

Results All procedures were completed laparoscopically. Follow-up at 6 months, 1, 2 and 3 years was 96%, 92%, 87% and 47% respectively. Mean (SD) % excess weight loss at these time periods was 81.4 (25.6), 102.1 (27.3), 108.7 (38.2) and 97.5 (29.1) respectively. Mean (SD) weight loss at 2 years was 34.2(19.3) kg. 83% of patients demonstrated partial or complete resolution of their preoperative comorbidities including hypertension, diabetes, sleep apnoea and hyperlipidaemia. 17% developed new-onset reflux. 53% of patients required vitamin supplementation. Complications: Wound infection (1.8%), food bolus obstruction requiring endoscopy (3.8%) and silastic ring removal for food intolerance (7.5%). There were no deaths.

Conclusion While the banded (silastic ring) SG is a safe procedure with good medium term excess weight loss and comorbidity resolution, around 11% of patients required endoscopic or surgical reintervention within 3 years.

Competing interests None declared.

PMO-057 DIETARY INTERVENTION FOR INDIVIDUALS WITH SPINAL CORD INJURIES—A 2 YEAR REPORT ON THE SPINAL CLINIC FOR OBESE OUT-PATIENT PROJECT (SCOOP)

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Introduction Obesity is common after spinal cord injuries (SCI)¹ and it is associated with chronic nutrition related complications. We previously reported that a simple dietetic-intervention can help SCI patients to lose weight without compromising lean body mass.²

Methods The present study aimed to assess the effectiveness of a dietitian led weight management clinic. Thirty-one individuals (52.4±11.5 years; body mass index (BMI): 32.9 kg/m²; 41% female) with SCI were referred for consultation to include nutritional advice and cognitive behaviour therapy in three consultations over 4 months. Outcomes measures included body composition from anthropometric measurements of BMI, mid upper-arm circumference (MUAC), triceps skinfold thickness (TSF) and mid-arm muscle circumference (MAMC), sitting blood pressure and dietary assessment of nutrient intake by 7-d food diary.

Results Of the thirty-one individuals, 15 (48.4%) reported one or more co-morbidities. Mean weight loss was 4.5 kg (SD 6.2) at week 16. Analysis of the pre- to post-intervention difference (using paired t-test) showed a significant reduction in weight (104.2 vs 100.4 kg, p=0.001), BMI (34 vs 33.1 kg/m², p=0.004), total energy intake (6.84 vs 5.62 MJ/d, p=0.029), total fat (p=0.005), saturated fat (p=0.001) and alcohol (p=0.003). No significant changes were found in MUAC, TSF, MAMC and sitting blood pressure post intervention. We noted a significant reduction in MAMC at 1-year follow-up (30.2 vs 27.1 cm, p<0.001). The 7-d food diary showed an average energy intake of 7.65 MJ/d, which is 15% below the estimated requirement.

Conclusion The findings of this study suggest that current guidance overestimates nutritional requirements in the SCI population, and that simple dietetic-intervention could help overweight SCI patients to achieve weight loss, but that it may not be sufficient to stimulate/maintain muscle mass long term. Further research is warranted to test whether combining lifestyle and intensive physical therapy could reduce long-term muscle wasting.

Competing interests None declared.

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Parenteral nutrition

PMO-058 A SIMPLE AND AN EFFECTIVE STRATEGY FOR IMPROVING JUNIORS DOCTORS' KNOWLEDGE OF INTRAVENOUS FLUID THERAPY

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Introduction Erroneous intravenous fluid therapy is a source of perioperative morbidity and mortality.¹ In most surgical units, junior doctors are given the major responsibility for prescribing intravenous fluids, even though their knowledge base is inadequate.^{2–4} Training junior doctors in intravenous fluid therapy is required to improve their knowledge and reduce the harm caused by erroneous intravenous fluid therapy. In this study we evaluated whether a single focused teaching session, based on the current national guidelines for perioperative fluid therapy, could improve junior doctors' knowledge of intravenous fluid therapy.

Methods Junior doctors attended a focused teaching session on a perioperative fluid therapy. They completed the questionnaire at baseline, immediately after and again 2–5 weeks after the teaching session. The questionnaire was developed from the current national guidelines on perioperative intravenous fluid therapy; 2008 British Consensus Guidelines on Intravenous Fluid Therapy for Adult Surgical Patients.

Results The mean pre-education score was 4.3 (36%). The mean post-education scores immediately after and an average of 22 days after the teaching session were; 10.3 (85%) and 9.5 (79%) respectively.

Conclusion A single focused teaching session is a simple and an effective way of improving junior doctors' knowledge of intravenous fluid therapy. We recommend that a teaching session on intravenous fluids be integrated into the teaching programme of all junior doctors.

Competing interests None declared.

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PMO-059 PARENTERAL NUTRITION: AUDIT OF USAGE IN A DISTRICT GENERAL HOSPITAL WITHOUT A NUTRITION SUPPORT TEAM

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Introduction Parenteral nutrition (PN) is well known to have possibility of serious sequelae, in particular from catheter related sepsis (CRS). Multiple studies have demonstrated that a Nutrition Support Team (NST), in particular a Nutrition Support Nurse (NSN), can reduce inappropriate PN as well as reducing CRS rates (Kennedy et al 2005). The aim of this audit was to document PN usage in a district general hospital without a NST or NSN.

Methods All patients in whom PN was initiated in 2010 at Worcester Royal Hospital were assessed retrospectively by case note review by a single author (AMP). A list of all patients who had received PN was kept by the Pharmacy department, ensuring a 100% pick up rate. Appropriate PN indications were defined according to the NICE guidelines. Patients with a functional and usable GI tract (capable to absorb adequate nutrients via appropriate enteral tube access), patients in whom dependence on PN was anticipated to be <5 days and patients whose prognosis did not warrant aggressive nutritional support were defined as receiving inappropriate PN. CRS was judged to have occurred when the patient had a temperature of $\geq 38.0^{\circ}\text{C}$ along with either a subsequent positive line tip culture or positive blood cultures in the absence of any other potential source of sepsis.

Results 61.4% of the patients were male. The median age at commencement of PN was 67.1 (IQR 59.9–80.3). There were 101 episodes of PN, with a median duration of PN of 7 days (IQR 5–14). A total of 1214 days of PN were administered. Full information was available for 92 of these episodes, a total of 1093 days. The majority of PN was given via non-tunnelled central venous catheters (58.3%) with a further 23.7% by Hickmann line, and 13.4% peripherally. Sixty-eight of the episodes were assessed to have been initiated for appropriate indications: 50% of these due to ileus, 19.1% due to obstruction and 14.7% due to fistulae. Twenty-four episodes, totalling 182 days of PN, were judged to have been inappropriate, predominantly due to inadequate consideration being given to enteral tube access. CRS complicated 16 of the episodes (17.4%) and there were 18 CRS events, equating to 16.5 events/1000 catheter days. The majority of these (16/18) were due to coagulase negative *S aureus*.

Conclusion Inappropriate PN and CRS rates are at the level that would be expected in a hospital where there is no NST. Increased vetting of PN referrals and more effective training in line care that would come with a formal NST could have cost benefits for the trust.

Competing interests None declared.

PMO-060 RESTORING INTESTINAL CONTINUITY AFTER A SMALL BOWEL INFARCTION REDUCES THE VOLUME AND FREQUENCY OF PARENTERAL NUTRITION

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Introduction A small bowel resection for ischaemia is one of the most common reasons for an admission to an intestinal failure unit (IFU) and for a patient needing home parenteral nutrition (HPN). The aim was to determine the changes in parenteral fluid, sodium and energy given to patients who have had a massive small bowel resection for ischaemia and in whom intestinal continuity is subsequently re-established by anastomosing the duodenum/jejunum to the remaining colon.

Methods Patients were identified using the IFU database. Case notes were retrospectively reviewed for the fluid, sodium and energy requirements before and after intestinal continuity was restored. Median values of the weekly requirements were calculated for 2 years after the continuity surgery had been performed.

Results 12 (5M) patients, mean age 51 years (range 30–77). 2 patients died at 12 months (one sepsis, one brainstem stroke) and one patient had not reached 24 months follow-up. The resection was for arterial infarction in eight patients, venous infarction in one patient, volvulus in one patient, incarcerated hernia in one patient and iatrogenic following surgery in one patient. Six patients had a small bowel length of <50 cm, nine patients had colon beyond hepatic flexure (five with ileocaecal valve) and three patients anastomosis to transverse colon. Two patients stopped PN completely at 1 month. These two

patients had final small bowel lengths of 90 cm and 260 cm. There was a significant reduction in volume of feed and sodium given t1, 3–6, 12 and 24 months ($p < 0.05$, Wilcoxon matched pairs test).

Conclusion Restoration of intestinal continuity to bring the colon into circuit results in less parenteral fluid (at least a litre/day) and sodium being needed but not necessarily the amount of energy. The number of nights where PN is required may be reduced in the 2 years after continuity has been restored.

Abstract PMO-060 Table 1 Median values of HPN requirements

	Pre continuity	Post continuity 1 month	Post continuity 3–6 months	Post continuity 12 months	Post continuity 24 months
n	12	12	12	10	9
Volume of fluid (l/wk)	19.5	12.5	11.0	9.5	11.0
Sodium (mmol/d)	205	150	154	127	133
Energy requirements (kcal/wk)	8400	7578	7798	8190	8400
Nights of infusion/wk	7	7	7	4.5	4

Competing interests None declared.

PMO-061 AN EVALUATION OF THE IMPACT OF A MULTIDISCIPLINARY NUTRITION SUPPORT TEAM ON THE PROVISION OF PARENTERAL NUTRITION (PN) IN AN NHS FOUNDATION TRUST HOSPITAL

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Introduction In June 2010 NCEPOD released its report: A Mixed Bag.¹ This instructed hospitals providing PN to encourage active input from a multidisciplinary NST. The process involved in providing PN to patients involves complex decision-making, and it is life-saving for some. However, when given inappropriately or without careful monitoring, there can be serious metabolic and physiological consequences. This audit examined the impact a NST has on the appropriate prescribing of PN.

Methods The study included patients who received PN at the Royal Surrey County Hospital over the period 1 June 2010 to 1 June 2011. Data were collected in line with the NCEPOD report, including when and by whom PN was started, indication for use and number of days fed.

Results During the study period, 171 patients were referred for PN. In 61% of cases the opinion of the NST was requested prior to the commencement of PN (Group A). In the remaining 39% of cases (Group B), PN was initiated without NST involvement, with the NST review occurring subsequently. On review, the NST considered PN to be an inappropriate means of nutritional support in 25.7% of the patients in Group A, and it was therefore not provided. Of these patients, 81% were successfully established onto either oral or enteral feeding, and a further 8% died shortly after referral. The remaining 11% later received PN due to loss of enteral access or further post-operative complications. There was no survival disadvantage in this group. Of the patients in Group B, 33% were commenced on PN over a weekend. Of these 38% received PN for <5 days and 19% for <3 days. Following assessment, the NST believed that 14% of the patients in group B were started on PN when an alternative means of providing nutritional support would have been more suitable at the time of initiation.