

Colorectal Surgery Program Abstracts

Abstract titles marked with an asterisk were judged for the Mark Killingback Prize.

**CR01**  
**THE DIFFICULT STOMA**

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We will present a range of clinical scenarios of difficult stomas, focusing on the surgical and stomal therapy management that may arise.

**CR02**  
**AUSTRALASIAN LAPAROSCOPIC COLON CANCER STUDY (ALCCAS): LOWER POSTOPERATIVE COMPLICATION RATES BENEFIT ELDERLY PATIENTS**

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**Purpose:** We report the age-related peri-operative morbidity findings of the Australia and New Zealand prospective randomised controlled trial (RCT) comparing laparoscopic (LCR) and open (OCR) surgical treatments of right- and left-sided, potentially curable, colon cancer.

**Methods:** Between January 1998 and April 2005, 601 eligible patients were recruited by 33 surgeons from 31 Australian and New Zealand centres. Complications were analyzed by an independent reviewer. Their severity was classified as; mild, moderate or severe and their relatedness to surgery as; not, probably not, possibly or definitely.

**Results:** 294 patients had LCR and 298 had OCR. 266 patients were < 70 and 326 ≥70 years (mean = 70.3 ± 11 years). There were 43 (14.6%) conversions from LCR to OCR, of which 35 (81%) had a complication. The numbers of surgical (p = 0.003) and medical (p = 0.043) complications were reduced in completed LCR operations when compared with OCR. These differences were attributable to significantly lower numbers of complications in patients ≥70 years (surgical, p = 0.002; medical, p = 0.043). Likewise, the numbers of individuals experiencing any complication favoured LCR treatment (p = 0.001) and specifically those ≥70 years (p = 0.004).

**Conclusion:** Treatment choices for colon cancer depend upon survival and tumour recurrence, short-term outcomes, costs and quality of life measures. If LCR is proven safe and affordable, our results suggest that patients ≥70 years with potentially curable colon cancer be rigorously investigated preoperatively to avoid conversions and then considered for LCR.

**CR03**  
**\*ILEOCOLIC RESECTIONS FOR CROHN'S DISEASE: IMPACT OF MEDICAL THERAPY**

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**Purpose:** Ileocolic resection is the commonest surgical resection performed for Crohn's disease. The aim of the study was to review outcomes of primary ileocolic resections for Crohn's disease with particular emphasis on complications, recurrence and impact of prophylactic medication.

**Methodology:** Retrospective chart review was undertaken on all patients undergoing ileocolic resection for Crohn's disease between July 1998 and June 2008 at a tertiary centre. Data collected included patient demographics, pre-operative medication, technical aspects of surgery, complications, prophylactic medical therapy and recurrence of disease.

**Results:** There were 64 patients (28 male, 36 female), mean age 30.2 years (SD 10.6). Surgery was elective in 49 patients (76.6 %) and urgent in 15 (23.4%). Laparoscopic surgery was undertaken in 31 (48.4%) with 3 con-

verted to open (9.7 %). High anterior resection was performed in addition in 9.4% for contiguous disease. Post-operative complication rate was 17.2% (anastomotic leak 6.3%; intra-abdominal abscess 4.7%; pulmonary embolus 3.1%; other 3.1%). Endoscopic disease recurrence occurred in 27 (42.2%) of patients with mean time to recurrence 1.8 years (SD 1.3). Surgical intervention for recurrent disease was required in 5 (7.8%) and 40% of these developed further recurrence on imaging after repeat surgery. Prophylactic medications following primary resection did not reduce risk of recurrence (recurrence [prophylaxis/no prophylaxis], 21 vs. 6; no recurrence, 26 vs. 11; p = NS).

**Conclusion:** Almost half of patients who have an ileocolic resection for Crohn's disease will develop recurrence though less than 10% require further surgery. Prophylactic medical therapy does not reduce recurrence.

**CR04**  
**\*DOUBLE BLIND RANDOMISED CONTROLLED TRIAL OF THE INFLUENCE OF GLUCOCORTICOIDS ON POST-OPERATIVE RECOVERY FOLLOWING COLECTOMY**

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**Introduction:** Post-operative fatigue (POF) is an important indicator of recovery after major surgery. Recent data have suggested a relationship between the post-operative peritoneal cytokine response and development of POF. Glucocorticoids decrease the production of cytokines and thus we hypothesised that administration of dexamethasone to patients undergoing colonic surgery may decrease peritoneal cytokine production and POF.

**Aim:** To assess the influence of 8 mg of pre-op IV Dexamethasone on peritoneal cytokine and POF in patients undergoing elective colonic surgery. Method: In a double blinded RCT, 70 consecutive patients undergoing elective, open colonic resection were administered 8 mg I.V. Dexamethasone or saline (Placebo) prior to surgery. All patients were treated within a structured Enhanced Recovery After Surgery program.

**Results:** After exclusions there were 31 patients in the Placebo group and 29 in the Dex group. At baseline there were no differences in the age, ASA, BMI or CR-POSSUM scores. Dexamethasone was associated with a significant reduction in Interleukin-6 (IL-6) and IL-13 in the peritoneum and IL-6 and IL-8 in plasma. Subsequently, patients in the Dex group had lesser POF and fatigue impact scores at days 3 and 7. Patients in the Dex group had less post-op nausea and vomiting. There was no significant increase in complications.

**Conclusion:** Preoperative Dexamethasone administration is associated with a significantly diminished post-operative pro-inflammatory reaction which is associated with clinical benefits in POF and its impact. This intervention may be an effective method of improving outcomes for patients undergoing major colonic surgery within a multimodal enhanced peri-operative care pathway.

**CR05**  
**\*POSTERIOR TIBIAL NERVE STIMULATION: A TREATMENT FOR FAECAL INCONTINENCE?**

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**Purpose:** Faecal incontinence (FI) is a prevalent and important multifactorial condition. Neuromodulation via implanted sacral nerve stimulators is efficacious, but as with other invasive treatment modalities is expensive and associated with significant complications. Peripheral neuromodulation of sacral nerve roots via posterior tibial nerve stimulation (PTNS) is effective in urinary incontinence, but there is minimal evidence for its use in FI. This study aimed to assess the efficacy of PTNS in FI.

**Methodology:** 12 patients with FI of various causes (8 idiopathic, 3 obstetric, 1 previous anorectal surgery) underwent PTNS at a UK hospital. All were investigated with colonic imaging, anorectal physiological studies and endo-anal ultrasound. Prior treatments comprised physiotherapy (12), sphincter repairs (3 biofeedback (3) and implants (1)). PTNS was performed for 30 minutes, weekly for 12 weeks. Outcome measures were episodes of incontinence, the Hospital Anxiety and Depression Scale and Rockwood Faecal Incontinence Quality of Life score.

**Results:** Mean monthly episodes of incontinence of wind, liquid and solid before treatment were 18.77, 21.77 and 22.15 respectively. After 12 weeks'

treatment this had reduced to 0.92, 0.83 and 0.83 respectively ( $p < 0.05$ ). Sphincter integrity, physiology and aetiology were not shown to affect efficacy. No patient's incontinence worsened. Non-significant improvements in Anxiety and Depression and quality of life scores were also seen.

**Conclusions:** This is the first UK study to demonstrate PTNS as a potentially efficacious and minimally invasive alternative treatment modality for faecal incontinence. These early results are encouraging, but we await medium and long term follow up.

#### CR06

##### \*LAPAROSCOPIC ANTERIOR RECTOPEXY FOR EXTERNAL PROLAPSE IS SAFE IN THE ELDERLY AND MAKES PERINEAL PROCEDURES ALMOST OBSOLETE

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**Purpose:** Perineal procedures, despite high recurrence (pooled published series 18%) and poor function, are gold standard for external rectal prolapse (ERP) in the elderly for safety. Abdominal rectopexy has lower recurrence (<5%), but performed posteriorly induces constipation in 50% and open has higher morbidity. Laparoscopic anterior rectopexy (LAR) overcomes these limitations, improving constipation with low recurrence. We aimed to assess efficacy and safety of LAR for ERP in the elderly.

**Methodology:** Data on LAR for ERP >80 from 2 tertiary colorectal pelvic floor services in Oxford and Bristol were collected prospectively and analysed. End-points were mortality, morbidity, length of stay (LOS). A subgroup was analysed for change in bowel function (Wexner constipation score and Faecal Incontinence Severity Index [FISI]). A comparison was made with a cohort of patients <80 years.

**Results:** 81 patients (1 Delorme's in this period) 80 years or more (28% of total) were compared with 149 patients under 80 (98% vs. 86% female, age median 84 vs. 60 years, range 80–97 vs. 16–79 years). 30-day mortality (0% vs. 0%), morbidity (11% vs. 3%+), LOS (2 vs. 2 days) and recurrence (2% vs. 0%) was acceptably low and similar in both age cohorts. Functional results were excellent, both cohorts showing improvement in constipation (median Wexner pre-op 10 to post-op 3 vs. 10 to 4, new-onset constipation negligible) and incontinence (median FISI 31 to 0 vs. 34 to 8, resp.).

**Conclusions:** LAR is safe and can be offered to all fit elderly ERP patients. Perineal procedures should be restricted to the very frail.

#### CR07

##### \*IMMUNOHISTOCHEMISTRY FOR LOSS OF EXPRESSION OF MISMATCH REPAIR GENE PROTEINS IN YOUNG PATIENTS WITH COLORECTAL CANCER: THE AUCKLAND EXPERIENCE

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Recently, in Australasia, a plea to screen all young patients with colorectal cancer (CRC) for Lynch syndrome has been advanced<sup>1</sup>.

Since 2001 the three public hospitals in Auckland have had the policy of undertaking immunohistochemical (IHC) testing on the tumours of patients aged 50 years and under to detect loss of expression (LOE) of protein products for the mismatch repair (MMR) genes MLH1, MSH2, MSH6 and PMS2.

**Purpose:** To determine (1) the completeness of patient capture, (2) the incidence of LOE by IHC of the 4 gene proteins, and (3) to correlate IHC results with those of subsequent genetic testing for the corresponding germline mutations.

**Methodology:** Retrospective review of the prospectively gathered clinical, pathological, and genetic records of all patients diagnosed with CRC aged 50 years and below between January 2001 and December 2007.

**Results:** 244 patients aged 50 years or below with CRC were diagnosed in this period. 212 (86.9%) patients' tumours underwent IHC, 147 of which had all 4 gene products studied. 30 (14.2%) tumours had LOE for one or more MMR proteins. 25/30 patients were offered genetic testing of whom 3 declined. So far 8 out of 16 patients tested have a confirmed germline mutation. Only 3/8 patients report a family history of CRC.

**Conclusion:** Tumour IHC reveals LOE for one of the four MMR gene proteins in approximately 14% of young patients developing CRC and in

half subsequent genetic testing will identify Lynch syndrome. A policy of mandatory testing is confirmed but audit of performance and appropriate referral is required.

#### Reference

- (1) Harris M. Why all young bowel cancer patients should be screened for Lynch Syndrome. ANZ J Surg 2008; 78: 531–2

#### CR08

##### \*PARASTOMAL HERNIA PREVENTION USING A NOVEL COLLAGEN IMPLANT: A RANDOMISED CONTROLLED PHASE 1 STUDY

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**Background:** Parastomal hernias can be prevented or repaired using synthetic mesh; however, reported complications include infection, fibrosis and potential bowel erosion. The study aim was to assess the safety, feasibility and potential efficacy of using a prophylactic collagen implant.

**Methods:** Twenty patients undergoing defunctioning stomas were randomised to a conventional procedure or reinforcement with the implant. Follow-up included regular symptom questionnaires, clinical examination, stoma site ultrasound, and serum inflammatory markers.

**Results:** Ten patients (four males; mean BMI 26.3) had a conventional stoma, and ten (three males; mean BMI 26.3) received the implant. At a median of 6.5 months follow-up, a parastomal hernia was clinically evident in three of ten patients without the implant, and in none of ten patients with the implant. There were no clinical complications, ultrasound evidence of chronic seromas or serological evidence of a systemic inflammatory response.

**Conclusions:** Xenogeneic collagen has been demonstrated to aid soft tissue reinforcement. In this study, in contrast to published data relating to the use of conventional synthetic mesh, there were no complications related to infection or the implant's proximity to the bowel. This trial demonstrates that the implant is safe, feasible to use and has the potential to prevent parastomal herniation.

#### CR09

##### \*LAPAROSCOPIC WASHOUT FOR DIVERTICULITIS

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**Background:** Hartmann's procedure has been the treatment for complicated perforated diverticular disease. Laparoscopic washout with colonic preservation can replace radical resection. Laparoscopic washout is associated with less morbidity, mortality and improved quality of life.

**Methods:** An 8-year retrospective review of 80 consecutive cases of sigmoid diverticulitis warranting emergency surgical intervention (2000–2008). During this time approximately 2000 admissions for diverticulitis were recorded.

**Results:** Hinchey grades were I(10), II(26), III(38) and IV(6). Patients age mean 77, median 74. Procedures performed were Laparoscopic washout (34), Hartmann's procedure (34), percutaneous drainage of abscess (5), resection and primary anastomosis (3). Overall mortality was 7% (all in the Hartmann's group). Washout achieved success in 28 of 34 cases without immediate colonic resection. Short-term failures of washout in 6 were due to perforated cancer (2), faecal fistula formation (2), inadequate washout and ongoing sepsis (2). All failures underwent Hartmann's resection without complication. In long-term follow up 8 patients developed symptoms of recurrent complicated diverticulitis including (delayed stricture, fistulae and repeat perforation) and underwent sigmoid resection. 8 patients underwent planned resection without experiencing further symptoms. 10 patients were observed without symptoms with mean follow up of 20 months.

**Conclusions:** Laparoscopic washout is superior in cases of perforated Diverticulitis with purulent peritonitis (Hinchey III). It is recommended in Hinchey I and II cases, when percutaneous drainage is unhelpful. Hartmann's colonic resection should be reserved for genuine cases of faecal peritonitis (Hinchey IV).

### CR10 MRI CRITERIA FOR SELECTING PATIENTS FOR PREOPERATIVE RADIOTHERAPY IN RECTAL CANCER

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**Purpose:** Preoperative radiotherapy (PRT) reduces the risk of local pelvic recurrence (LR) after rectal cancer surgery but is associated with considerable side-effects. This study aims to identify the LR rate associated with the present MRI based selection criterion for PRT (tumour threatening the fascia propria on MRI) at Auckland City Hospital (ACH), and to assess the likely influence on LR rates of a regimen using a PRT selection criterion based on a 5 mm clearance of the fascia propria.

**Methodology:** All patients with rectal cancer treated at ACH from 1997–2005 who had preoperative MRI scans were identified from the National Cancer Registry. Details of demographics, MRI results, treatment and outcome were collated. Long-term outcomes were obtained from digital records, GPs, patient contact and death-certificates. All MRIs were re-reported using the new criterion of 5 mm clearance for the fascia propria.

**Results:** There were 126 patients eligible patients, 20 were excluded with lack of MRI or follow-up. 106 patients (mean age 66.5 years, 67% male) were followed-up for a minimum 2 years (med 3 years). Using the present MRI based ACH criteria for PRT 29 (27%) patients were irradiated. Using a 5 mm tumour free margin 80 (75%) of patients would have been offered PRT. Overall 7 (6.6%) patients developed LR, 6 of these did not receive PRT, 4 of these fulfilled the new criterion and only 2 of these patients had a resection with curative intent.

**Conclusion:** Selective PRT based on threatened fascia propria involvement on MRI lead to low PRT and LR rates. The use of a 5 mm tumour free lateral margin on MRI would result in three times as many patients receiving PRT and is likely to reduce the local recurrence rate by about 2%.

### CR11 \*THE MULTIDISCIPLINARY MEETING IN COLORECTAL CANCER SERVICE – ATTITUDES OF CLINICIANS AND THE IMPACT UPON PATIENT MANAGEMENT

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**Purpose:** The multidisciplinary meeting (MDM) has been widely adopted as standard of care for patients with colorectal cancer (CRC). However, there is little evidence to support the MDM, and individual clinician attitudes have not been studied.

**Methods:** Clinicians involved in patients with CRC patients completed a questionnaire. The study was conducted in 2008 at 5 institutions, including MDM naïve (NG) and experienced groups (EG), with repetition in 6 months. The impact of the MDM was prospectively studied at a hospital from 7/7/08 to 22/12/08. The initial plan and the final consensus were recorded.

**Results:** 22 clinicians completed the survey. The clinicians in the NG stated that there was an influence of MDM on routine patient management in 40% of patients. After 6 months, in both the EG and the NG, the MDM was felt to have an impact on the patients' management in >70% of cases ( $p = 0.16$ ). 115 cases (91 patients) were discussed at the MDM. The median age was 65 years (range 26 to 101) with 48% males. The locations were colonic 53 (46%), rectum 40 (35%), anus 6 (5%) and other 16 (14%). 80 (69%) were discussed at the time of initial diagnosis. In 79 (69%) the main issue was chemotherapy and/or radiation administration. In 17 (52%) patients it was decided that further investigations were required. There was an impact on the management in 33 (29%) patients. A change in treatment intent occurred, either curative or palliative, in 5 (15%) patients.

**Conclusion:** Clinicians involved in an MDM believe that this influences management in majority of patients with impact on management of almost a third of patients discussed. The multidisciplinary meeting is valuable in the treatment of colorectal cancer patients.

### CR12 \*SELF-EXPANDABLE METALLIC STENT VS SURGERY IN MANAGEMENT OF ACUTE MALIGNANT LARGE BOWEL OBSTRUCTION

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**Background:** Management of acute LBO remains challenging. An urgent surgical intervention is often associated with poorer clinical outcome compared to an elective procedure. SEMS as BTS or palliative measure remain controversial and not widely available.

**Methods:** From 1995 to 2008, retrospective analysis of the patients presenting with an acute malignant LBO to the Tweed and John Flynn Private Hospitals was performed.

**Results:** SEMS were inserted in 31 patients (median age 74 (46–95), 17 females and 14 males, ratio 1.2:1). 12 were elective and therefore excluded. The remaining 19 had emergency SEMS insertion – 12 as BTS and 7 palliative. LOS was 4.5 days (2–21). Tumour was located in the left colon and the rectum (15) and transverse colon (4). 15 patients experienced complete resolution of LBO. 10 patients from the BTS group had subsequently undergone one-stage curative resection with good outcome. There were 2 deaths and 2 unsuccessful SEMS placements. Urgent operation was performed in 23 patients (median age 74 (52–89), 10 males and 13 females, ratio 1.3:1): 18 Hartmann's procedures, 3 resections with primary anastomosis and 2 defunctioning colostomies. LOS was 17.7 days (2–59). There was 1 death, 1 ongoing pelvic sepsis, 5 significant wound complications, stoma prolapse, AMI, IHD exacerbation, 2 episodes of AF, 3 UTI, pneumonia and 3 cases of prolonged ileus.

**Conclusions:** In expert hands SEMS are effective in treatment of LBO. They are associated with an overall better outcome and improved quality of life of patients. Surgery is indicated, where SEMS are unavailable or have failed.

#### Abbreviations:

Large Bowel obstruction (LBO), Self-expandable metallic stent (SEMS), Length of stay (LOS), Bridge to Surgery (BTS)

### CR13 \*EARLY SURVEILLANCE COLONOSCOPY FOR METACHRONOUS COLORECTAL CANCER

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**Introduction:** Colorectal cancer is the 3rd most common cause of cancer deaths in Australia. The Australian NHMRC guideline recommends regular surveillance colonoscopy every 3–5 years after curative surgery. Some studies recently reported disturbing rates of metachronous colorectal cancer occurring early after curative treatment of the index tumour. There are concerns that performing surveillance colonoscopy only 3–5 years after curative surgery may miss a significant proportion of metachronous cancers. This study looks at the rate and timing of metachronous cancer in two institutions, and examines factors which may be associated.

**Methods:** This is a retrospective audit utilising a database of all patients undergoing surveillance colonoscopy at Flinders Medical Centre and Repatriation General Hospital. Patients were identified using the database, with subsequent case note review. Patients with familial disorders or disease recurrence at anastomotic sites within 12 months were excluded. This audit has been approved by the Ethics and Research Committee of both hospitals.

**Results:** Colorectal cancers were identified in 569 patients, of whom 15 (2.6%) had metachronous cancers and were included in our study. There were 10 men and 5 women with average age of 74 years. The median time interval to detection of metachronous cancer was 36 months (range 13–202 months). 8 (53%) patients had metachronous cancer identified at between 13–36 months after diagnosis of the primary tumour.

**Conclusion:** Our study showed that a significant proportion (53%) of patients who had metachronous colorectal cancer presented within 13–36 months. Early surveillance colonoscopy may be warranted to detect earlier stage disease relapse.

**CR14**  
**\*ANAL INTERSPHINCTERIC NERVE BLOCK PRIOR TO RUBBER BAND LIGATION OF HAEMORRHOIDS. IS IT EFFECTIVE? A RANDOMISED CONTROL TRIAL**

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**Purpose:** Significant pain and discomfort are reported by a proportion of patients undergoing rubber band ligation of haemorrhoids. Several nerve blocks have been trialled with varied results. The aim of this study was to determine whether an anal intersphincteric nerve block may reduce post-operative pain and analgesic requirements in these patients.

**Methodology:** One hundred sequential patients undergoing rubber band ligation of haemorrhoids were randomised to either an anal intersphincteric nerve block using 0.5% Marcaine with adrenaline or to the control group. The procedures were performed by a single surgeon using the KilROID (TM) rubber band ligator (Astratech – Sweden). Patients were assessed for pain and analgesic use in the immediate post operative period and at 24 hours. Both the patient and data collector were blinded to whether a nerve block had been administered.

**Results:** There was no statistically significant difference between the two groups in median post operative pain (3.0 vs. 2.0  $p > 0.029$ ), median post operative analgesic use (1.6 vs. 3.3  $p = 0.62$ ), median pain score at 24 hour (4.14 vs. 4.22  $p = 0.9$ ) and median analgesic use at 24 hours (1.0 vs. 1.0  $p = 0.13$ ).

**Conclusions:** There is no benefit from performing an intersphincteric nerve block in patients undergoing rubber band ligation of haemorrhoids.

**CR15**  
**\*IS SACRAL NERVE STIMULATION A VALID TREATMENT FOR FAECAL INCONTINENCE?**

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**Purpose:** Sacral nerve stimulation (SNS) is a promising new modality to treat faecal incontinence. This study was designed to examine patient satisfaction with the procedure and relate this to changes in quality of life (QoL) and incontinence scores.

**Methodology:** Twenty-eight patients underwent insertion of a permanent stimulator after temporary stimulation had achieved a good result. Faecal incontinence QoL data, incontinence scores (scale 0–24) and baseline anorectal physiology measurements were recorded prospectively in a database, together with a postoperative survey and repeat physiological investigations.

**Results:** Twenty-four patients (86%) completed the survey. The median age of patients at the time of SNS insertion was 62 yrs (range 47–83) and median follow-up was 10 months (2–50 m). The mean St Mark's incontinence scores were 16.9 pre-operatively and 10.6 post-operatively ( $p < 0.001$ ). Faecal incontinence quality of life (FIQL) measurements showed statistically significant improvements across all domains (lifestyle  $p = 0.02$ , coping  $p < 0.01$ , depression  $p = 0.01$  and embarrassment  $p < 0.01$ ). Mean patient satisfaction was 6.8 (visual analogue scale of 0–10). This score showed statistically significant correlations with both incontinence scores and three out of four FIQL domains. No correlation was seen with duration of treatment and patient satisfaction.

**Conclusion:** SNS is a valid procedure for faecal incontinence as demonstrated by significant improvements in incontinence scores, FIQL measurements and these improvements are closely correlated to patient satisfaction with the procedure.

**CR16**  
**\*COLONIC INERTIA HAS NO ADVERSE IMPACT ON THE SHORT-TERM FUNCTIONAL RESULTS OF LAPAROSCOPIC ANTERIOR RECTOPEXY FOR INTERNAL RECTAL PROLAPSE CAUSING OBSTRUCTED DEFAECATION**

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**Purpose:** Colonic inertia (CI) may co-exist with obstructed defaecation (OD). It is unclear if it adversely influences the results of surgery for OD. We

aimed to compare the functional results of laparoscopic anterior rectopexy (LAR) for OD secondary to high-grade internal rectal prolapse (IRP) in those with normal colonic transit (NCT) and CI.

**Methodology:** Patients with high-grade (recto-anal) IRP were evaluated with defaecating proctography and colonic transit study. Colonic transit time (CTT) (hours) was calculated by the number of pellets remaining in the colon and rectum at 7 days  $\times 2.4$ . Patients were offered surgery for significant symptoms if they failed a program of conservative management. Constipation was prospectively assessed pre-op and at 3 months using Wexner constipation scores.

**Results:** 80 patients (93% female) underwent LAR for OD and IRP. Patients with NCT gave less history of stool infrequency currently (10% versus 32%) and in their 20's (17% versus 71%). 61 patients had normal colonic transit (CTT median 17, range 0–48 hours) and 19 had CI (CTT median 79, range 50–154 hours,  $p < 0.0001$ ). Overall symptom improvement at 3 months was similar for NCT and CI (84% versus 84%,  $p = 0.97$ ). Rates of total (50% versus 68%,  $p = 0.19$ ) and partial (34% versus 16%,  $p = 0.16$ ) symptom improvement were similar. Improvement in Wexner constipation score was similar for NCT (mean pre-op 13 to post-op 5) and CI (14 to 5), ( $p = 0.34$ ).

**Conclusions:** In the short term, colonic inertia has no adverse impact and may be disregarded when considering laparoscopic anterior rectopexy for obstructed defaecation and high-grade internal rectal prolapse.

**CR17**  
**PARASTOMAL HERNIA**

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Parastomal hernia can be a difficult clinical scenario to manage and a significant technical challenge to repair. The reported incidence of parastomal hernia formation varies depending on type of ostomy created. Reported rates vary between 6% for loop ileostomy and 48% for end colostomy. Indications for repair include parastomal or abdominal pain, obstructive symptoms and appliance failure. Techniques for repair include direct closure of parastomal defects, mesh repair and relocation. These techniques will be presented for discussion.

**CR18P**  
**A PROSPECTIVE STUDY ON THE INFLUENCE OF A FAST-TRACK PROGRAMME ON POST OPERATIVE FATIGUE AND FUNCTIONAL RECOVERY AFTER MAJOR COLONIC SURGERY**

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**Introduction:** Enhanced Recovery After Surgery (ERAS) programmes have demonstrated significant reduction in hospital stay for patient undergoing colonic surgery, however their impact on long term outcomes such as Post Operative Fatigue (POF) has not been fully established. Aim: To assess the impact of an ERAS programme on POF and recovery following elective open colonic surgery.

**Method:** In a prospective study, 26 consecutive patients undergoing open colonic surgery under a conventional care plan were compared to 26 consecutive patients in an ERAS programme.

**Results:** Demographic and clinical characteristics were comparable at baseline. The median duration of total hospital-stay (4 v 7 days  $p < 0.001$ ), rates of urinary-tract infections ( $p = 0.028$ ) and ileus ( $p = 0.042$ ) were significantly smaller in the ERAS group. Postoperatively, POF significantly increased in both groups. However peak POF score was significantly lower in the ERAS group ( $p = 0.001$ ). In the first 30 days after surgery, Fatigue Consequence scores were also significantly smaller in the ERAS group. Overall, the total fatigue experience ( $p = 0.035$ ) and the total fatigue impact ( $p = 0.005$ ) were significantly smaller in the ERAS group.

**Conclusion:** The impact of ERAS programmes may extend beyond the commonly reported short term outcomes and ERAS may accelerate overall recovery and return to normal function.

### CR19P A RARE CASE OF MASSIVE GASTROINTESTINAL HAEMORRHAGE: AN IMPORTANT CONSIDERATION IN TRAVELLERS

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We report a case of massive gastrointestinal haemorrhage in a traveller who presented to a tertiary hospital emergency department in Melbourne, Australia. An 18 year-old man from India presented with two weeks of malaise, anorexia, fever and generalised abdominal pain and had massive rectal bleeding on presentation. He underwent computed tomography angiography before urgent laparotomy and ileocolic resection of a bleeding ulcer in the terminal ileum. Blood cultures subsequently grew *Salmonella typhi*. Histopathology showed multiple areas of ulceration centred on Peyer's patches, transmural mononuclear cell infiltrates and focal non-necrotizing granulomas. A diagnosis of enteric fever causing massive bleeding from an ulcer in the terminal ileum was made and the Health Department notified. The patient had four weeks of antibiotic therapy and made a full recovery.

Surgery was once thought contraindicated in enteric fever complicated by bleeding, citing a tendency for the bowel to be friable and difficulty locating the site of bleeding in multiple ulcers. Bleeding and perforation occur from necrosis of Peyer's patches. However, evidence shows this is limited to the terminal ileum and proximal colon, allowing directed surgical excision. In the current age of international travel, surgeons must be increasingly aware of relevant diseases that may have had their origins overseas. Enteric fever should be considered in patients with rectal bleeding who are travellers and immigrants from endemic areas with a compatible illness.

### CR20P ANASTOMOTIC LEAKAGE AFTER RESECTION OF COLORECTAL CANCER GENERATES PRODIGIOUS USE OF HOSPITAL RESOURCES

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**Objective:** The aim of this study was to determine the demand for hospital resources generated by anastomotic leakage, including surgical, medical, imaging, pathology, and other allied health consultations or services and length of postoperative hospital stay.

**Patients and Methods:** Data were obtained from a comprehensive, prospective hospital registry of all resections for colorectal cancer from January 1995 to December 2004 and from retrospective review of patients' notes.

**Results:** Forty-one patients with a leak spent 92 days in intensive care, required 129 days of total parenteral nutrition, 69 days of enteric feeding and 41 days on ventilation and had a median postoperative hospital stay of 28 days (range 11–104). These patients required 24 re-operations and 2,273 separate medical consultations or allied services.

**Conclusion:** Anastomotic leakage generates a very considerable demand for hospital resources and diverts these resources from the hospital population at large.

### CR21P COMPLEX ANAL FISTULAS: PLUG OR FLAP?

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**Purpose:** Rectal mucosal advancement flaps (RMAF) and fistula plugs (FP) are techniques used to manage complex anal fistulas. The purpose of this study was to review and compare the results of these methods of repair.

**Methodology:** A retrospective review of all complex anal fistulas treated, by either a RMAF or a FP, at Auckland City Hospital from 2004 to 2008. Comparisons were made in terms of successful healing rates, time to failure and the use of MRI.

**Results:** Overall, 70 operations were performed on 55 patients (55.7% male). The mean age was 44.9 years. 21 patients (30%) had had at least 1 previous unsuccessful repair. Indications for repair included 57 high cryp-

toglandular anal (81%), 4 Crohn's anal (6%), 7 rectovaginal (10%), 1 rectourethral (1%) and 1 pouch-vaginal fistula (1%). All patients were followed up with a mean of 4.5 months. 48 RMAF's (69% of total) were performed with 16 successful repairs (33%). 22 FP's (31% of total) were performed with 7 successful repairs (32%,  $p = 0.9$ ). In failed repairs, there was no difference in terms of mean time to failure (RMAF 4.8 months vs. FP 4.1 months,  $p = 0.62$ ). MRI was performed in 21 patients (37%) before the repair. The success rate in these patients was 20%.

**Conclusion:** The results of treatment of complex anal fistulas are disappointing. The choice of operation of either a RMAF or a FP did not alter the poor healing rates of about one third of patients in each group.

### CR22P DIGITAL RECTAL EXAMINATION – DO JUNIOR DOCTORS NEED POINTERS IN THE RIGHT DIRECTION?

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**Purpose:** Digital Rectal Examination (DRE) is an essential skill that newly qualified doctors are expected to have, but what are they like in reality?

**Methods:** Newly qualified doctors were asked to complete a questionnaire. Their responses to clinical scenarios, diagnosis of anal conditions as well as confidence in DRE were assessed.

**Results:** 90 (52 F, 38 M) newly qualified doctors responded to our questionnaire (response rate of 90%). 69 (77%) of doctors have never felt a rectal tumour, many felt uncomfortable diagnosing anal and rectal cancers and two thirds of respondents had only performed up to ten DREs before graduation. Although 78 (87%) had been taught how to perform a DRE, a third of doctors were not confident in performing this examination, and the vast majority (91%) did not have their findings checked by a senior colleague. Seven (8%) doctors do not routinely perform a DRE in a patient presenting with rectal bleeding; reasons included that there was no time to perform the examination, it was unfair to subject the patient to multiple examinations or that there was no chaperone to do the examination. 74 (82%) of doctors felt that better training at an undergraduate level would improve their confidence and abilities. In comparison with other forms of examination, these same doctors were less comfortable with PV and testicular examinations but most confident in groin hernia examinations.

**Conclusion:** DRE is an important skill but despite being taught at medical school, many newly qualified doctors felt that they lacked confidence in this. More attention to developing this competency should be included in the junior doctor inductions.

### CR23P DOES POOR BOWEL PREPARATION AND POLYPECTOMY INCREASE THE RISK OF METACHRONOUS COLORECTAL CANCER?

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**Introduction:** Colorectal cancer is the 3rd most common cause of cancer deaths in Australia. Some studies recently reported disturbing rates of metachronous colorectal cancer occurring early after curative treatment of the index tumour. Poor bowel preparation and polypectomy during colonoscopy may increase the risk of metachronous cancer, by causing cancerous lesions to be missed and tumour seeding respectively. This study examines these two factors in association with the timing of metachronous recurrence.

**Methods:** This is a retrospective audit utilising a database of all patients undergoing surveillance colonoscopy at Flinders Medical Centre and Repatriation General Hospital. Patients were identified using the database, with subsequent case note review. Patients with familial disorders or disease recurrence at anastomotic sites within 12 months were excluded. This audit has been approved by the Ethics and Research Committee of both hospitals.

**Results:** Colorectal cancers were identified in 569 patients, of whom 15 (2.6%) had metachronous cancers. There were 10 men and 5 women with average age of 74 years. Bowel preparation was categorised as good (7 patients), moderate (1 patient) and poor (1 patient). Quality of bowel preparation was not available for 6 patients (4 had no comments documented and 2 had colonoscopies performed elsewhere). Of the 4 patients who had biopsy

of polyps found during the initial colonoscopy, I developed metachronous cancer in the same area at 60 months.

**Conclusion:** Poor bowel preparation may contribute to missed lesions presenting as early metachronous cancers. Seeding into polypectomy sites does not appear to be a problem.

#### CR24P DOES PRE-OPERATIVE DECISION MAKING UNDERLIE THE INCREASED RATE OF POSITIVE CIRCUMFERENTIAL RESECTION MARGINS FOLLOWING ABDOMINOPERINEAL EXCISION

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**Introduction:** A positive circumferential resection margin (CRM) is associated with local recurrence and poor oncological outcome. Studies highlight that positive CRMs occurs more often following abdominoperineal excisions (APER), compared to anterior resections (AR). However a bias towards performing APERs in patients with locally advanced tumours, or down staging prior to sphincter preserving surgery may underlie the difference.

**Aims:** Determine (1) positive CRM rates following APER and low ARs (2) if pre-operative decision making accounts for the difference.

**Methods:** The last 100 low AR and 100 APERs within our unit were reviewed. Data collected included 1) Tumour distance from the anal verge, 2) Pre-operative staging (CT / MRI) (Early stage cancers T1-2N0, Intermediate stage – T3N0-1, and Advanced stage – CRM threatened by tumour or involved nodes) 3) Neo-adjuvant therapy use 4) positive CRMs.

**Results:** One hundred Low AR were performed Between Jan 2008 – June 2004, while 100 APER were performed between Jan 2008 – Jan 2003. Average tumour distance from anal verge: APERs 3.4 cm vs. AR 5.2 cm. There was no significant difference in the pre-operative stage (Early 28 vs. 27, Intermediate 51 vs. 58, and advanced 21 vs. 15), or the use of chemo-radiotherapy (APER 9 vs. AR 13). There was a significant increase in CRMs in the APER group 15 vs. 7.

**Conclusion:** A positive CRM occurred twice as often following APERs vs. low AR. This difference could not be accounted for by early cancers undergoing AR, or the use of down staging chemo-radiotherapy.

#### CR25P FAILURE TO ATTEND FOLLOW UP APPOINTMENTS IN PATIENTS WITH COLORECTAL CANCER – HOW COMMONLY DOES IT OCCUR AND WHY?

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**Introduction:** Follow up after curative resection for colorectal cancer has been demonstrated to improve survival and failure to attend (FTA) may compromise patient outcomes. The incidences of FTA and the causes have not been documented.

**Methods:** Patients were identified from a prospective clinical database and a hospital based appointment system. FTA follow up was defined as non-attendance of at least one appointment, within 5 years post operatively. A phone interview was used to evaluate the cause. Patients from a non-English speaking background (NESB) were contacted with interpreters.

**Results:** From January 2003 to May 2008 622 patients with stage I-III cancer were identified, including 202 from a NESB. 125 non-attendees were identified. 61 patients (70%) were contacted from 87 surviving patients. 26 could not be located and 38 patients were deceased. Of the 61 patients studied, 32(52%) were male. The mean age was 68 years (range 33, 102). 14 patients (23%) were from a NESB. Each non-attendee averaged 16 appointments, and 1.7 failed attendances. A median of > 13 months elapsed from diagnosis to 1st missed appointment. The main reasons for non attendance were: unaware of the appointment (n = 21), inconvenience due to time or travel (n = 14), poor health (n = 10), long waiting times (n = 8), forgetting (n = 6) and other (n = 2). Age, sex and number of booked appointments were not associated with non-attendance.

**Conclusion:** Failure to attend follow-up appointments is common. Overall, access to follow up was prevented by structural factors more than disease/patient factors. A common reason for non-attendance was that patients were

unaware of the appointment. Opportunities for significantly improving attendance include a reminder system.

#### CR26P LAPAROSCOPIC HYBRID RECTAL RESECTION FOR RECTAL CANCER

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**Introduction:** Laparoscopic anterior resection for rectal cancer remains controversial due to the possibility of a positive circumferential margin with the laparoscopic approach. The “hybrid procedure” has been performed with laparoscopic colonic mobilization but rectal dissection is through a Pfannenstiel incision.

**Methods:** Data from a prospective single institution rectal cancer database was used to compare hybrid, converted and open anterior resections for mid and low rectal cancer from February 2003 to August 2008.

**Results:** There were 253 patients found. There were 66 (26%) hybrid (H), 5 (2%) converted (C) and 182 (72%) open (O) cases. The median follow up all 3 groups was similar. 30 (h), 28 (C), 34 (O) months. The median length of stay (days) was shorter in the (H) group. [6.5 (H), 10 (C), 9 (O), p = 0.001. There was a trend to a higher ASA score, age, median BMI, more wound infections and higher stage in the (O) group. The circumferential margin was involved in 6 (O) group compared with 0 in H) or (C) group (p = 0.5). There were no significant differences in local recurrences [1.1% (O) vs. 1.5% (H&C)] or T stage. There was no difference in neoadjuvant radiation, (48 (26%) (O), 20 (30%) (H), 1 (20%), p = 0.9. The median lymph node count was 11 in each group. The 2 year overall survival was the same both groups, 90% (H), 89% (O) 100% (C) (p = 0.65) as was the progression free survival 76% (H), 64% (O), 80% (C), (p = 0.32).

**Conclusion:** The hybrid procedure results in improved short term outcomes for patients with rectal cancer compared to open cases. The hybrid approach did not compromise circumferential margins or lymph node yield, and has no effect in short term progression free or overall survival.

#### CR27P LAPAROSCOPIC TOTAL COLECTOMY FOR SLOW TRANSIT CONSTIPATION

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**Purpose:** Slow transit constipation (STC) is a debilitating condition mainly affecting young women. Total colectomy (TC) is an option for patients with severe symptoms who are unresponsive to conservative measures. Open TC has been the procedure of choice but is associated with long term SBO and ongoing symptoms. It is difficult to determine if these ongoing symptoms are related to gut dysmotility or to post operative adhesions. Laparoscopic TC appears equivalent open TC with the advantage of being able to perform a diagnostic laparoscopy at a later stage to divide or exclude adhesions as a cause of chronic obstructive symptoms or pain.

**Methods:** All consecutive patients undergoing a laparoscopic TC ± rectopexy for STC from 1991–2007 were reviewed.

**Results:** 84 patients (81 female, 3 male) were included. Average operating time was 188 min, average LOS 8 days. Conversion rate was 1.2%. There were no post op mortalities. Anastomotic leaks occurred in 2.4%, pelvic collections in 2.4%, intra-abdominal bleeds in 4.7% and 3.5% developed wound infections. Bowel frequency was significantly improved however, 31% had at least 1 episode of obstructive symptoms. Ongoing pain was experienced by 38%. 57% underwent a further procedure a majority of which was a laparoscopy ± division of adhesions.

**Conclusion:** Lap TC is a feasible and acceptable option for patients with STC with reasonable operating times, low conversion rates and acceptable mortality and morbidity. Bowel frequency is significantly improved however long term chronic pain and SBO are common. Lap TC allows for a minimally invasive laparoscopy to be performed to divide or exclude adhesions as a cause for obstructive symptoms or ongoing pain.

### CR28P LIVER FUNCTION TESTS AS A BIOMARKER FOR COLORECTAL ANASTOMOTIC LEAKS

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**Purpose:** Anastomotic leak (AL) from colorectal surgery is a common and potentially fatal complication that is currently diagnosed clinically with the aid of imaging studies. It has been hypothesized that portal sepsis occurs earlier than clinical signs of peritonism. The present study analysed liver function tests (LFTs) and white cell count (WCC) in patients with AL from colorectal procedures involving primary anastomosis, with the aim of identifying serum parameters that could provide an early indication of AL to allow timely surgical intervention.

**Materials and Methods:** Between November 2003 and December 2008, 1243 consecutive colorectal procedures involving primary anastomosis from our institution were retrospectively screened for AL. LFTs and WCC of the identified patients were extracted from a central database for analysis.

**Results:** From our database, we found thirty-four patients who required operative intervention and had confirmed AL according to their operation reports. Elevated levels of GGT above 115 and ALP above 55 were found in 71% and 61% of patients, respectively, prior to clinical anastomotic leakage. WCC appeared to remain on the upper border of the normal range in the majority of patients.

**Conclusion:** Elevated median levels of GGT and ALP in this group of patients after the initial colorectal procedure is suggestive that LFTs may be a useful biomarker for anastomotic leaks. Further research in prospective trials should be performed to evaluate its usefulness.

### CR29P LYMPH NODE YIELD IN COLORECTAL CANCER RESECTIONS

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**Purpose:** This study was designed to determine whether blue dye injections in the resected specimen increased lymph node yield and ease of identification of lymph nodes in the resected specimen.

**Methods:** A prospective randomized control trial was performed on all colorectal cancer patients undergoing surgery at the Alfred Hospital for the calendar year of 2008. Specimens were randomised to either receiving or not receiving patent blue V dye. All specimens were pathologically examined in a standardised manner. The number of lymph nodes identified in the specimen was recorded, both containing and not containing blue dye. All specimens were soaked in Carnoy's solution, and re-examined for additional lymph nodes.

**Results:** 67 patients randomized, 33 patients received blue dye and 34 patients received no blue dye. In the Blue dye group the median number of blue nodes identified was 4, and the median number of all nodes pre Carnoy's was 11. In the blue dye group the median combined post Carnoy's lymph node count was 15. In the non-blue dye group the median number of lymph nodes pre Carnoy's was 12, the median combined post Carnoy's lymph node count was 16. The percentage of specimens having less than 12 nodes was 37% in the blue dye group and 27% in the non-blue dye group.

**Conclusion:** The injection of patent blue dye did not increase the lymph node count or the percentage of specimens has less than 12 lymph nodes.

### CR30P METACHRONOUS COLORECTAL CANCER

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**Purpose:** The purpose of this article is to review the current knowledge relating to risk factors, tumorigenesis and survival of patients with metachronous colorectal cancer to address potential advances in surveillance and management of patients with colorectal cancer.

**Methodology:** The Cochrane Library, PubMed, EMBASE and Ovid databases were searched from 1966 to December 2008 for both published reviews

and published articles on metachronous colorectal cancer regarding incidence, carcinoma sequence, clinical characteristics, risk factors, detection, treatment, surveillance and survival. Further articles were obtained by a manual review of the reference lists of all retrieved articles. All publications relevant to this study were included.

**Results:** Factors likely to increase the risk of developing metachronous colorectal cancer include; age, personal and family history of multiple malignancies, synchronous polyps, hereditary non-polyposis colorectal cancer and microsatellite instability.

**Conclusion:** Pre-operative colonoscopic polyp status and biopsy analysis regarding microsatellite instability are essential in identifying patients at risk of metachronous colorectal cancer. A rapid adenoma-carcinoma sequence less than the accepted 2 to 5 years would warrant stringent colonoscopic surveillance. Thus, frequent colonoscopic surveillance is recommended, within the first 5 years post-operatively, for the detection of metachronous colorectal cancer.

### Reference

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### CR31P MULTIDISCIPLINARY MEETINGS IN COLORECTAL CANCER – DO THEY MAKE A DIFFERENCE?

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**Purpose:** The aim of this study is to make an objective assessment of whether multidisciplinary meetings (MDM) improve the management of patients requiring surgery for colorectal cancer as this has never been examined.

**Methodology:** This retrospective study analyzed patients from the Geelong Hospital mandatory Colorectal Database between 1/1/2006 and 31/12/2007. MDM were implemented on 3/10/2006. To be included in the study patients had to have had an operation for colorectal adenocarcinoma. Each patient's management was determined to have conformed, or not conformed, to meet the best practice guidelines according to the 2005 Clinical Practice Guidelines for the Prevention, Early Detection and Management of Colorectal Cancer. Those patients who had been discussed in an MDM were compared with those pre-MDM to ascertain if there was any difference in patient treatment.

**Results:** 182 patients had surgery for colorectal cancer. In the period where an MDM was available, 46% (53 of 116) patients were discussed in an MDM and all conformed to best practice guidelines. Of the 130 patients where no MDM review occurred, 98.5% conformed to best practice guidelines. This was consistent in both the pre MDM period (98.5%) and MDM available period (98.4%).

**Conclusion:** The implementation of MDM at Geelong Hospital has marginally improved management of colorectal cancer. Few clinicians would dispute the benefits of such meetings but where an already high standard of care exists it is difficult to objectively demonstrate these improvements. We support using MDM but look to the less tangible benefits such as improved consistency and coordination of care, communication between health professionals and educational opportunities that MDM provide.

### CR32P PREDICTORS OF DAY STAY AFTER COLONIC SURGERY IN A STRUCTURED MULTI-MODAL CARE PROGRAM

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**Background:** Enhanced Recovery After Surgery (ERAS) programs have gained popularity in colonic surgery. Hospital stay has been reduced dramatically as a result, but remains varied in the published literature. We were interested in investigating the factors that influence hospital stay in an ERAS setting.

**Methods:** Between October 2005 and November 2008 prospective data were collected on consecutive patients undergoing elective colonic resection, without a stoma, at a single site. Patients were managed within an ERAS program. Patients unable to communicate in English, with dementia or ASA

≥4 were excluded. Variables were tested using the Mann-Whitney U and Spearman's two tailed correlation table for continuous data. Cox regression analysis was used for modelling.

**Results:** 102 patients were included. There were 57 right sided, 43 left sided and 2 total colectomies. Mean age was 66 years (95% CI, 40–88). Median day stay was 4 days (range 3–46). Indications for surgery were: malignancy (80%), diverticular disease (13%) and other (7%). Age, operation site, ASA, indication for surgery and BMI were not significant predictors of hospital stay. Factors with the strongest correlation for reduced day stay were Cr-Possom score ( $p = 0.006$ ), female sex ( $p = 0.013$ ), laparoscopic ( $n = 6$ ) and transverse ( $n = 32$ ) incisions ( $p < 0.001$ ), and the operating surgeon ( $p < 0.001$ ). Using Cox regression modeling, surgeon and patient gender could be eliminated as independent predictors of day stay. The other two factors added significant strength to the model.

**Conclusion:** Choice of incision and Cr-POSSUM score are independent predictors of day stay in the ERAS setting.

#### CR34P STOMAS ARE STILL USED IN COLORECTAL TRAUMA

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**Purpose:** We aimed to assess the management of colorectal and anal injuries in trauma patients at a single major metropolitan trauma hospital in Australia.

**Methods:** A prospectively collected database at a major metropolitan trauma centre was assessed to retrieve consecutive patients who had colorectal and anal injuries over a 12 year period.

**Results:** 185 patients were identified with colorectal or anal injuries from February 1996 to June 2008. The mechanism of injury was blunt in 145 (78%) with 134 (72%) related to motor vehicle trauma. The remaining 40 (22%) were due to penetrating injuries. There were 165 (89%) colonic injuries, 5 (3%) rectal injuries and 15 (8%) perineal injuries. 106 (57%) patients had multiple site of colonic or multiple organ injuries. 46 (25%) patients had full thickness tear of the colon with only 2 having full transection of the colon. The rest had contusions, serosal tears or mesocolon injury. The median injury severity score was 27 (range 4–75). 134 (72%) patients had surgical intervention including 61 repairs, 30 resections and 12 stomas, 3 of which occurred in major perineal injuries. The in hospital mortality rate was 5.4% with major or minor morbidity occurring in 52%. This included 3 anastomotic leaks and 2 missed injuries requiring a second laparotomy. 12 (6%) patients were subsequently readmitted after the initial management.

**Conclusion:** Colorectal injuries are usually due to road trauma with the majority occurring in the colon and over half these patients have multiple injuries. The complication rate is significant but relatively few of these are related to anastomotic leak when primary anastomosis is undertaken. Stomas however continue to be used.

#### CR35P THE NATIONAL HEALTH SERVICE COLORECTAL CANCER SCREENING PROGRAMME; ITS EFFECT ON THE WORK LOAD OF COLORECTAL SURGICAL UNITS

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**Introduction:** The NHS Bowel Cancer Screening Programme (NHSBCSP) has been running since September 2006. Its impact on the workload of colorectal units has not currently been assessed. Aims: To determine the initial increased in workload resulting from screen detected cancers detected by the NHSBCSP.

**Methods:** Cancers detected by the local NHSBCSP were reviewed with respect to: operative intervention, Dukes' stage, post operative complications, and neo-adjuvant therapy. Results: Between September 2006 to Jan 2008 100 screen detected cancers were identified. Twenty eight were located in the rectum, 38 sigmoid colon, 2 descending colon, 9 transverse colon, 10 ascending colon, and 13 within the caecum. Of the 100 cases 18 were polyp cancers, 3 of which proceed to a subsequent resection, (2 anterior resections and 1 right hemicolectomy). Of the remaining 82 cases 38 patients had an anterior resec-

tion, 26 right hemicolectomy, 5 abdominal perineal resection, 3 sigmoid colectomy and 1 subtotal colectomy. Nine patients had no operative intervention; 5 due to metastatic disease and 4 as a result of patient choice. Thirty five patients had Dukes' stage A, 31 Dukes' B, 17 Dukes' C, and 5 Dukes' D. There were 8 major post operative complications: 6 anastomotic leaks, 1 colopouch-vaginal fistula, and one death. Two patients who underwent resections for polyp cancers failed to have the polyp scar removed at the time of surgery.

**Conclusion:** The local NHS colorectal cancer screening programme has resulted in a significant shift towards Dukes' stage A and B cancers at time of presentation. However it has resulted in a dramatic increase in the number of colorectal resections, 76 between September 06 to Jan 2008.

#### CR36P TREATMENT OF ANAL FISTULA WITH THE COLLAGEN FISTULA PLUG

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**Purpose:** We investigated the use of 'Surgisis' anorectal fistula plug in the treatment of anorectal fistula. Success rates quoted have been variable. There is no known data regarding when to reattempt the 'Surgisis' plug if failure occurs. We assessed our success rate and looked at any pattern for reinsertion of the 'Surgisis' anorectal plug.

**Methodology:** We retrospectively collected patient/fistula characteristics, procedure details, and follow-up information for all patients treated with the anal fistula plug at our institution over the past 5 years. The outcome was considered successful if the external and internal opening were closed and if the patient had no drainage at the last follow-up.

**Results:** Of 16 patients, 21 fistulae were treated with the 'Surgisis' anorectal fistula plug. 28.5% had complete healing after the first attempt at insertion of the 'Surgisis' plug, while 28.5% required a reinsertion of the 'Surgisis' plug for complete healing to occur. 43% failed to heal with the insertion of the 'Surgisis' plug or were awaiting follow-up. The period of time between insertion of seton, subsequent failure and insertion of 'Surgisis' plug was extremely variable. Median time taken was 220 (41–553) days. Following this the median time taken for reinsertion was 303 (151–495) days.

**Conclusion:** Collectively our success rate for 'Surgisis' plug insertion is 57% however only 28.5% after first insertion. There is no clear relationship between the time period and the success of reinsertion of the 'Surgisis' plug. More data is required to give clear guidelines for timing of 'Surgisis' plug reinsertion.

#### CR37P UNREVERSED STOMAS IN RECTAL CANCER

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**Purpose:** Approximately 10% of temporary stomas created after low or ultra low anterior resection for rectal cancer remain unreversed. In this study, we aim to determine the reversal rate at our institution and the reasons for stomas remaining unreversed, especially due to anastomotic leaks.

**Method:** A retrospective study of patients who underwent surgery for rectal cancer at a single institution between 1st January 2003 and 31st December 2007 was performed. Patients with unreversed stomas were identified and their patient files reviewed.

**Results:** 230 patients who underwent surgery for rectal cancer were considered. 54 of these had low or ultra-low anterior resection and a stoma fashioned. 47 (87%) had their stomas reversed (RS), and 7 (13%) had not (US). The RS group were younger, with 30 (63%) males compared to 6 (86%) in the US group. Not surprisingly, the US group were more likely to have surgical complications (72% vs. 28%,  $p = 0.022$ ). The reasons for non-reversal were anastomotic leak 2(28%), death 2(28%), metastatic disease 1(14%), medical co-morbidities 1 (14%), and patient refusal 1 (14%). Of the 2 patients with anastomotic leaks, 1 remained unreversed due to development of stricture at the point of anastomosis, while the other was reversed 8 months later (outside the study period).

**Conclusion:** When faecal diversion surgery is undertaken in low or ultra low anterior resection for the treatment of rectal cancer, it is usually reversed during a reasonable period of time. Surprisingly, even in our very small set

of patients (7) with unreversed stomas, only 2 were unreversed due to anastomotic leaks.

**CR38P**  
**VAGINAL DELIVERY COMPARED WITH ELECTIVE CAESAREAN SECTION: THE VIEWS OF PREGNANT WOMEN AND CLINICIANS**

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**Purpose:** Concern about maternal morbidity associated with vaginal delivery (VD) may be driving the increasing trend for elective caesarean section (CS). This study aimed to quantify the risk of morbidity from VD that pregnant women would be prepared to accept before requesting an elective CS, and to compare these views with those of clinicians.

**Methodology:** Participants completed a questionnaire to ascertain the maximum level of risk they would be prepared to accept before opting for an elective CS. Utility scores for each complication were calculated, with higher scores (closer to 1) indicating a preference towards VD.

**Results:** 122 pregnant women, 84 midwives, 166 obstetricians, 12 urogynaecologists and 79 colorectal surgeons participated. For the evaluated 18 potential complications of VD pregnant women were willing to accept higher risks than clinicians. Pregnant women were least accepting of risks of severe anal incontinence (mean utility score 0.32), emergency CS (0.51), moderate anal incontinence (0.56), severe urinary incontinence (0.56), fourth degree tears (0.59), and third degree tears (0.72). The views of midwives were closest to those of pregnant women. Urogynaecologists and colorectal surgeons were the most risk averse, with 42% and 41% respectively stating they would request an elective CS for themselves or their partners.

**Conclusions:** Pregnant women were able to quantify the level of risk they are prepared to accept from a VD before opting for an elective CS being aware of the potential complications of elective CS, and these risks were significantly higher than those accepted by the clinicians involved in their care. Their views are more closely aligned to midwives than to specialist clinicians.