on towards the end of the week have poorer outcomes

**Aim:** To determine if length of stay (LOS) and patient outcomes vary by day of the week on which surgery occurred

**Method:** All patients in a prospectively collected enhanced recovery protocol database from November 2008 to date were included. Length of stay (LOS), return to theatre and death was examined.

**Results:** There were 1162 patients. Operations were evenly distributed throughout weekdays with no differences in left and right sided resections between the days. Disappointingly, LOS appeared to be longer for patients operated on toward end of the week suggesting that our systems may not be as robust as we thought in terms of weekend discharge. Reassuringly, in contrast to recent reports, death rates and complications were no different. Returns to theatre appeared to be greatest on a Tuesday and further analysis is needed to understand why this is so

Day of Operation	Mon	Tue	Wed	Thu	Fri
Total Patients	216	225	254	225	239
Mean length of hospital stay (days)	5.1	4.6	4.9	5.1	5.8
Median length of hospital stay (days)	4	4	4	5	5
Patients returning to theatre (%)	5.6	12.0	8.3	8.4	6.7
Deaths (%)	0.5	1.3	2.4	1.3	1.7

**Conclusion:** Within the context of a structured enhanced recovery programme, outcomes are not worse if surgery occurs at the end of the week. However, there is room for more efficient discharge at weekends as we have not yet achieved true 7 day working despite our best efforts.

## Poster Presentations (Abstracts)

### **811001 Enhanced Recovery: from pilot to policy. Sarah Mitchelmore. St Georges Healthcare NHS Trust** [Sarah.Mitchelmore@stgeorges.nhs.uk](mailto:Sarah.Mitchelmore@stgeorges.nhs.uk)

The St Georges Healthcare NHS Trust service improvement programme is to ensure that we are delivering high quality, safe and efficient services.

After the successful implementation of Enhanced Recovery (ER) for elective patients in general surgery, urology, gynaecology, trauma and orthopaedics, we have seen the benefits in patient satisfaction and experience, with reduced lengths of stay. The service improvement team have identified that by working with the principles of ER they can offer each and every surgical patient high quality, safe and evidence based care with the added benefit of revealing cost saving opportunities.

ER was piloted in gynaecology, general surgery and urology and in order to raise awareness and attract other specialties across the trust we used leaflets, mail shots, posters based on the four working principles of ER. Teaching sessions will become a part of mandatory training and information will be available on the trust intranet. An animated film pitched at patients is in production, and this will be played in the pre-op care centre as well as being made available on the trust's inter and intra-net sites. St Georges ER working group has also designed an integrated electronic care pathway, which we hope will be the pathway of choice for all surgical patients. To ensure sustainability of the project, we plan to incorporate ER awareness into our mandatory staff training, and we will continue to record length of stay, readmission rates and patient experience data.

### **811004 Orthopaedic Total Hip and Knee Replacement Enhanced Recovery After Surgery (ERAS) Audit. Daniel R. Lake, B. Ravindran, M.Satisha, T. Sequeira, K. Green, S. Kazi. Darent Valley Hospital, Dartford, England.** [daniel.lake@nhs.net](mailto:daniel.lake@nhs.net)

Enhanced recovery after surgery programs have been developed with the basis of shorter patient stay with improved or equivocal patient outcomes to previous protocols. A peri-operative protocol was designed around the model based on the Golden Jubilee National Hospital Pathway for elective total hip and knee replacements. This included carbohydrate loading, peri-operative analgesia protocol, reduced catheterisations and early mobilisation.

A prospective audit of all the elective total hip and knee replacements for 2 months between 1/10/2012 and 29/11/2012. The data was collected via an audit proforma. Length of Stay data was also retrospectively collected for the same months one year prior to ERAS introduction.

Significant reduction in length of stay for both TKR by 1.867 days ( $p=0.000007$ ) and THR by 2 days ( $p=0.00023$ ) No difference in next day pain scores with a 1.25% conversion to PCA rate in the ERAS group. Significantly reduced TKR intraoperative blood loss ( $p=0.007$ ) Significant reduction in TKR next day pain scores with ERAS protocol despite lack of local infiltration in comparison to spinal opiates ( $p=0.026$ ). Spinal opiates caused a significant longer length of stay than ERAS group ( $p=0.01$ ).

The ERAS protocol reduced length of stay with equivalent post-operative pain scores. With ERAS currently being used in 32% of cases saved the trust £72,000 annually but could save £225,225 annually if fully implemented.

### **811005 What happens after the trial ends? Length of stay for open liver resection over the 12 months following an RCT comparing ERAS with standard care. Chris Jones, Leigh Kelliher, Ajay Belgaumkar, Laura Spring, Matthew Dickinson, Michael Scott, Nial Quiney. Royal Surrey County Hospital NHS Foundation Trust.** [drchrisnjones@yahoo.co.uk](mailto:drchrisnjones@yahoo.co.uk)

Introduction: There is increasing evidence from RCT's that ERAS programmes reduce length of stay (LoS) in a number of different surgical specialities, however little is known about what happens once the trials end. Are the benefits sustained outside of the research environment? In 2010 we conducted an RCT comparing standard care with an ERAS programme for open liver resection [1]. The results showed a reduction in LoS from a median of 9 to 4 days.

Methods: LoS was prospectively recorded for all patients presenting for open liver resection over 12 months following the conclusion of the original trial. LoS was compared between this 'post-trial' group, the trial 'ERAS' group (n=46), the trial 'standard' group (n=45) and a 'pre-trial' group (n=89) consisting of prospectively collected data from patients undergoing open liver resection in the 12 months prior to the trial.

Results: There were 88 patients in the 'post-trial' group. Median LoS was significantly longer than in the trial ERAS group (5 vs 4 days,  $p=0.004$ ). However LoS in the post-trial group was significantly shorter than in both the pre-trial group the trial standard group ( $p<0.001$  and  $p<0.001$  respectively)(see Figure 1)

Conclusion: Despite an increase in LoS compared with the trial-ERAS group, post-trial LoS remains significantly lower than in both the pre-trial and trial-standard groups, indicating that the benefits of an ERAS programme are realistic and sustainable.

### **811007 Enhanced Recovery in Thoracic surgery – “Choose the fast lane”. A patients perspective.**

**Catherine Stoermer, Elizabeth Belcher, Edward Black. Oxford University Hospitals NHS Trust**  
[catherine.stoermer@ouh.nhs.uk](mailto:catherine.stoermer@ouh.nhs.uk)

Introduction: An Enhanced Recovery Program (ERP) for patient undergoing thoracic surgery in Oxford was established in July 2013. Prior to the implementation many of the key principles of ERP were established. Greater than 90% of patients were admitted on the day of surgery following attendance at a consultant anaesthetic delivered pre-assessment clinic and Oxford is established as a specialist VATS centre.

Patient satisfaction: We undertook patient satisfaction questionnaires to assess satisfaction with the peri-operative process prior and post commencement of our ERP

These results helped to shape some of the objectives of our ERP.

Objectives

- Promotion of exercise pre and post operatively.
- Providing patients with more written information regarding their surgery.
- Providing patients with more help and advice to give up smoking.
- Involving patients in decisions regarding their discharge from hospital.
- Improved pain control through the use of standardised drugs.
- To give patients an estimated day of discharge prior to admission.
- To give patients clearer instructions regarding when they should stop eating and drinking prior to surgery.

Results post ERP implementation: It is still early days post implementation of ERP but already improvements can be seen in patient satisfaction. However there are areas still requiring work including pain control and discharge planning.

### **811008 NUH: Learning the lessons from our ERAS Journey. Helen Scrimshire, Helena Bernard, Charles Maxwell – Armstrong. Nottingham University Hospitals. [helen.scrimshire@nuh.nhs.uk](mailto:helen.scrimshire@nuh.nhs.uk)**

Introducing ERAS in one of biggest and busiest hospital trusts in the UK has certainly not been plain sailing. Our journey to adopt ERAS pathways in many specialities across the Trust began in 2006 when the 2 large hospitals in Nottingham merged into a single Trust. It was launched by just 1 Colorectal Consultant surgeon with a vision, 1 forward-thinking specialist nurse and 1 ward sister keen for a change in practice.

ERAS's profile at NUH increased greatly when it became part of 'Better for You' in May 2010, the trust transformation programme which aims to advance quality, safety and value for money. The appointment of our ERAS Project Lead began an intense development of ERAS beyond the original colorectal programme. ERAS is currently visible in 14 specialities with planning underway to expand into ENT and emergency surgery.

Our ERAS journey has been complex with numerous challenges along the road. Although we were proactive, acting early to adopt ERAS protocols, we are now learning from the mistakes we made initially in colorectal. Recent audit data of the service shows a marked drop in ERAS compliance in colorectal patients from 45.7% in 2010 to 13.8% in 2012.

We are continuously drawing on experience and are subsequently altering our approach when rolling out ERAS in further specialities. Past errors are challenging us to examine our strategy for the implementation of ERAS and seek innovative methods of educating and supporting patients and clinical staff to improve compliance of ERAS protocols across our Trust.

**811009 ERAS in Diabetic Patients in Colorectal Surgery - A small cohort study. Maheswaran Pitchaimuthu, S Rajcoomar, M Zamurrad, M Rao. Pilgrim Hospital, United Lincolnshire Hospitals NHS Trust. [drmpitchaimuthu@yahoo.com](mailto:drmpitchaimuthu@yahoo.com)**

**Aim:** Enhanced Recovery After Surgery (ERAS) is a multimodal perioperative care pathway to improve the outcome in colorectal surgical patients and to achieve early recovery. However the effects of carbohydrate drink, one of the components of ERAS, on diabetic patients are not clear. The aim of our study to assess the effects of ERAS on diabetic patients in terms of glycaemic status and the effect of diabetes on ERAS in terms of any added complications.

**Methods:** Retrospective review of diabetic patients who received ERAS after colorectal surgery from Feb 2011 – Feb 2012. There were 16 patients in total and only 14 patients' notes were available at the time of our study. Data on patients' perioperative glycaemic status were collected. Hypoglycaemic/hyperglycaemic episodes and any postoperative complications were recorded.

**Results:** Total number of patients reviewed in this study is 14 (n=14). Male: Female ratio was 8:6. 3 were insulin dependant, 9 were controlled with tablets and 2 were diet controlled. After the carbohydrate drinks 11 developed fasting BM of >7mmol. 13 patients were started on sliding scale. Postoperatively 9 (64%) developed hyperglycaemic episodes (BM >10), among these 3 (21%) had hypoglycaemic episodes (BM <4). 4 (28%) patients developed complications, 2 medical, 1 radiological and 1 ITU management were required.

**Conclusion:** Carbohydrate drink, a component of ERAS, may adversely affect the glycaemic status of the diabetic patients. Whether it leads to more complications is not clear. Further larger studies are required to assess the effect of ERAS in diabetic patients.

**811010 Intra-operative fluid management: Successful implementation of the CQuIN. Adam Carney, Chris Gornall, Helen Scrimshire. Nottingham University Hospitals NHS Trust. [adam.carney@nuh.nhs.uk](mailto:adam.carney@nuh.nhs.uk)**

Intra-operative fluid management (IOFM) is a key part of a successful Enhanced Recovery Programme. In 2011 Innovation Health & Wealth, Accelerating Adoption & Diffusion in the NHS highlighted six high impact innovations with the potential to save or improve quality of lives.<sup>1</sup> Regarding IOFM; the document declared that 'we will launch a national drive to get full implementation of Oesophageal Doppler Monitoring, or similar fluid management technology, into practice across the NHS'. Adoption of this technology could benefit over 800,000 patients and generate financial savings of £400 million. In 2013/14 compliance with high impact innovations became a CQuIN (Commissioning for Quality & Innovation) target, enabling commissioners to reward excellence where NHS trusts demonstrated improvements in quality and innovation.<sup>2</sup>

This presentation will describe the challenges faced, and strategies employed, by Nottingham University Hospitals NHS Trust in implementing IOFM technology across a wide range of surgical specialities. The challenges included; forming the appropriate team to lead the process, gaining trust board backing, bidding for funding to purchase relevant equipment, helping colleagues understand the rationale for change by interpreting the relevant evidence, collecting and analysing accurate data, and negotiating with Clinical Commissioning Groups over the details of the CQuIN.

Between April 2012 & April 2013 we overcame many of these challenges, and increased our IOFM usage from 6% to 83%, thereby achieving the CQuIN target. As a consequence of this success we are now often asked for advice by both local and national trusts, on how to achieve this challenging CQuIN target.

**811011 Enhanced recovery in robotic-assisted radical cystectomy. Surayne Segaran, Chris Jones, Phillip Brousil, Zach Dovey, Matthew Perry, Michael Swinn, Krishna Patil. Royal Surrey County Hospital, Guildford. [surayne@gmail.com](mailto:surayne@gmail.com)**

**Introduction & Objectives:** Radical cystectomy is the standard of care for muscle-invasive bladder cancer

in suitable patients. However, cystectomy by any modality carries a significant morbidity and mortality of up to 41% and 1.3% respectively at 30 days, rising to 48% and 4.2% at 90 days. Median length of stay in the UK is currently 13 days, with a target of 12.5. The implementation of a programme of enhanced recovery in combination with a minimally invasive approach may reduce LOS as well as the rate of complications and mortality. We describe our implementation of such a programme.

**Methods:** A new regional service for radical cystectomy has recently been set up. As part of this, an enhanced recovery programme including the following elements was implemented: patient education, pre-operative carbohydrate drinks, minimally invasive (robotic-assisted) surgery, spinal analgesia, goal-directed fluid therapy, early feeding (with nutritional supplementation) and intensive early mobilisation.

**Results:** The initial 6 patients were operated on between 12 April and 7 June 2013. All were ASA grade 2. Median LOS for these patients was 7 days (range 6-12). One patient was re-operated on during the stay for a complication, and another was readmitted requiring transfusion and drainage of an infected haematoma, with further hospital stay of 10 days. There were no other significant complications.

**Conclusion:** A comprehensive enhanced recovery programme combined with a minimally invasive approach to surgery shows dramatic reduction in median LOS compared to the current national average.

**811013 Enhanced recovery programme for Pancreaticoduodenectomy not only reduces post operative stay hospital but also 30 day readmission rates. Hannah Clarke, Mr Abu Hilal. University Hospitals Southampton NHS foundation trust. [hannah.clarke@uhs.nhs.uk](mailto:hannah.clarke@uhs.nhs.uk)**

Pancreaticoduodenectomy (PD) carries a significant mortality and morbidity risk. After surgery patients need to have confidence that they are suitable and supported in their discharge. Hospital readmissions can have negative physical, emotional and psychological impact on patients, but also carry significant implications for hospital trust financially and with bed capacity.

Traditionally increasing readmission rates have been seen as a potential negative aspect of enhanced recovery programs and early discharge.

**Aims :** the aim of this study is to evaluate the feasibility of our ER protocol after PD especially on hospital stay and re admission rates and compare it to the traditional outcomes before the wide adoption of ER.

**Methods:** Our enhanced recovery program have been launched October 2010 initially by a single surgeon but from May 2012 it was the gold standard approach for the management of all patients undergoing PD.

**Results:** From May 2012 39 patients were included. Hospital stay and readmission rates were compared those of patients operated between May 2011 and April 2012.

Median hospital stay was 9 vs. 8 days

23% were discharged within 7 days , 59% within 10 days versus 31% and 67% respectively on the enhanced recovery.

Readmission rates were 12% which is surprisingly lower than the traditionally managed Patients before the introduction of the ER program (35%)

**Conclusion:** Our data confirm that the ER program after PD does not increase re admission rate after this complex surgery but it does improve it. This can be explained to a better patient and staff education, communication and follow up. The role of ER nurse is essential to ensure a smooth application of this protocol.

**811015 Preoperative education as part of an enhanced recovery programme improves outcomes following elective hip and knee arthroplasty surgery. LS Moulton, PA Evans, I Starks, T Smith. Wrexham Maelor Hospital (Betsi Cadwaladr University Health Board) [lsmoulton@gmail.com](mailto:lsmoulton@gmail.com)**

Enhanced recovery programmes have improved outcomes following elective arthroplasty surgery. Most studies assess whole advanced recovery programmes. There are few studies assessing the role of patient education. We therefore assessed our outcomes.

As part of our enhanced recovery programme at Wrexham Maelor Hospital, all patients are offered the chance to attend 'joint school', a preoperative education class. Not all patients attend these sessions allowing comparison of outcomes in these two groups using our prospectively collected database of outcome measures.

Between April 2009 and March 2013, 918 patients underwent elective hip or knee arthroplasty. Revision cases were excluded, leaving 563 knee replacements, 318 hip replacements and 27 unicompartmental knee replacements.

In patients undergoing knee replacement, those attending joint school had shorter length of stay (4.13 vs 4.57 days,  $p=0.118$ ) and better Oxford Knee Score at 6 months and two years (non-significant). Patients undergoing total hip arthroplasty had a statistically significantly shorter length of stay (3.53 vs 4.27 days,  $p=0.046$ ); increased frequency of mobilising on the day of surgery (28.1% vs 22.6%,  $p=0.203$ ) and higher Oxford Hip Scores (non-significant) if they attended joint school.

Our retrospective analysis demonstrates that preoperative education for patients undergoing elective total hip arthroplasty produces significantly shorter lengths of stay. There are also effects on mobilisation and outcome scores. These effects are also seen in knee arthroplasty. These results will have clinical and financial implications. Assessing cost of saved bed days alone, joint school saves the trust over £10,000 per year.

**811016 Laparoscopic colorectal resection combined with ERAS protocol can lead to safe discharge at 24 hours. Manish Chand, A Alam, C Mehta, J Stevens, J Jones, J Bromilow, T Qureshi. Poole General Hospital. [mans001@aol.com](mailto:mans001@aol.com)**

Introduction: Laparoscopic surgery is well established in the modern management of colorectal cancer. The benefits of shorter hospital stay, less morbidity and improved patient satisfaction can be further pronounced by the adoption of enhanced recovery after surgery (ERAS) protocols. This study evaluated the early outcomes of patients undergoing laparoscopic colorectal resection together with an ERAS protocol to determine whether patients could be safely discharged at 24 hours.

Methods: Data were prospectively collected on consecutive patients over a 2-year period. All patients were pre-operatively assessed to ensure they were suitable to follow the institution's ERAS protocol. Patients followed the ERAS protocol leading to discharge when specific criteria were fulfilled.

Clinicopathological and early outcomes including readmission and complications rates were analysed. Results: 144 patients were included in the analysis - 73 female (51%) and 71 male (49%). The mean age was 66 years +/- 29.1 (range 16-89); mean BMI was 28 +/- 5.3 (range 17-60) and mean ASA was 2.1. 68 (47%) patients underwent anterior resection with primary anastomosis, 49 (34%) underwent right hemicolectomy, 14 (10%) had either low anterior resection with defunctioning stoma or abdominoperineal resection, 13 (9%) had subtotal colectomy. Median length of stay was 2 days (range 1-30). 15 patients (11%) were discharged at 24 hours - one patient was readmitted within 30 days with post-operative ileus.

Conclusion: A combined approach of laparoscopic surgery and ERAS leads to significant reduction in length of stay allowing for more than 10% of patients being discharged at 24 hours.

**811018 Spinal Prilocaine; A step forward for ERAS for Lower Limb Arthroplasties: our experience. Madhu Shankar Balasubramaniam, Dr.P.Balaji, Dr. B. Ramalingam. Hull and east Yorkshire Hospitals [drbmadhu@yahoo.com](mailto:drbmadhu@yahoo.com)**

Background: In recent years, with increasing aging population and awareness among general population, there are increased number of patients undergoing lower limb arthroplasties and these procedures accounts for an appreciable portion of the country's health resources. Recent studies on surgical outcomes have therefore focussed on enhanced postoperative recovery determined by length of hospital stay, morbidity, mortality, and patient satisfaction. Lower Limb Arthroplasties are done predominantly under spinal anaesthesia either using Bupivacaine or Levobupivacaine or Ropivacaine. Recently (2007), 2% Hyperbaric Prilocaine has been reintroduced for spinal anaesthesia for surgical procedures under 2 hours of duration because of its intermediate duration of action and intermediate potency.

Materials and Methods: After obtaining Local Clinical Governance Approval, we did a prospective audit looking into those cases having Lower limb arthroplasties under Spinal Prilocaine Anaesthesia. We gave 3.0ml of 2% Hyperbaric Prilocaine intrathecally for those patients. All patients received Target Controlled Infusion of 1% Propofol with a plasma concentration maintained between 1.2-1.5µg/ml to keep them sedated during the procedure.

Results: The length of stay reduced from 5.8 days to 4 days. The incidence of catheterisation has reduced drastically from 30% to 6%. 60% of patients had physiotherapy within 4 hours post-surgery on the day of surgery.

Conclusion: Prilocaine could be reliably used for lower limb arthroplasties provided the total surgical duration is around 1:30 hours. It has to be cautiously used for revision and complex hip and knee replacements.

**811019 FASTING IN CHILDREN – THE PREOPERATIVE CHALLENGE. Katherine Lau, Andrew Langdon, Adrian Morrison. Alder Hey Children's NHS Foundation Trust. [katherine.lau@alderhey.nhs.uk](mailto:katherine.lau@alderhey.nhs.uk)**

Fasting instructions differ between infants (12 months and under) and older children. It is a balance between risks of regurgitation and aspiration of residual gastric content against physiological impact and experience of starvation. Hence we apply more liberal restrictions on preoperative oral intake in infants. However Parents' and carers' adherence to preoperative fasting instructions and their understanding of its rationale vary widely, impacting on their children's ability to recover well, quickly and safely, from surgery.

Investigators have found a consistent picture of fasting for too long or too short a time. The contributing factors have not been clear. This survey addresses understanding, adherence to fasting instructions, how well fasting is tolerated with special attention to whether there are differences between patients who are infants and children.

Patients, parents and carers were surveyed preoperatively over a three-week period at a teaching hospital for children. The following questions were asked: How long have they fasted? What were the fasting instructions and its rationale? How old were the patients and how was the patient experience? We suggest that the more restrictive approach to preoperative fasting in children compared to infants is key.

Re-appraising preoperative fasting of children in light of enhanced recovery pathways may increase adherence to fasting instructions and improve patient experience. We propose to engage patients, parents and carers preoperatively with the clear understanding of fasting from solids for 6 hours, using a carbohydrate loading drink 2 hours before surgery as a clear cut-off for oral intake of clear fluids.

**811020 Enhanced Recovery Programme (ERP) for elective primary total hip arthroplasty. Matthew Williams. Calderdale and Huddersfield NHS Foundation Trust**

Introduction: From February 2012 onwards we have adopted an ERP for primary total hip arthroplasty. We have focused on one surgeons' group of patients. Our aim is to reduce Length of Stay (LOS) and improve pain and post-operative nausea and vomiting (PONV) rates leading to an overall improvement in patient satisfaction.

Development: We modified anaesthetic and surgical techniques and the management of post-operative pain and nausea. Changes include:

- Premedication with Oxycontin MR
- Opioid free, low volume spinal anaesthesia with sedation
- Intra-operative injection of local anaesthetic
- Mobilisation on day of surgery
- Reducing dose of Oxycontin
- Regular antiemetic

Methods: We audited 23 patients from November 2012 – March 2013. Collected data included adequacy of pain relief, PONV rates, overall patient satisfaction and LOS.

Results: Overall LOS for the audited patients was 2.4 days. The most up to date LOS is 3.6 days. This is the lowest LOS compared to all the other primary hip surgeons in our Trust, who don't currently follow this programme. PONV rates are low and pain experienced by patients is less than, or the same as, expected on day 0 and day 2. There were more patients experiencing pain more than expected on day 1. Overall, patient satisfaction was universally positive.

Discussion: We have presented our findings to the Trust. To improve the day 1 pain experience we are considering the addition of Gabapentin to our regime.

We are beginning to roll out ERP with the other hip surgeons.



811021 Orthopaedic ERAS protocol for THR and TKR in Hull significantly reduced length of stay and number of falls on the ward. Rama Varadan, Tom Symes, Balaji Packyanathasamy. Hull & East Yorkshire NHS Trust. [ramavaradan@yahoo.co.in](mailto:ramavaradan@yahoo.co.in)

An ERAS protocol was introduced for all primary THR and TKR procedures in January 2013.

Prior to the introduction of the protocol there were 19 surgeons and 18 anaesthetists using 11 different methods of anaesthesia and the majority of surgeons were using drains. Day of surgery mobilisation was 1%, urinary catheterisation rate was 31% and blood transfusion rate 13%.

Length of stay has reduced from 6 days to 4.3 days for TKR and from 6.2 days to 4.6 days for THR (last 3 months data). The median and mode day of discharge has also dropped by a day for both THR and TKR. Falls on the ward have reduced from 3.8% prior to the introduction of ERAS to 1% over a 12 month period.

Day of surgery mobilisation is now approximately 50%, catheterisation rate 7% and blood transfusion rate 8%. Mortality, rate of MI and DVT are also very slightly reduced.

The work of a small group of dedicated passionate individuals has successfully introduced a pathway that has become the standard way of managing THR and TKR pts. It has led to significant reduction in LOS and falls.

**811022 The impact of a simple intervention on Surgical Site Infection in ERP Patients. Ioannis Peristerakis, Dominic Slade, Samuel Teklay. Salford Royal NHS Foundation Trust.**

[iperisterakis@gmail.com](mailto:iperisterakis@gmail.com)

Aim: Enhanced recovery programmes (ERP) consistently demonstrate reductions in postoperative morbidity. We audited Surgical Site Infections (SSI) and the impact of a bundle of simple perioperative measures based on NICE guidelines designed to reduce SSI (core temperature >36°C, appropriate prophylactic antibiotics on induction, and control of blood glucose <11mmol/L in diabetics).

Methods: Our ERP database contains prospectively collected data (one independent observer, ER practitioner) on 440 elective colorectal patients, between February 2009 and March 2013. All patients were managed according to a locally agreed ERAS protocol.

Results: SSI affected 29 patients (6.5%) of the 82 with complications. Prior to introduction of the bundle in 2011 only one of 3 diabetics had their blood glucose monitored intraoperatively. Temperature was maintained at ≥36°C intraoperatively only in 4 (13.8%) and prophylactic antibiotics were administered in 93.1% of these patients, (data missing for 2 patients). Since the introduction of the SSI bundle compliance for all 3 elements now stands at 93.5%.

Conclusion: The addition of a simple bundle of measures reduced an already low SSI rate. It is easily incorporated into the ER pathway and audited to ensure compliance.

**811027 Evaluation by patients and care providers of enhanced recovery after surgery programmes following major abdominal surgery. Michael Hughes, MME Coolson, EK Aahlin, EM Harrison, SJ McNally, CHC Dejong, K Lassen, S J Wigmore. [michaelh@doctors.net.uk](mailto:michaelh@doctors.net.uk)**

Background: Enhanced recovery after surgery (ERAS) is a well-established pathway of perioperative care in major surgery in an increasing number of specialties. Continued support from care providers and patients is vital to maintain the momentum of implementation of ERAS programmes and maximise programme adherence. In order to achieve this, it is important to assess care providers' and patients' perceptions of the relevance and importance of the ERAS principles and strategies and adjust education and development accordingly.

Methods: Anonymous web-based and paper surveys were sent to surgeons, anaesthetists and nurses in centres in Scotland, Norway and the Netherlands. Additionally, pre-operative and post-operative surveys were completed by patients scheduled for major abdominal surgery in these institutions. Each questionnaire asked the responder to rate a selection of enhanced recovery principles and strategies in terms of perceived importance.

Results: 47 patients and 57 care providers completed the initial survey. Overall, patients and care providers found the majority of items important and supported ERAS principles. The highest rated items were: being free from nausea (median 9, IQR 8-10) and being free from pain at rest (median 9 IQR 8-10). The lowest ranked items were: being discharged from hospital as soon as possible (median 8.25, IQR 6-10) and early restoration of gut function (median 7, IQR 5-8).

Conclusion: ERAS principles are supported by patients and care providers. This is important when attempting to implement and maintain an ERAS programme. Controversies still remain regarding individual ERAS components.

**811029 Introduction of Enhanced Recovery After Surgery (ERAS) Pathways in Latissimus Dorsi Flap reconstruction. H Watts, K Laurie, Eleanor Gutteridge, Amit Agrawal, Jo Gough, Rachel Farmery, Helen Scrimshire, Lisa Whisker. Nottingham City Hospital. [Holly.Watts@nuh.nhs.uk](mailto:Holly.Watts@nuh.nhs.uk)**

Background: Further to the successful adoption of the ERAS (Early Recovery After Surgery) pathways in specialities such as colo-rectal surgery, there is emerging evidence supporting its use in breast surgery including identification of components of ERAS applicable to oncoplastic breast surgery.

A review of our breast reconstruction practice showed that the length of stay (LOS) was twice the national expected LOS. Subsequently, we developed an ERAS pathway for LD flap breast reconstruction. We present data from our practice before and after the introduction of ERAS in LD flap reconstruction in July 2012.

Methods: Data on LOS following 195 LD flap reconstruction was collected from the HES database between April 2009 and April 2013. Average LOS pre- and post-ERAS (July 2012) were compared. Also, financial benefit to the trust was calculated pre- and post-ERAS using Trust's average bed day cost (£190.00).

Results: ERAS pathway reduced LOS from a mean of 5.6 days (n=169, 38 months) to 4.2 days (n=23, 10 months). Reduction in LOS amounted to concomitant reduction in the average cost per patient stay by 25%.

Conclusion: Our early result demonstrates patient and staff engagement with ERAS LD flap reconstruction pathway resulting in reduction of the LOS and the average cost per patient. In addition, in future, this practice can attract quality (such as CQUIN) related income to the trust. However, maintenance of robust post-discharge support is essential to prevent a concomitant increase in re-admission rates.

**811030 Orthopaedic ERAS – Nevill Hall Hospital Experience. Nia Williams, David Lacquiere. Nevill Hall Hospital, Aneurin Bevan Health Board. [david\\_lacquiere@hotmail.com](mailto:david_lacquiere@hotmail.com)**

Enhanced Recovery After Surgery (ERAS) is a multi-modal, multidisciplinary evidence-based approach that aims to minimise interruptions to normal physiology and function in the perioperative period. As a result, patient outcomes are improved (pain, nausea, early mobility) and length of stay is reduced.

Nevill Hall Hospital, Abergavenny is an NHS District General Hospital with nine orthopaedic surgeons performing 600 cases of primary hip/knee replacements annually. ERAS was introduced in September 2011, using a Clinical Practice Improvement model that involved a number of phases: a project phase, a diagnostic phase, an intervention phase and an impact / sustaining improvements phase. During the intervention phase, changes were introduced to the traditional clinical pathway using multiple 'tests of change'. These included preoperative elements (such as patient education sessions), intraoperative elements (such as short-acting, opioid-sparing anaesthetics) and postoperative elements (such as early ambulation and multi-modal analgesia).

Over an 18 month period 123 patients underwent lower limb arthroplasty under the ERAS pathway. Mean length of stay was reduced from 8 days (total hip replacement) or 9 days (total knee replacement) to 5 days. Median length of stays were also reduced. These were accompanied by low pain scores, very low rates of nausea and vomiting and improved early mobility. Complication and readmission rates were low.

We are now aiming to sustain improvements and build on the success of the process by 'rolling out' the pathway to all our orthopaedic surgeons' lower limb primary arthroplasty patients .

**811032 Barriers to early mobilisation within Musculoskeletal and Colorectal Enhanced Recovery. Emma Jones, Tom Wainwright, Sarah Davies, Paul Porter, Nader Francis. Yeovil District Hospital NHS Foundation Trust. [Emma.Jones@ydh.nhs.uk](mailto:Emma.Jones@ydh.nhs.uk)**

Background: Enhanced Recovery After Surgery (ERAS) protocols emphasise the importance of early mobilisation after surgery. The aim of this research is to survey staff opinion on the process of implementation and challenges across Musculoskeletal (MSK) and colorectal (CR) wards at Yeovil Hospital.

Methods: MSK and CR staff (nursing, health care assistant and therapy) were issued with paper surveys addressing: i) timing of mobilisation, ii) competency and iii) barriers in July 2013.

Results: 32 staff completed the survey; 17 MSK and 15 CR of a cohort of 40.

CR staff reported unanimously that mobilising patients before breakfast could impact on length of stay while 53% of MSK staff believed that the timing of first mobilisation does not alter it. All staff felt competent and identified no training issues.

The most common barriers identified were; staff availability (88% of MSK) and low blood pressure (60% of CR). Other factors included nausea, pain and anaesthetic/analgesia type especially after knee surgery. MSK staff reported that organisational multi-disciplinary changes should be implemented to overcome barriers. MSK staff emphasise the role of the therapists to drive mobilisation while CR staff emphasised the role of nurses.

Conclusion: There is a difference in culture between Musculoskeletal and Colorectal staff in the timing of early mobilisation and its impact of length of stay. Multiple challenges to early mobilisation can be overcome by a multi-disciplinary approach across specialities.

**811033 Involvement and Active Participation of Patients Evidenced on a Patient Satisfaction Following Enhanced Recovery. Samrat Mukherjee, Liz Harwood, Angela Ridgeon, Matthew Hanson, Saswata Banerjee. Queens Hospital, Barking, Havering & Redbridge Hospitals NHS Trust. [docsamrat@yahoo.com](mailto:docsamrat@yahoo.com)**

Background: The enhanced recovery programme(ERP) is about improving patient outcomes and patient's recovery after surgery. ERP focuses on making sure that patients are active participants in their own recovery process. We had the ERP ongoing since September 2011 in our University Trust which includes two acute district general hospitals serving a population of 800,000.

Aim: Our aim was to assess how patients felt about the ERP and their level of satisfaction with the care and their involvement in their care.

Methods: We contacted 200 patients who were enrolled on to the ERP from Aug 2012 – April 2013 by a telephone questionnaire. All patients surveyed responded to the questionnaire and their responses were analysed.

Results: There were 80 colorectal patients, 51 gynaecology patients, 53 orthopaedic patients and 16 urology patients. Of these 15 patients had to be subsequently removed from the ERP pathway for post-operative complications or subsequent unplanned procedures. 83% of patients definitely felt that they were involved in decisions about their care and treatment. 93% patients felt that they were given the right amount of information about their condition and treatment and 2% patients felt that they were given too much information. 87% of patients felt they were involved in the decisions about their discharge from hospital. 96% of them remembered who to contact if they had problems following discharge.

Conclusion: The survey reveals that the vast majority of patients on the ERP are very satisfied with the active participation in their care that the ERP focuses on.

**811034 Serum Amylase on the Night of Surgery Predicts Post-operative Pancreatic Fistulae and Identifies Patients Suitable for Fast-Track Recovery Protocols after Pancreaticoduodenectomy.**

Lavaniya Kumar Palani Velu, V.V. Chandrabalan S. Jabbar, D.C McMillan, C.J McKay, C.R. Carter, N.B. Jamieson, E.J. Dickson. Academic Unit of Surgery, University of Glasgow. [lavanpalanivelu@gmail.com](mailto:lavanpalanivelu@gmail.com)

Introduction: Post-operative pancreatic fistula (POPF) is a major driver of morbidity after pancreaticoduodenectomy (PD) and fuels controversy surrounding post-operative drain management.

We investigated the utility of serum amylase on the night of surgery (postoperative day [POD] 0 serum amylase) to predict POPF after pancreaticoduodenectomy in an attempt to identify patients suitable for early drain removal and fast-track recovery programmes.

Methods: 185 patients who underwent pancreaticoduodenectomy between 2008 and 2013 were studied. Receiver operating characteristic (ROC) analysis identified an optimal threshold value of POD 0 serum amylase associated with clinically significant POPF from a test cohort (N = 45). A validation cohort (N=140) was used to test the accuracy of this threshold value in predicting clinically significant POPF. Multivariate regression analysis was carried out to identify independent risk factors for POPF.

Results: 43 patients (23.2%) developed clinically significant POPF. The optimised threshold value of POD 0 serum amylase for identification of clinically significant POPF using ROC analysis was  $\geq 130$  IU/L (P=0.003). Serum amylase  $<130$  IU/L had a negative predictive value of 88.8% for clinically significant POPF (P=0.001). POD 0 Serum Amylase  $\geq 130$  IU/L and soft pancreatic parenchyma were independent risk factors for clinically significant POPF. A POD 0 serum amylase  $\geq 130$  IU/L was associated with clinically significant intra-abdominal abscesses, readmission to a critical care setting and re-operation.

Conclusion: POD 0 Serum Amylase  $<130$  IU/L allows early and accurate categorization of patients at least risk of clinically significant POPF and may identify patients suitable for early drain removal, and entry into fast-track recovery protocols.

**811035 Enhanced Recovery After Surgery (ERAS) protocols are a safe and feasible management strategy after pancreaticobiliary surgery. Lavanniya Kumar Palani Velu, D.C McMillan, C.J. McKay, C.R. Carter, N.B Jamieson, E.J. Dickson. Academic Unit of Surgery, University of Glasgow.**  
[avanpalanivelu@gmail.com](mailto:avanpalanivelu@gmail.com)

Introduction: ERAS protocols have been successful in reducing post-operative morbidity and lengths of hospital stay (LOHS), in colorectal and breast surgery. As yet, ERAS principles have not seen wide acceptance among pancreatic and oesophagogastric surgeons. We investigated the effects of a formal ERAS protocol on post-operative morbidity and LOHS after major pancreaticobiliary procedures.

Methods: The perioperative management of all patients undergoing pancreaticobiliary surgery at our institute was guided by a locally developed ERAS protocol. Patients underwent pre-operative counselling, nutritional assessment and carbohydrate loading. All patients received intrathecal opiate and Patient Controlled Analgesia devices for post-operative analgesia. Nasogastric tubes were not inserted routinely. Oral intake was restarted from post-operative day (POD) 1 and escalated on an on-demand basis. Patients were mobilised from POD 1 and physical activity was escalated daily. Audit was built into the protocol to prospectively record variance and adverse events.

Results: 39 consecutive patients were analysed. 23 patients (59.0%) underwent pancreaticoduodenectomy, 10 patients (25.6%) underwent distal pancreatectomy, 3 (7.7%) underwent palliative bypass and the rest underwent other procedures. Median LOHS was reduced to 10 days (Interquartile range [IQR] 7 – 19) from 16 days (IQR 12 – 26) (P < 0.001). There were no statistically significant increases in readmission rates, pancreas-specific or generic post-operative morbidity rates.

Conclusion: ERAS protocols are a viable peri-operative management strategy after major pancreaticobiliary surgery, and initial data suggests that LOHS can be reduced without an associated increase in readmission or post-operative morbidity rates.

**811038 How Are You Today? How a Simplified Daily Progression Survey Can Replace a Patient Diary and Improve Quality of Care. Rhys Williams, Dawn Gane, Lisa Hayward & Anne Pullyblank. North Bristol NHS Trust.** [rw8620@my.bristol.ac.uk](mailto:rw8620@my.bristol.ac.uk)

Aim: Enhanced recovery programmes work in partnership with patients and many include the use of a patient diary. Our experience is that this is completed unreliably, possibly because it is too detailed. There is evidence that the use of a real-time questionnaire to assess patient well-being can improve quality of care. Our aim was to develop a simplified questionnaire to act as both a daily progression diary and satisfaction survey.

Method: Patients, nurses and doctors were asked to rate what they considered important questions to ask patients on a daily basis. Responses were used to develop a daily progression survey using small cycle tests of change.

Results: Doctors, nurses and patients all rated different factors as important to patient recovery: Focusing on patient priorities and avoiding duplication of data recorded elsewhere, we refined the questionnaire to 15 key questions. Initial analysis demonstrated this to be more user-friendly than the existing patient diary. Patient evaluation demonstrated 100% satisfaction with the form, 79% felt it improved patient care and 86% felt it made it easier to raise concerns.

Conclusion: We have developed a simplified daily progression tool to replace the patient diary that is rated more highly by patients. In addition to measuring progress, it can act as a satisfaction survey identifying problems as they arise, enabling earlier intervention. We hope to use this tool for all patients, not just those in the ERAS programme, to improve satisfaction with hospital care as well as encourage partnership in their own recovery.



ERAS UK aims to improve patient recovery after surgery by promoting knowledge, understanding and research regarding optimal outcomes.

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