Table: Estimated Costs of Drugs, PN and Infections associated with CRT vs SOC for T2IF

Country UK	SoC (£)	CRT (£)	Potential Saving with CRT (£)
PN cost	£ 38,523	£ 4,447	£ 34,077
Complications*			
Central Line Infections	£ 3,664	£ 427	£ 3,237
Sepsis	£ 132	£ 12	£ 120
Medications			
PPI (Omeprazole).	£ 371	£ 371	-
ADM (Loperamide)**	£ 256	£ 29	£ 228
Codeine Phosphate**	£ 53	£ 6	£ 47
Total Cost of Treatment* **			
Type2IF	**£ 120,143**	**£ 62,648**	**£ 57,496**

* probability adjusted ** average over 8 mos *** includes in-hospital costs and LOS

References:
1. Picot D et al Chyme reinfusion in intestinal failure related to temporary DES and EAF. Nutrients 2020:12;1376.
2. Tian W et al. Chyme reinfusion reducing the postoperative complications after definitive surgery for small intestine EAF. Frontiers in Nutrition. 2022:9;1-12.
3. Sharma P et al. Novel chyme reinfusion device for GI fistulas and stomas. Br.J. Surg 2020:107;1199
4. Liu C et al. Stoma-output reinfusion device for ileostomy patients: a feasibility study. Dis,Col.Rect. 2021:64;11

INNOVATIONS IN COVID – SETTING UP HOME TOTAL PARENTERAL NUTRITION FROM A DISTRICT GENERAL HOSPITAL (WITH SATELLITE SUPPORT FROM SPECIALIST UNIT)

N. Joseph, S. Mann. *Barnet Hospital, Wellhouse Lane, EN5 3DJ*

The standard approach to patients in a district hospital who require home Parenteral Nutrition (PN) is to transfer them to a tertiary Intestinal Failure (IF) Unit for ongoing management and establishment of home PN management. ([*1,2,3,4,5]) During the covid pandemic, inter-hospital transfer of such patients was very difficult and restrictive.
Our Nutrition Team within a district general hospital had 3 patients who were successfully discharged on home PN with the support of a satellite intestinal failure (IF) unit.
Case 1: 59-year-old male – bowel resection for ischaemic bowel resulting in short bowel syndrome. (High output jejunostomy).
Case 2: 76-year-old female – small bowel resection of neuroendocrine tumour with creation of double-barrelled ileostomy. (High output ileostomy)
Case 3: 56-year-old male – adhesiolysis, post-operative high output enterocutaneous fistula.
Support was provided by the IF specialist centre multi-disciplinary team, via accurate sharing of medical notes and results, discussions in MDT meetings (Digital Teams Meetings), careful co-ordination between the 2 hospitals and management of the patients' treatment plans. The patients were safely and efficiently discharged to their own homes directly from the district general with the PN support package set up, including pharmacy prescriptions, nursing care and clinical aftercare support.
The benefits for the patient include being discharged directly from the local hospital ward, avoiding the upheaval of an inter-hospital transfer, reduced length of stay, and potential for reduced infection risk. Patient satisfaction and feedback was very positive. There were also benefits for the IF units with a reduced demand on their limited bed resource.
In summary the Covid pandemic necessitated a review of the standard pathway of care for patients needing home PN. We have successfully established a more streamlined approach for such patients that avoids a formal transfer from district general hospital to tertiary referral IF unit. This has the potential to benefit the patients and the IF units. This model of a closer liaison between nutrition teams across hospital sites should now be considered for such patients in the future.

References:
1. Lloyd D, Gabe S, Windsor A (2006) - Nutrition and Management of enterocutaneous fistula British Journal of Surgery 2006; **93**: 1045–1055
2. Nightingale J, Woodward JM (2006), Guidelines for the management of patients with a short bowel, Gut, 55 (4).
3. Pironi L et al, (2016), ESPEN guidelines on chronic intestinal failure in adults, Clinical Nutrition, 35(2):247-307
4. Pironi L et al, (2015), ESPEN guidelines on acute intestinal failure in adults, Clinical Nutrition, 34:117-180
5. Staun M, Pironi L, (2009) ESPEN Guidelines on Parenteral Nutrition: Home Parenteral Nutrition (HPN) in adult patients. Clinical Nutrition, 28; 4; 467-479.

FREEDOM OF INFORMATION RESPONSES INDICATE SIGNIFICANT CHALLENGES AROUND IMPLEMENTATION OF NPSA/NHSE ALERTS ON NASOGASTRIC TUBE (NGT) SAFETY, AND POST INSERTION DISPLACEMENT

B.J.M. Jones [a], G. Gallagher [b], M. Shaughnessy [b], P. Roberts [c]. [a] *Medical Adviser to Enteral Access Technologies Ltd, UK;* [b] *Enteral Access Technologies Ltd UK, Liverpool Science Park, 131 Mount Pleasant, Liverpool, L3 5TF, UK;* [c] *M.A.R.S. Ltd, Castle Chambers, 43 Castle Street, Liverpool, Merseyside, L2 9TL, UK*

Misplacement of NGTs continues to be a significant risk across the NHS despite several alerts issued by National Patient Safety Agency (NPSA) and the recent investigation led by the Healthcare Safety Investigation Branch (HSIB) regarding reporting of x-rays and compliance with a 4-step procedure[1,2].
Under the Freedom of Information Act 2000 requests were submitted online to 122 NHS Trusts in England for the period April 2021 – March 2022. Information was requested on their compliance with the NPSA Alerts.
Additional information was requested to determine the number of x-ray requests for 1st placement and NG tubes displaced or dislodged after initial placement. Further detail was requested for the site reported in the Radiology System (RIS) records for the NGT. A literature search informed a search strategy for the trusts using the National Interim Clinical Imaging Procedure (NCIP) codes for Plain Film Chest X-ray" (XCHES) where an NGT was specified as free text in the clinical indication field or as "XR Nasogastric tube position" (XNASG). An additional SNOMED code for "Migration of Nasogastric Tube (Disorder)" (473160008) was also identified.
Of the 122 requests, 112 (92%) elicited an acknowledgement. Of these, 80 (71%) responded to the FOI but only 14 (13%) were able to provide a full data set. The majority of Trusts indirectly acknowledged their failure to routinely record the requested data in an easily accessible format in their inability to retrieve the data. Analysis of the 14 Trusts who provided a full set of data revealed that 11 (79%) had complied with the mandatory Alerts and 3 (21%) had not. Data extracted from HES using the OPCS code G47.5 (Insertion of nasogastric tube) for the 14 trusts captured 12,075 patients who received an NGT. With 7,429 (62%) x-ray requests reported, these data highlight the significant potential for error. Analysis of the reports is shown in the table below:
Summary of results table:

Event	"Safe to Feed"	"Do not feed – in lung"	"Do not feed-in oesophagus"	"Not reported/ Unspecified"	Total
1st Placement	2328 (69%)	89 (3%)	311 (9%)	629 (19%)	3357 (45%)
Post Insertion	583 (67%)	53 (6%)	81 (9%)	158 (18%)	875 (12%)
Not stated	2086 (65%)	97 (3%)	250 (8%)	764 (24%)	3197 (43%)
Total	4997 (67%)	239 (3%)	642 (9%)	1551 (21%)	7429 (100%)

The limited number of Trusts who responded in full to the FOI request raises significant concerns about the capacity of the system to capture and record X-ray activity as described by the NPSA and reinforced in the recent HSIB investigation and BAPEN Position Paper[3]. The exercise highlights the lack of flexibility within the (NICIP) Code set with the routine use of free text fields and the SNOMED codes within the Radiology information systems (RIS) which is a significant concern. This paper highlights the need for

Clinical Nutrition ESPEN 57 (2023) 825–851

new coding architecture and the role for innovation to enhance the safety of NGT placement and reduce the demand for x-rays, especially in light of the fact that 12% of x-rays identified either an intra-oesophageal or intra-pulmonary misplacement. Furthermore, 15% of post insertion checks showed late displacement, confirming the importance of post insertion checks as in current guidance. More urgency is required if NGT complications are to be reduced.

1. https://www.england.nhs.uk/wp-content/uploads/2019/12/Patient_Safety_Alert_Stage_2_-_NG_tube_resource_set.pdf
2. https://www.hsib.org.uk/investigations-and-reports/placement-of-nasogastric-tubes/
3. https://www.bapen.org.uk/pdfs/ngsig/a-position-paper-on-nasogastric-tube-safety-v2pdf

ENTERAL TUBE FEEDING IN FUNCTIONAL GASTROINTESTINAL DISORDERS: A GAME OF CHANCE?

L.D. Martin [1], X. Wang [2], C. Day [2], A. Aljanahi [2], A.V. Emmanuel [1], S.M. Gabe [3], N. Zarate-Lopez [1]. [1] *GI Physiology Unit, University College London Hospitals NHS Foundation Trust, NW1 2BU, UK;* [2] *University College London, WC1E 6BT, UK;* [3] *St Mark's Hospital, London North West University Healthcare NHS Trust, HA1 3UJ, UK*

We conducted a retrospective study on a random sample of inpatients (n=15) with Disorders of Gut Brain Interactions (DGBIs) who presented to our tertiary care Neurogastroenterology service between June 2015 and June 2018. All inpatients presented with refractory severe gastrointestinal (GI) symptoms leading to excessive food restriction, met criteria for malnutrition and were commenced and discharged on enteral tube feeding (ETF). All data was obtained from medical records, then descriptively and statistically analysed. We sought insights into two main clinical questions: 1). Is an acute admission for ETF effective in managing malnutrition in DGBI? 2). Is long term ETF required and if so is this effective?

At admission patients (n=15) had a mean age 34 years, 87% (n=13) were female and median (IQR) length of stay was 14 (7-93) days. 8/15 patients were discharged on Exclusive ETF of which only 3/8 gained weight or met prescribed ETF regimen and nutritional requirements. The remaining 7/15 were discharged on ETF plus oral nutrition supplements (ONS) ± oral intake of which 5/7 met nutritional requirements and 6/7 gained weight and met prescribed ETF regimen. Long term (median 4.3 years) 8/15 continued with ETF of which 5/8 continued on exclusive ETF although 3 (out of 6 at admission) remained underweight (BMI <18.5kg/m^2). While 7/15 discontinued ETF after a median 0.3 (IQR 0-1.5) years and 1 (out of 3 at admission) remained underweight. During admission and at long term follow up there was no significant change in the mean weight or BMI of the patients who received EFT, while those who managed to discontinue ETF experienced significant improvements (Table 1). Comparing those who continued long term ETF (n=8) vs those who discontinued ETF (n=7) there were no significant differences in mean weight (p=0.53) or BMI (p=0.50).

Our single centre study elucidates some interesting insights into the use of ETF in patients with DGBIs. Firstly, a short term admission to establish ETF is unlikely to improve weight or BMI. During admission two ETF groups emerge; those who continue with oral intake/ONS and those requiring exclusive ETF. Interestingly the patients who avoid food to rely on ETF were less likely to gain weight, meet nutrition requirements or target regimens. This may indicate that treatments with a focus on preserving oral intake may lead to better outcomes. Secondly roughly half of DGBI patients initiated on ETF progress to long term ETF. However half of the patients who were underweight prior to ETF, remained underweight, and on average there was no significant changes in weight or BMI from long term ETF. A lack of objective improvement in nutritional status despite ETF in this cohort of patients warrants further investigation. Overall ETF appears to be an ineffective treatment option for the management of malnutrition in the majority of patients with DGBIs at our centre, however our analysis should be repeated in other centres. Treatment options that include a focus on continued oral nutrition provide an alternative strategy and are worthy of further research.

INDIRECT CALORIMETRY MEASUREMENTS IN CRITICALLY ILL PATIENTS: THE 1ST DATA FROM THE REPUBLIC OF IRELAND

K. Murphy, C. Twomey. *Department of Nutrition and Dietetics, Cork University Hospital, Cork, Ireland*

Adequate nutritional support in the critically ill, ICU patient has been shown to improve patient outcomes. It is well recognised that both over and under nutrition can negatively affect patient outcomes[1]. Historically nutritional requirements are calculated by the dietitian using equations to estimate resting energy expenditure alongside clinical judgement. Within the ICU setting many factors can affect resting energy expenditure and it is now recognised that the Gold Standard for assessing resting energy expenditure is indirect calorimetry[2].

Indirect calorimetry data were collected on all patients that met the inclusion criteria admitted to a critical care unit in the Republic of Ireland during a 3 month period in 2022. Measurements were taken as close as possible to day 3, 5 and 7 of ICU admission and then weekly if patients remained ventilated within the ICU. Measurements were repeated if there was a significant change in clinical status. 66 individual indirect calorimetry measurements were taken from 27 critically ill, ventilated patients (n = 27, 63% male, 37% female, mean BMI 27.5kg/m^2) and are included in the results. Indirect calorimetry resting energy expenditure results were compared with the Penn State University Equation. The amount of nutrition received was compared with the indirect calorimetry resting energy expenditure target (Table 1.).

Table 1 Effectiveness of short and long ETF in DGBI on weight and BMI outcomes

	Duration, median (IQR)		Admission	Discharge	Mean Change	P value
Inpatient ETF, n=15	13 (3-78) days ETF	Weight (kg) mean ± SD	48.9 ± 7.3	50.7 ± 6.9	0.81 ± 1.87	0.11
		BMI (kg/m^2) mean ± SD	18.2 ± 3.1	18.5 ± 2.9	0.3 ± 0.7	0.15
			Admission	Long Term	Mean Change	P value
Long Term ETF, n=8	4.3 (1.4-7.2) years ETF	Weight (kg) mean ± SD	48.9 ± 7.5	55.8 ± 10.0	6.9 ± 9.4	0.99
		BMI (kg/m^2) mean ± SD	17.9 ± 4.0	20.2 ± 3.7	2.3 ± 2.9	0.86
DiscontinuedETF, n=7	4 (3.1-5.4) years no tube	Weight (kg) mean ± SD	51.2 ± 7.6	59.2 ± 8.3	8.0 ± 5.2	**0.01**
		BMI (kg/m^2) mean ± SD	19.2 ± 2.2	22.2 ± 1.8	3.0 ± 1.9	**0.01**