



BOMSS Abstract Book

O1

‘You’re on mute’: outcomes of an eHealth Tier 2 weight management programme

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Introduction: Obesity is a complex disease with a high global prevalence. The COVID-19 pandemic restricted face to face delivery of weight management services which necessitated electronic health (eHealth) delivery. This is an interim evaluation of a Tier 2 eHealth multi-component weight management programme in a real-world context.

Methods: The eHealth weight management programme consists of twelve 60-minute sessions, 30-minute physiotherapist-led exercise class and 30-minutes of diet and lifestyle education delivered over 12 weeks. Paired t-test were used to compare pre and post programme outcomes. Data as means (SD).

Results: 321 participants (age 46y (12.6y); 82% female; 37% Black African; 30% White) enrolled on the programme, of which 42% (n=95) completed. Mean weight change was significant, -2.92kg, p<0.01; (n=73), 40% of participants lost ≥3% and 23% lost ≥5% weight. Self-reported Physical Activity (PA) levels increased significantly; total PA 915.3 (1337.5) increased to 1185.5 METs (977.8), p=0.023, vigorous PA 407.4 (585.6) increased to 414.7 METs (707.1), p=0.025 and walking 571.4 (522) increased to 523.8 METs (532.8), p=0.05.

Conclusion: eHealth intervention results in modest weight loss and increased PA in the short term. Further research is needed to confirm if these changes are sustained longer term and strategies to improve attrition are needed.

O2

Cognitive improvement following Sleeve Gastrectomy and Roux-en-Y Gastric Bypass procedures

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Introduction: Bariatric surgery is associated with improvement in memory, executive function and attention. However, there is a scarcity of data on changes in other cognitive domains, including intelligence and visual memory.

Methodology: A prospective study of patients undergoing bariatric surgery was conducted. Besides standard evaluation, specific neurocognitive tests were used to assess cognition at baseline, and at 3, 6 and 12 months.

Results: 53 patients were enrolled in the study, out of which 50 had completed 1 year of follow-up at time of analysis (n=50). 36 patients (72%) were females. Median age was 42 years, and mean preoperative body mass index

(BMI) was 45.5 kg/m². 40 patients underwent SG, while 10 underwent RYGB procedure. At baseline, study cohort had impairment of intelligence, attention and verbal retention, as compared to normative data. At 1 year after surgery; mean BMI was 29.1 kg/m². There was a significant (p<0.05) improvement in most cognitive domains (global cognitive functioning, fluid intelligence, attention/ concentration, delayed recall, immediate recall, verbal retention, visual retention and recognition). However, improvement in language function was not found to be significant(p=0.35).

Conclusions: Individuals with severe obesity experience baseline impairment in cognitive functions. Over short-term follow-up, bariatric surgery results in improvement in multiple cognitive domains, but not in language function.

O3

Concomitant surgery during index bypass surgery has comparable outcomes with primary bypass surgery

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Introduction: There has been concerns as to whether multiple surgical procedures done at the time of index bariatric surgery results in increased adverse outcomes

Methods: All patients who underwent multiple surgical procedures at the time of index bypass surgery (B+) were included and outcomes compared with patients who underwent bypass surgery (B) alone.

Results: 62 patients who underwent multiple surgical procedures at the time of primary bypass surgery (32 hiatus hernia repair, 24 ventral hernia repair and 6 laparoscopic cholecystectomy) were compared to 693 patients who underwent gastric bypass. The patient cohorts were comparable in demographics [B+ = Age 52(32-72); M:F = 17:45; BMI = 44.9 (36 – 58.4); Body weight = 122.6 Kg (83.2 – 181); B = Age 45(20-74); M:F = 139:554; BMI = 45.6 (30-62); Body weight = 124.1 Kg (84-190.7)]. Median hospital stay was comparable (1.6 vs 1.5) though one day discharge was higher in B (79%) compared to B+(70%). The complication rate (3.2% vs 2.5%) and the 30 day readmission rate (11.3% vs 11.9%) was also comparable between the two groups.

Conclusions: Where indicated, multiple surgical procedures at the time of gastric bypass surgery should be performed as there is no effect on surgical outcomes.

O4

Changes in accelerometer-measured physical activity levels and sedentary behaviour, physical function, and physical strength in the first year following bariatric surgery: the BARI-LIFESTYLE observational study

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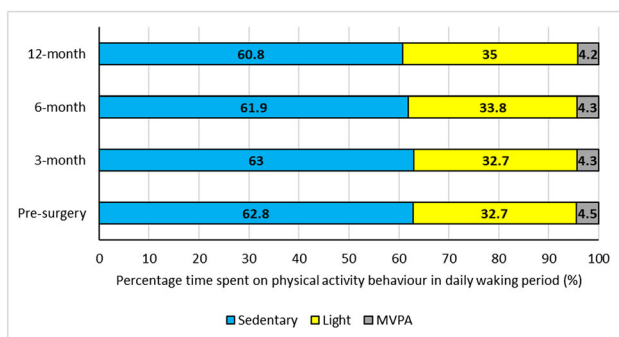
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Introduction: Bariatric surgery engenders a marked weight reduction and comorbidities resolution. Little is known regarding its impact upon physical activity levels (PAL), sedentary behaviour (SB) and functional capacity, and their correlation with the body composition changes.

Methods: Patients undergoing bariatric surgery at three NHS trusts were enrolled in the BARI-LIFESTYLE observational study and received post-bariatric standard care. Accelerometer-measured PAL and SB, six-minute walk test (6MWT), sit-to-stand test, handgrip test, bioelectrical impedance analysis and dual-energy x-ray absorptiometry were undertaken pre- and post-surgery (3-, 6- and 12-month).

Results: A prospective data from 77 patients (80.5% female) aged 43.4 ±10.6 years and body mass index of 42.9±5.8 kg/m² were analysed. No changes were observed in PAL and SB (Figure). The 6MWT, sit-to-stand test and relative handgrip strength improved significantly, all p<0.001. Higher SB negatively associated with percentage weight loss at 6-month (r=-0.32,p<0.05) and fat mass loss at 3-month (r=-0.30,p<0.05) and 12-month (r=-0.34,p<0.05). Higher moderate-to-vigorous physical activity (MVPA) at 6-month positively correlated with fat mass loss (r=0.33,p<0.05). At all-time points post-surgery, higher fat-free mass and whole-body bone mineral density positively correlated with handgrip strength, all p<0.05.

Conclusion: Strategies are needed to promote increased PAL and reduced SB to maximise the health benefits of bariatric surgery.



O5

Ten-year experience and management of gastric band emergencies in a non-bariatric unit

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Introduction: Although Adjustable Gastric Band (AGB) procedures represent a diminishing fraction of bariatric operations, they are still used in selected patients in the NHS and privately. Patients often present to non-bariatric centres with complications. We aimed to assess the management of AGB complications in a non-bariatric unit.

Methods: Retrospective review over ten years of management of AGB complications in a non-bariatric tertiary hospital.

Results: Seventy-eight patients (M:F 1:77, mean age 46 years) had 90 separate admissions. 46 of these were emergencies: 15 slipped band/obstruction, 3 erosions, 2 band or superficial infections, 24 with other severe symptoms and 2 post band removal readmissions. Fifteen AGBs were removed by Upper-GI surgeons during their emergency admission, 3 patients had complications post-operatively (wound infections). Band deflation was attempted in 23, with 2 requiring interventional radiology. No patients were transferred during their emergency admission to a bariatric centre. Only 10 patients had follow-up arranged with a bariatric surgeon of which 8 were private patients.

Conclusion: Non-bariatric centres treat complications from AGB insertion and management of acute bariatric presentations should be supported in the General Surgery curriculum. Follow up is inconsistent and referral pathways to regional bariatric centres need to be formalised to ensure safe outcomes.

O6

Development of Obesity Medicine Data collection Tool (OMDT) – a national registry for real life outcomes of current and future obesity pharmacotherapies in the NHS.

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In December 2020 NICE issued guidance, recommending the use of 3mg Liraglutide for the management of patients with BMI ≥35kg/m², prediabetes and increased CVD risk seen in a Tier 3 service. This highlighted the need for the development of a national registry to capture real life outcomes of this treatment.

OMDT is a bespoke implementation of Dendrite Clinical Systems' Intellect product. The registry is based on a flexible, modifiable set of

tables utilising a sparse-string array type of database (Intersystems Cache) to store patient data. Automatic calculations of derived data are implemented where relevant via a library of bespoke algorithms. OMDT collects data following holistic assessment of a patient with obesity utilising King's Obesity Staging System (KOSS).

To date, 326 patients on 3mg Liraglutide from 17 Tier 3 & 4 services have been added onto OMDT. OMDT is going to be integrated with the national Tier 3 database and will be the source of information on obesity pharmacotherapy use for the new national obesity audit.

OMDT represents the first obesity pharmacotherapy registry in the UK and provides a real-world view of clinical practice, patient outcomes, safety, and cost-effectiveness, and can serve a number of evidence development and decision making purposes.

O7

Feeling the 'weight' to lose it, the stigma of obesity; a case of a PLWO recent interaction with healthcare.

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Background: Obesity has become a significant public health issue, however, it is well documented that many individuals falling outside the 'normal' Body Mass Index (BMI) range face conscious/unconscious stigmatisation when accessing healthcare.

Method: A case of a person living with obesity's (PLWO) recent interaction with healthcare.

Results: A gentleman presented to hospital with abdominal pain. He weighed 200kg, (after recently losing ~10kg in 1 month) with a BMI of ~54. The history and examination identified non-specific, radiating abdominal pain which was Murphy's and McBurney's positive. A CT scan was requested following non-specific changes in blood investigations and showed undiagnosed lymphoma with no other surgical concerns. The patient was referred for immediate investigation and management.

Discussion: Given society's preference for 'slimness' and the notion that PLWO should, at all times, be actively trying to lose weight, the role of stigma and weight bias requires addressing. Empirical evidence has shown that weight stigma in healthcare is pervasive, and PLWO feel confused in their subjective and objective experiences of their body.

Conclusion: Flint suggests 5 'needs' to ensure that PLWO access equitable healthcare without the context of weight, in alignment with the WHO's call for 'zero discrimination in healthcare'.

O8

Changes to walking gait after bariatric surgery, preliminary results of four patients with 24 months follow up

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Background: Obesity is a modifiable risk factor for osteoarthritis (OA) and musculoskeletal pain. However, the causal pathway between obesity and OA is not completely understood. Knowledge of the effect of weight loss on joint kinetics and kinematics will aid this understanding. This study aimed to assess how weight loss, through bariatric surgery, changes joint loading and walking gait. We present the preliminary results of four patients from a larger study as a proof of concept.

Method: Four patients underwent gait analysis using 3D Motion Capture (Vicon Nexus) pre and twenty-four months post bariatric surgery. Ten walking trials at a self-selected speed were collected. Gait characteristics were analysed using Visual3D software.

Results: Mean pre-operative BMI was 50kg/m². Mean weight loss was 33% of initial body weight. There was an increase in walking speed by 0.36m/s (SD 0.4) and a decrease in double limb support time (DLST) of 0.18s (SD 0.25) and stance time of 0.16s (SD 0.24).

Conclusion: These results suggest that weight loss from bariatric surgery leads to reduced DLST and stance time, decreasing joint loading time at 24 months post-operatively. This reduction in joint loading may reduce joint pain and prevent or limit OA progression.

O9

Prevalence of polycystic ovarian syndrome in women undergoing Bariatric surgery

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Introduction: Polycystic ovary syndrome (PCOS) is closely associated with obesity but the prevalence of PCOS in those attending for bariatric surgery is unclear. We systematically investigated the burden of PCOS in women of reproductive age prior to surgery.

Methods: A prospective cohort study of women of reproductive age (18-45 years) undergoing bariatric surgery. Participants were recruited preoperatively and followed for two years after surgery. Participants were assessed for the presence of PCOS prior to surgery using the Rotterdam Criteria. (see Table 1). Participants completed a reproductive health history, including frequency of periods and a pictorial self assessment of hyperandrogenism (Ferriman-Gallwey score). Blood tests and ovarian scanning were consented for separately. Eighty-one percent of participants (70/86) were investigated for biochemical hyperandrogenism and 63% (54/86) had a scan to assess ovarian morphology.

Results: Of the 86 women recruited to the study, n=31 (36%) met Rotterdam criteria for PCOS at baseline; n=18 had biochemical hyperandrogenism and a further n=14 had clinical hyperandrogenism. Over half of the women (46/86) reported oligo/amenorrhoea. Seventeen (31%) women had polycystic ovaries on ultrasound scan.

Conclusion: Women presenting for bariatric surgery have a high rate of menstrual dysfunction over a third met the diagnostic criteria for PCOS.

Table 1 Rotterdam Criteria: 2 of the following 3 criteria must be fulfilled

Clinical hyperandrogenism (Ferriman-Gallway Score >8)
Or
Biochemical hyperandrogenism (Elevated total/free testosterone)
Oligo-amenorrhoea (< 6-9 menses per year)
Or
Oligo-ovulation
Polycystic ovaries on ultrasound (>12 antral follicles in one ovary)
Or
Ovarian volume >10cm ³

O10**The effectiveness and safety of liraglutide in bariatric patients within the tier 3 and tier 4 service; a retrospective real-world clinical evaluation study**

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IHP free papers, Hall 4, May 18, 2022, 08:30 - 09:10

Introduction: Glucagon-like peptide-1 analogues, such as liraglutide 3.0 mg (Saxenda) have yielded clinically significant weight loss in clinical trials, when used in combination with lifestyle interventions. Despite recent approval, its success within a specialist (Tier 3 and Tier 4) Bariatric unit remains uncertain. This study investigated the effectiveness of 3.0 mg liraglutide on weight, body mass index (BMI), treatment tolerability and effects on glycated haemoglobin (HbA1c).

Methods: Clinical data was retrospectively obtained from medical records within tier 3-4 bariatric weight management clinics. Wilcoxon signed rank tests were used to establish the statistical significance (p<0.05).

Results: 33-patients were identified (72.7% female with mean baseline age, weight and BMI of 44.8 years, 156.6 kg and 55.0 kg/m², respectively). The discontinuation rate was 15.2%, indicating substantial treatment tolerance. After 26-weeks of treatment, BMI (±standard deviation) was significantly reduced by 7.9±6.3% (P<0.05) and 72.2% of patients achieved at least 5% weight loss. Additionally, a significant decrease in median HbA1c (4.5±4.5 mmol/mol) was observed (p<0.05), concurrent with increased remission from prediabetes.

Conclusion: This retrospective study revealed that liraglutide 3.0 mg, with lifestyle management, reduced weight and improved glycaemic control. These results support liraglutide's application in certain high-risk populations, including patients waiting for bariatric surgical intervention.

O10**The effectiveness and safety of liraglutide in bariatric patients within the tier 3 and tier 4 service; a retrospective real-world clinical evaluation study**

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O11**Adolescents preserve muscle and lose fat mass following sleeve gastrectomy**

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Introduction: Bariatric surgery for obesity is considered effective and safe in morbidly obese adolescents when medical management fails. (1) However, there are conflicting reports of effects on body composition after bariatric surgery in adults (2, 3, 4) and concerns that rapid weight loss adversely affects skeletal muscle mass. This review aimed to assess muscle and fat mass changes following sleeve gastrectomy (SG) in adolescents.

Methods: Patients receiving SG surgery between August 2016 and June 2019 had measurements of weight, height and body mass index (BMI). Body fat and skeletal muscle mass percentage were measured using multi frequency, segmental, whole body bioelectrical impedance analysis (BIA) (InBody S10). We have previously shown this machine to correlate highly with DEXA, the gold standard in young people with cystic fibrosis. (5) Measurements were recorded prior to surgery and at most recent follow-up. Pubertal stage and ethnicity were recorded for all patients.

Results: Nineteen patients underwent SG; Table 1 shows patient characteristics & results. Table 2 shows measurements pre surgery & follow-up. **Conclusion:** Adolescents who underwent SG successfully reduced weight and BMI predominantly with a loss of fat rather than muscle. BIA is a practical, non- invasive & time efficient method of assessing body composition.

Table 1: Patient characteristics and results

	Values
Age at time of surgery, years, mean (SD)	17.71 (1.41)
Follow up time, years, mean (SD)	1.11 (0.52)
Ethnicity (n, %)	
White British	13 (68.4%)
Other	6 (31.6%)
Sex (n, %)	
Female	14 (73.7%)
Male	5 (26.3%)
Tanner Stage 5 (n, %)	19 (100%)

Table 2: Measurements pre-surgery and at most recent follow up

	Mean (SD)		Mean (SD) change in measurements
	Pre surgery (n=19)	Most recent follow up (n=16)	
Weight, kg	146.2 (20.0)	107.3 (19.5)	-34.0 (12.0)
BMI, kg/m ²	50.8 (5.5)	37.7 (5.6)	-12.0 (4.9)
Body fat, kg	73 (9.9)	45.3 (12.9)	-30.4 (19.1)
Body fat, %	51.3 (4.3)	41.0 (7.2)	-12.7 (13.0)
Skeletal muscle mass, kg	39.8 (7.2)	36.0 (6.5)	-6.0 (10.0)
Skeletal muscle mass, %	27.77(2.59)	34.68 (7.91)	-4.87 (11.11)

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O12

Safe introduction of one-anastomosis gastric bypass in the United Kingdom

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Aim: One-anastomosis gastric bypass (OAGB) is a new bariatric procedure that has recently been introduced across the United Kingdom. The

aim of this study is to report on the demographic data and early peri-operative outcomes of the introduction of OAGB into the UK.

Methods: The National Bariatric Surgical Registry (NBSR) was used to identify patients that underwent OAGB from April 2010 until April 2021. Demographics, clinical features and 30-day postoperative morbidity, comparisons to other bariatric surgery (RYGB:Roux-en-y gastric bypass; SG:Sleeve gastrectomy; AGB:Adjustable gastric band) and learning effects (year of surgery/institution experience(0-49/50+ cases) were analysed.

Results: 3889/90431 OAGB operations were reported in the NBSR from 62 units. 2984/3889 (76.7%) were female, mean pre-OAGB BMI was 45.6(SD12.4)kg/m², and 1715/3791 (45.2%) were ASA 3+. Postoperative morbidity occurred in 1.60% (60/3710) (RYGB 3.2% (1197/37694); SG 2.4% (586/24014); AGB 1.2%(162/13219)). There were 14 Clavien-Dindo 3+ severity morbidities(0.35%) and two mortalities(0.05%) (RYGB 0.08% (32/41356); SG 0.04% (11/21575); AGB 0.006%(1/15292)); Year of surgery(p=0.394) and institution experience(p=0.274) had no significant effect on perioperative morbidity.

Conclusion: OAGB has been safely implemented into UK national bariatric surgery practice. It has lower reported morbidity than RYGB or SG despite being offered to patients with severe and complex obesity.

O13

Patient and operative factors associated with delayed discharge following bariatric surgery in an enhanced recovery setting

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Background: Although enhanced recovery after surgery (ERAS) programmes are the standard practice for many bariatric centres, the reasons why patients are not discharged on the first post-operative day (POD 1) have not been fully elucidated. The aim of this study was to identify these factors to further reduce length of stay (LOS) safely.

Methods: A retrospective analysis was performed of all patients with complete data undergoing bariatric surgery in a single centre, from April 2021 to February 2022. Multivariate analyses compared variables between patients who were discharged on day 1 to those who stayed longer.

Results:

6/223 patients were excluded due to complications (Clavien-Dindo grade II or more). 32/217 (14.7%) stayed beyond POD 1. This was independent of BMI, type of surgery, age, gender or operative duration. However depression (OR 3.15 95% CI 1.28-7.80; p=0.01) and a consultant led-case (suggesting a more complex procedure) (OR 3.14 95% CI 1.29-7.67, p=0.01) increased the risk of stay beyond POD 1.

Conclusion: 85% of patients went home successfully on POD 1, irrespective of whether a revisional case or not. Failure to be discharged on POD 1 is affected by both patient and operative factors and these should be considered when developing ERAS protocols.

O14

Medicolegal outcomes following bariatric surgery: lessons learnt from over 50 consecutive cases

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Introduction: Bariatric surgery is a safe and effective management option in the care of people with obesity. Despite this, there has been an increase in the number of medicolegal cases.

Methods: We interrogated 64 consecutive medicolegal cases referred to 2 experts, reviewing the outcomes, complications (early and late), breaches in duty of care, and long-term clinical effect.

Results: The procedures were carried out between 2004 and 2021 and included Roux-en-Y gastric bypass (53%), sleeve gastrectomy (18%), gastric band (15%), and other bariatric procedures (12%), with 8% undergoing a revision procedure. Of the 64 cases, 45% required reoperation. The most common adverse events initiating a claim were leak (14%), hernia (internal/incisional) (9%), obstruction (8%), bleeding (8%), metabolic derangement (4%), retained foreign body (4%), and iatrogenic injury (3%). 11 patients died (17%). The procedure most frequently associated with mortality was Roux-en-Y gastric bypass (54%). The cases involved a total of 34 primary surgeons, with a range of 1-5 cases per surgeon. Only 53% of surgeons had National Bariatric Surgery Registration.

Conclusion: Analysis of litigation trends is important to understand adverse outcomes and improve patient safety. Current data suggests a significant volume of bariatric complications may not be reflected in National Registry reports.

O15

Pre-operative endoscopy results in a change in up to 21% of operative plans and is justified in all patients undergoing primary bariatric surgery in our unit

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Introduction: According to a 2016 systematic review, pre-operative upper gastrointestinal endoscopy for patients undergoing bariatric surgery identifies pathology that alters the operative plan in up to 7.6% of cases. IFSO now recommend pre-operative endoscopy for all patients. We audited our unit's adherence to these guidelines and examined their relevance to our practice.

Methods:

Records from multi-disciplinary team meetings 1st January-31st December 2021 were retrospectively analysed. Patients for whom a decision was made to list for primary sleeve gastrectomy or gastric bypass were included and pre-operative endoscopy reports and MDT outcomes reviewed.

Results: 57 patients underwent primary bariatric surgery of which 47 (82.4%) underwent pre-operative endoscopy. 10/47 patients (21.3%) subsequently had an alteration in their operative plan: 6 from sleeve to bypass, 2 sleeve to sleeve with hiatus hernia repair, 2 bypass to sleeve. No patients had surgery precluded entirely.

Conclusions: Our unit has a higher than average rate of altered operative plans following endoscopy. This may be reflective of a tendency to avoid sleeve gastrectomy alone in those patients with small hiatus hernia or any endoscopic evidence of reflux disease. This high rate justifies the IFSO recommendation regarding pre-operative endoscopy and reiterates the need to adhere to it fully.

References:

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O17

An insight into a dietetic-led Tier 3 weight management service providing Liraglutide

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Background: Liraglutide is recommended by NICE for individuals living with Obesity, non-diabetic hyperglycaemia and either hypertension or dyslipidaemia (1). Liraglutide 3.0mg daily has been demonstrated as an effective medication alongside receiving lifestyle advice (2).

Methods: Liraglutide was provided through the local Tier 3 weight management service, and funding was agreed by the dietetic team leader. This was agreed as a dietetic led-intervention, with consultant physician support to provide prescriptions for Liraglutide and to attend MDT meetings. A Liraglutide initiation pathway was developed (Figure 1), and dietitians undertook appropriate training. Dietetic appointments were combined with prescription collection dates. The cost of Consultant Physician appointment time compared to dietetic time was an important consideration, reducing cost by 66.7%/£23.54 per patient.

Results: Average Baseline starting weight was 149.2kg, BMI 53.2kg/m² from 38 patients. 87% of 23 patients met a 5% or greater total weight loss target within 4 months of initiation of 3.0mg Liraglutide (see Table 1). 100% of feedback from patients found they received all information required. There has been evidence of improvements in patients' mental health (further data to follow).

Conclusions: Dietetic-led services providing Liraglutide with physician support may be a cost-effective option for providers, and a convenient choice for patients.

* Prescription to be completed by the physician in the Tier 3 MDT weight management clinic and dispensed via Hospital pharmacy.

**Eligibility criteria

- They have a body mass index (BMI) of at least 35 kg/m² (or at least 32.5 kg/m² for members of minority ethnic groups known to be at equivalent risk of the consequences of obesity at a lower BMI than the white population) and
- They have non-diabetic hyperglycaemia (defined as a haemoglobin A1c level of 42 mmol/mol to 47 mmol/mol [6.0% to 6.4%] or a fasting plasma glucose level of 5.5 mmol/litre to 6.9 mmol/litre) and
- They have a high risk of cardiovascular disease based on risk factors such as hypertension and dyslipidaemia

***Consultations undertaken by T3 Specialist Weight Management team

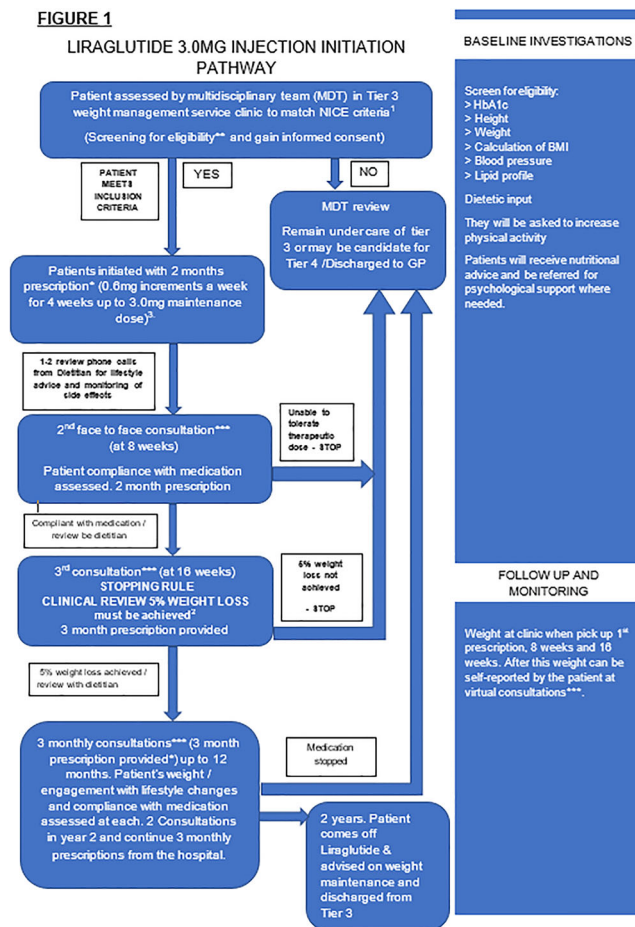


Table 1- Results from Saxenda treatment

Starting weight range: 100-305kg
 Participants:
 5 male 18 Female
 Age range 28-70 years old.

2021	May	June	July	August	September	October	Total
Saxenda	4	9	3*	3	2	2	23
Initiations							
Achieved 5% weight loss	4	9	2	1	2	2	20

1 patient met the criteria for Saxenda but declined treatment
 *One patient stopped Saxenda due to palpitations, and yellow card submitted

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O18

A global, multicentre, observational cohort study of mortality and morbidity for patients with Type 2 diabetes undergoing bariatric and metabolic surgery (BMS)

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Introduction: This was a secondary analysis of the GENEVA multinational cohort dataset to analyse morbidity and mortality of BMS patients suffering from Type 2 diabetes mellitus (T2D).

Methods: Logistic regressions and Multivariate models were used to investigate the influence of diabetes on complication and mortality rates.

Results: 1475 patients had T2D (416 diet treated type 2 diabetes), 806 oral drug treated type 2 diabetes (OATD), and 253 insulin treated type 2 diabetes (ITD). 650 (44.1%) underwent laparoscopic sleeve gastrectomy (LSG); 487 (33%) Roux en Y gastric bypass (RYGB); 230 (15.6%) one anastomosis gastric bypass (OAGB); and 108 (7.3%) underwent other procedures. The 30 day mortality of BMS patients without T2D was 0.07% (4/5609) compared to 0.4% (6/1475) in T2D and 0.8% (2/253) with ITD, respectively (P = 0.0079 and P = 0.0251, respectively; Fisher’s exact test). 30 day complication rate was 7.9% in T2D compared to 6.5% without T2D (P = 0.0475). There was an increased risk of complications in patients with ITD on univariate and multivariate analyses [OR = 1.07 (1.04–1.1); P< 0.0001 and OR = 1.06 (1.02–1.09); P = 0.001 respectively].

Conclusions: T2D causes significantly higher 30 day morbidity and mortality in BMS patients. Complications rates are significantly higher in ITD.

O19

Exploring the key components and educational requirements of the bariatric specialist nurse role using an e-Delphi technique

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Background: Clinical Nurse Specialist (CNS) roles require specialist knowledge developed from extensive clinical experience and formal education. CNS roles are considered valuable within many patient pathways. There is limited literature in the United Kingdom (UK) clearly identifying the CNS role and educational training requirements for managing with obesity.

Aim: Identify and gain broad consensus on the key components and educational requirements for the bariatric CNS role in the UK.

Methodology: A five-round e-Delphi technique was used to gain consensus from an expert group (nurses, dietitian, medical and patient representative) from the bariatric pathway. The online survey consisted of 61 statements derived from round 1 and the literature. Experts rated statements using 5-point Likert scale, consensus agreement was defined as > 70% of participants agreeing/strongly agreeing.

Results: 20 experts met the criteria. Response rates were > 90% in all rounds. 52/60 (86.6%) statements met agreement covering 4 domains (clinical, education, leadership and research/audit). Lowest level of consensus agreement related to specialist education of the CNS role (n=8/12, 66.6%).

Conclusion: Consensus was gained in the majority of statements related to clinical, research and leadership domains. However, limited consensus was obtained on the educational qualification requirements of the bariatric CNS role.

O20

Single Centre Experience Outcomes Of Bariatric Surgery

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Introduction: National data and published outcomes are routinely used to help inform patients of operation effectiveness. We wanted to review our data to inform our patients of effectiveness in our unit.

Methods: Details of 1252 patients who underwent weight loss surgery from October 2013 to October 2021 were collected. Weights at 6 months, 1 year, and 2 years was obtained.

Results: 864 total patients. 99 LAGB, 386 LRYGB, and 379 LVSG. Median BMI of the sample was 46.25. Patients who had LAGB had a median LOS of 1 day and lost a mean total of 13kg, 20.2kg, and 20.8kg of their weight at 6, 12, and 24 months or 19%, 30%, and 31% of their excess body weight (EBW) respectively. Patients who had LRYGB had a LOS of 2.8 days and lost 30.6kg, 41kg, and 42.2kg or 42%, 57%, and 58% EBW. Patients receiving LVSG had a LOS of 2 days and a loss of 27.6kg, 35.8kg, and 35.2kg or 37.6%, 51.8%, and 51% EBW in the two-year follow-up period. 51 (6%) required revision, of those 24 were LAGB.

Conclusion: In our unit, LAGB is demonstrably less effective in helping patients achieve weight loss compared to the LVSG and LRYGB.

O21

Female Sexual quality of life after bariatric surgery

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Introduction: Approximately half of all bariatric procedures are performed on women of reproductive age. Obesity is associated with lack of enjoyment of sexual activity and avoidance of sexual encounters. There is limited evidence regarding the impact of surgery on sexual quality of life in pre-menopausal women.

Methods: A prospective cohort study of women of reproductive age (18-45 years) undergoing bariatric surgery. Participants were recruited pre-operatively and followed for one year after surgery. Participants completed a validated sexual quality of life (SQOL-f) questionnaire pre-operatively, and at three, six and twelve months post-operatively. SQOL-f can be completed regardless of sexual orientation or relationship status. Scores range from 0 to 90 points and are transformed into a percentage (higher percentage represents greater SQoL).

Results: Seventy-eight women completed at least one questionnaire, 25 completed solely the pre-surgery questionnaire. The mean scores tended to increase over time (baseline: 45.4%[95% CI 40.4 - 50.4] (n=77), three months post: 53.4%[95% CI 45 - 62]* (n=41), six months post: 61.4%[52-71]* (n=34), twelve months post: 57%[47.5-66.5] (n=34). *P<0.01vs baseline.

Conclusion: Female sexual quality of life showed an improvement after surgery, most notable at six months post-operatively, although QoL dipped at twelve months to be not statistically different to baseline.

O22

Is it necessary to do routine post-op blood tests in patients undergoing bariatric surgery?

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Introduction: It is standard practice to do post-op blood tests in patients undergoing elective surgery.

Methods: All patients undergoing elective bariatric surgery in a high volume centre over a four year period were included in the study. The possible impact of a selective approach to ordering of post-op blood tests based on clinical parameters on patient outcomes was assessed.

Results: 1009 patients (105 gastric band removal, 756 gastric bypass, 104 sleeve gastrectomy and 44 revision surgery) were included in the study. Demographics include: Age 46(20-77), M:F = 190-819; BMI – 44.3 (20.6-62); Wt. – 120.3 Kg (57.4 – 190.7). Median length of stay was 1.7 (1-23) with 79% 1 day discharge. 783 (78%) patients did not have routine post op blood tests as they were assessed to be clinically well. 6 of these patients were readmitted with complications – 2 with obstruction (on day 2), 2 with staple line bleeds (day 2), 1 with port site bleed and 1 with haemetemesis secondary to anastamotic ulcer on day 6.

Conclusions: Selective use of post-op blood tests in patients undergoing elective bariatric surgery based on clinical parameters is safe and does not result in compromised care of this complex group of patients.

P1

The impact of patient anxiety on intragastric balloon (IGB) insertion procedure: a mixed-methods study

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Background: The relationship between patient anxiety and tolerance of an intragastric balloon (IGB) insertion has not been investigated before. We aimed to examine the relationship between anxiety and peri-procedural outcomes, and to explore the patient experience.

Methods: Patients who underwent an IGB insertion at a single UK centre were included. Prior to IGB insertion, patients completed the GAD-7 screening tool (scores ≥ 5 , ≥ 10 , ≥ 15 indicate mild, moderate, and severe anxiety, respectively). Procedure duration and sedation dosage were collected retrospectively and analysed using Spearman’s correlation. A p-value of <0.05 was considered significant. An online survey was also sent patients to gather experiential data.

Results: Twelve patients (mean BMI 52.5kg/m², 58% male) were included. A third (n=4) had moderate/high anxiety and two-thirds had no anxiety (n=8). There was a positive correlation between procedure duration and anxiety score (rs=0.891, p=0.007). There was no correlation between sedation dosage and anxiety score (rs= 0.056, p= 0.904). One patient shared that they felt “panicked” during the procedure and 66.6% (n=4) of survey respondents would like more psychological support prior to IGB insertion.

Conclusions: Higher levels of anxiety are associated with a longer procedure. We recommend routine screening for anxiety to identify patients who might benefit from psychological support pre-IGB insertion.

P2

Pressure sores during bariatric surgery: an avoidable adverse event

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Introduction: Reverse Trendelenburg position is commonly used in Bariatric Surgery. Operative time in complex and redo procedures can be significantly longer. Despite following routine standard precautions for safe positioning, pressure sores may occur.

Methods: An adverse event during gastric band removal and conversion to RYGB for a patient with a BMI of 32 with prolonged operative time was reviewed. Grade one pressure sores on both feet were reported at the end of the procedure causing severe pain despite routine standard bariatric position support intraoperatively.

Results: Thanks to early recognition (in recovery) and prompt diagnosis, the pressure sores were managed conservatively with no residual effects.

Discussion: Operative positioning and prolonged duration in some bariatric procedures could result in pressure sores necessitating appropriate identification and management. Prevention includes discussing this risk during a surgical brief, extra padding, attention to positioning, and care for pressure areas. Intermittent neutral positioning and checking pressure areas at pre-agreed intervals are also highly recommended.

Conclusion: Pressure sores in bariatric surgery could happen in patients undergoing prolonged complex procedures, particularly with relatively lower BMI. This could be avoided by maintaining high suspicion index in lengthy procedures, following the positioning safety standards, and regular checking at pre-agreed surgical breaks.



P3

Banded Sleeve Gastrectomy v/s Non-banded Sleeve Gastrectomy: A Systematic review and Meta-analysis

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¹All India Institute Of Medical Sciences, India

Banded sleeve gastrectomy (BSG) was developed to restrict progressive dilation of the gastric sleeve, which remains a commonly implicated reason for weight regain following SG. The present study attempted to perform a systematic review and meta- analysis comparing the two procedures. Literature search was performed across PubMed and Google Scholar, using the keywords “Banded Sleeve Gastrectomy”, “Sleeve gastrectomy”, “Banded”, “BSG” and “LSG”. It yielded 4267 articles, six of which have been included in this review. Better weight loss outcomes at 3 and 5 years are noted following BSG, with a margin of 6.39% and 9.97% in %TWL at respective time points. No difference in impact on comorbidities was noted. A revision rate of 7.1% was seen after BSG, with increased regurgitation as the most common indication.

Figure 1A: Forest Plot of %TWL at 3 years following BSG and SG procedures

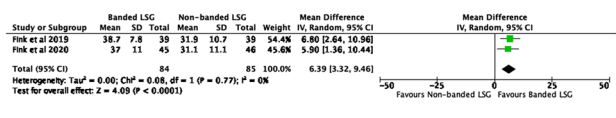
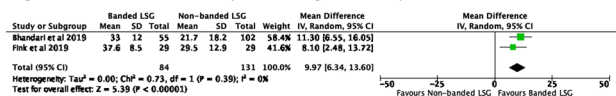


Figure 1B: Forest Plot of %TWL at 5 years following BSG and SG procedures



P4

Concomitant Hiatal Hernia Repair with Sleeve Gastrectomy: Can Gastroesophageal Reflux be alleviated?

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Background: Hiatal hernia (HH), whenever encountered during sleeve gastrectomy (SG), needs to be addressed due to its strong association with GERD. However, the long-term effects of hiatal hernia repair (HHR) on the GERD remains uncertain.

Methods: It is a cross-sectional observational analysis of patients who underwent SG with concomitant HHR from April 2013 to October 2020 and had completed at least 1-year of follow-up. Preoperative data was retrieved from a prospectively maintained database. A total of sixty-three patients were recruited and assessed for use of PPIs (Proton Pump Inhibitors) and symptoms of GERD using GERD-Q questionnaire. The diagnosis of HH was made solely on intraoperative assessment of the hiatus by an experienced bariatric surgeon.

Results: Of the 63 patients, 13 were lost to follow-up and one patient underwent Roux-en-Y gastric bypass for HH recurrence and severe reflux. Forty-nine patients were assessed at a mean follow-up duration of 3.7 ± 2.0 years. Of these, 73.5% (36/49) patients had preoperative reflux symptoms. On follow-up, 69.4% (25/36) had complete resolution with significant improvement in their GERD-Q scores (9.8 ± 3.1 to 6.5 ± 2.1 ; $p = 0.001$), while 30.6% (11/36) of patients observed no significant change in their reflux symptoms. The incidence of de novo GERD was found in 12.2% (6/49) of the patients. The mean body mass index improved from 44.4 ± 5.0 kg/m² to 33.2 ± 4.9 kg/m² ($p < 0.001$).

Conclusions: In patients of morbid obesity with HH, concomitant HHR with SG leads to improvement of the reflux symptoms besides, alleviating the use of PPIs and decreasing the incidence of de novo GERD.

P7

Laparoscopic versus Robotic Sleeve Gastrectomy: A Systematic Review and Meta-Analysis

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Background: Sleeve gastrectomy (SG) is the most performed bariatric procedure worldwide. It is usually performed either laparoscopically or robotically. Herein, we aimed to study the differences in outcomes between Laparoscopic and Robotic SG (LSG and RSG).

Methods: PubMed, Scopus, and Web of Science were searched for published comparative studies comparing LSG and RSG as primary procedures. Quality was assessed using the Newcastle-Ottawa scale. Meta-analyses were performed using RevMan v.5.4.1.

Results: 23 cohort studies were included with a total of 1,289,014 patients. Decrease in BMI at 6 & 12 months postoperatively were significantly greater with RSG (MD=-2.88; 95%CI[-4.60,-1.16];P=0.001) & (MD=-2.06;95%CI[-3.59,-0.52];P=0.009) respectively. Seven outcomes were significantly lower with LSG; duration of surgery (MD=-21.66;95%CI[-28.98,-14.34];P<0.00001), length of hospital stay (MD=-0.13;95%CI[-0.24,-0.02];P=0.02), readmission (RR=0.87;95%CI[0.82,0.91];P<0.00001), leak (RR=0.74;95%CI[0.61,0.89];P=0.001), conversion (RR=0.20;95%CI[0.17,0.24];P<0.00001), reoperation (RR=0.89;95%CI[0.80,0.99];P=0.03), and cost (MD=-4.52;95%CI[-5.86,-3.17];P<0.00001). Mortality and bleeding were similar amongst the two groups (RR=1.19;95%CI[0.79,1.79];P=0.42) & (RR=1.22;95%CI[0.97,1.54];P=0.09) respectively.

Conclusion: Although our study demonstrated a better decrease in BMI with RSG, this needs to be further investigated due to the small population included in analyses (182 for 6-months & 417 for 1-year). Conversely, LSG showed better outcomes in almost all other outcomes. Hence, LSG seems to be superior to RSG according to the available literature.

P8

Systematic Review of Neoadjuvant Bariatric Surgery Prior to Ventral Hernia Repair

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BACKGROUND: Surgical repair of abdominal wall hernia in morbidly obese patients is often associated with high perioperative risks. Timing of surgical intervention is a complex decision with no consensus or guidelines advising on the optimum time.

We aimed at conducting a systematic review of the literature to determine the feasibility of the staged approach in managing abdominal wall hernias in obese patients.

METHODS: Systematic reviewed was conducted according to the PRISMA protocol. The primary outcome was hernia recurrence. Secondary outcomes included postoperative morbidities.

RESULTS: Seven studies were included in the analysis with total of 6511 patients underwent bariatric surgery followed by hernia repair. Average interval to hernia surgery was ranging from 1 to 87 months following the bariatric surgery.

During the interval period, only 5 (2%) patients out of reported 254 patients required emergency hernia surgery. Post hernia repair follow up was 1-72 months with reported recurrence in 1540 (23.6%) patients.

CONCLUSION: Bariatric surgery followed by hernia surgery in obese patients is safe and feasible option with reduced operative risks and low recurrence rate. High quality evidence is needed to answer this conflicting question about timing of intervention

P9

A Systematic Review of Bariatric Surgery in Patients with Obesity and Type 1 Diabetes Mellitus

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Introduction: The prevalence of obesity in the T1DM population has been increasing at a worrying rate. Bariatric surgery proves to be effective in treating patients with T2DM, as weight changes had a direct effect on insulin resistance and requirements, and thus glycaemic control. However, evidence for the benefit of the procedure for patients with T1DM is still limited.

Methods: A systematic review was performed in accordance with the PRISMA guidelines. Articles not in relation to T1DM or lacking specific quantitative data were excluded.

Results: 26 studies were included with a total of 262 patients (F=167;M=73;N/A=22). The mean age was 37.08yrs(n=207). The mean weight and BMI were 112.4kg(n=157) and 31.88 kg/m²(24-58.9,n=261) respectively.

Most common procedures performed were SG with 120 patients(46%) and RYGB with 104 patients(39.3%). Insulin requirements changed from 90.77 IU/day(36.2-174) pre-operatively to a mean of 36.5 IU/day(5-75) post-operatively. No trend was found for changes of HbA1c levels. Main side effects were episodes of hypoglycaemia and DKA. The mean %EWL was 72.3%(60-90.5%) at ≥6 follow-up months. Reductions in co-morbidities were recorded in multiple studies.

Conclusion: Obese patients with T1DM can expect significant weight loss, resolution of co-morbidities, and reduction of insulin requirements, but BS is unlikely to improve glycaemic control.

P10

Obesity as an indicator of inferior outcomes in fundoplication – a ten-year hospital-based cohort study

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Introduction: There is controversy surrounding fundoplication in patients with obesity (BMI ≥30 kg/m²). This study aims to analyse intra and post-operative factors to determine whether obesity influences outcomes.

Methods: All patients undergoing fundoplication in a tertiary centre over a 10-year period were included. BMI, operation duration, intra-operative

complications and long-term outcomes were obtained using hospital records databases.

Results: BMI was recorded in 129/321 (40%) patients who underwent fundoplication, of whom 40/129 (31%) had obesity. There was no statistically significant difference in mean operation time between cohorts (p=0.56). Major intra-operative complications (significant bleeding and/or gastric mucosal perforation) occurred in 2/89 (2.2%) of normal BMI group compared to 2/40 (5%) in the group with obesity (p=0.40). Two individuals in both cohorts (2.2% normal BMI, 5% with obesity) returned to theatre during their admission for dysphagia (p=0.40). Long-term, fewer patients with obesity achieved symptom resolution (72% vs. 75% normal BMI, p=0.72). Five patients with obesity (12.5%) had a re-do fundoplication compared to 7 with normal BMI (7.9%)(p=0.39).

Conclusions:Obesity may be associated with greater risk of intra-operative complications and return-to-theatre prior to discharge. Long-term, patients with obesity may be less likely to achieve symptom resolution and be more likely to require re-do fundoplication.

P11

Multivariable analysis of baseline characteristics of NHS patients having primary bariatric surgery compared to self-pay patients

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¹NBSR Committee, United Kingdom

Introduction: Baseline characteristics of patients having primary bariatric surgery in the UK have not been described. This multivariable analysis of national data aims to determine whether NHS patients undergoing bariatric surgery have more comorbidities and poor functional status at baseline than self-pay bariatric surgery patients.

Methods: Multivariable analysis was undertaken of the National Bariatric Surgery Registry between Jan 2015 and Dec 2019 to determine factors associated with primary bariatric surgery for NHS and self-pay patients.

Results: 38,411 patients underwent bariatric surgery. Adjusted multivariable regression analysis determined that compared to self-pay patients (n=29,131), NHS patients (n=9,280) were older (OR 1.20, p<0.001) and had more severe obesity (OR 1.40, p<0.001). NHS patients had more comorbidity, suffering from higher rates of both systemic disease such as cardiovascular disease (OR 1.37) hypertension (1.39), sleep apnoea (2.70), gastro-oesophageal reflux disease (OR 1.58), diabetes (OR 3.95) and polycystic ovary syndrome (OR 1.38) (all p<0.001). NHS patients had worse functional status (OR 2.49) and more musculoskeletal pain than self-pay patients (OR 1.27) (both p<0.001).

Conclusion: These results demonstrate that after adjusting for confounding factors, NHS patients had surgery at a late stage of obesity. The NHS should offer treatment earlier in the disease process.

Words = 198

P12

Baseline characteristics of patients having primary bariatric surgery in the NHS compared to self-pay patients: which are sicker?

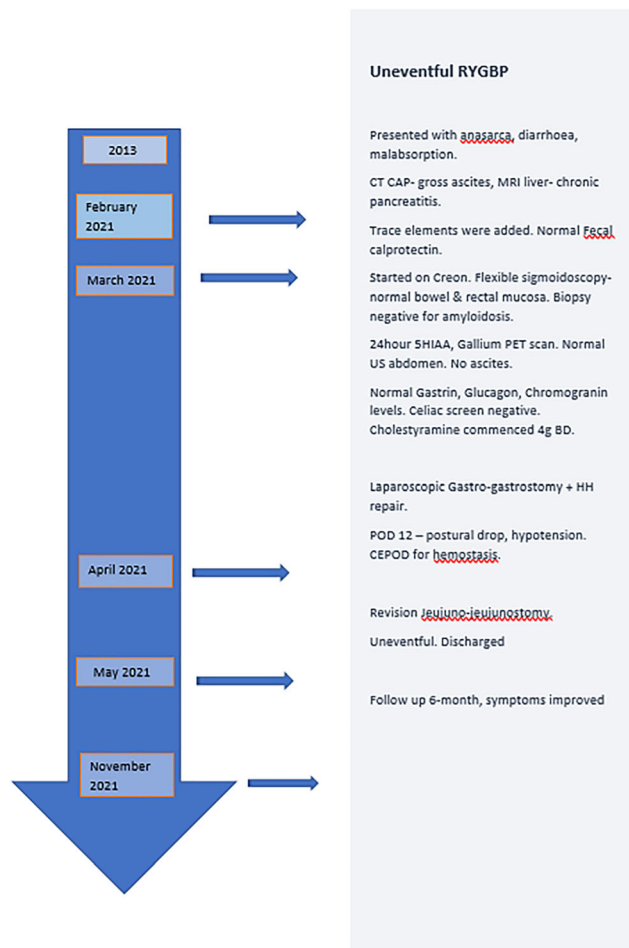
Mr Roel Bolckmans¹, Mr Alan Askari¹, Mr Andrew Currie¹, Professor Rachel Batterham¹, Mr Peter Small¹, Professor Kamal Mahwar¹, Mr James Hopkins¹, Mr Omar Khan¹, Mr Bruno Sgormo¹, Mr James Byrne¹, Mr Chris Pring¹, Mr Ahmed Ahmed¹, Mr Richard Welbourn¹
¹NBSR Committee, Broomfield Hospital

Introduction: The baseline demographics and operations undertaken of NHS bariatric surgery patients have not been characterised. We aimed to compare NHS patients with self-pay patients.

Methods: Comparative analyses of the National Bariatric Surgery Registry between Jan 2015 and Dec 2019.

Results: 38,411 patients underwent primary bariatric surgery, 79.6% were female and median age was 46 years (IQR 37-54 years). NHS patients (n=29,131) compared to self-pay patients (n=9,280) were older (median 47 years vs 44 years), had a higher body mass index (BMI) at entry to weight loss programme (median: 46.8 vs 41.6 kg/m²), had more disease (ASA III 38.2% vs 16.8%), higher rates of diabetes (33.3% vs 12.9%), sleep apnoea (26.3% vs 8.8%), hypertension (36.3% vs 19.5%), dyslipidaemia (24.9% vs 10.4%), polycystic ovary syndrome/infertility (8.4% vs 7.3%), gastroesophageal reflux disease (26.7% vs 17.9%), all p<0.001), and cardiovascular disease (4.9% vs 2.0%, p=0.012). The proportions of operations for NHS patients compared to self-pay were gastric bypass (48.2% vs 22.2%, p<0.001), sleeve gastrectomy (35.7% vs 46.9%, p<0.001), gastric band (7.7% vs 23.3%), p<0.001).

Conclusion: NHS bariatric surgery patients are older, have a higher BMI and more comorbidities. These results suggest NHS bariatric surgery is rationed to those with most severe disease.

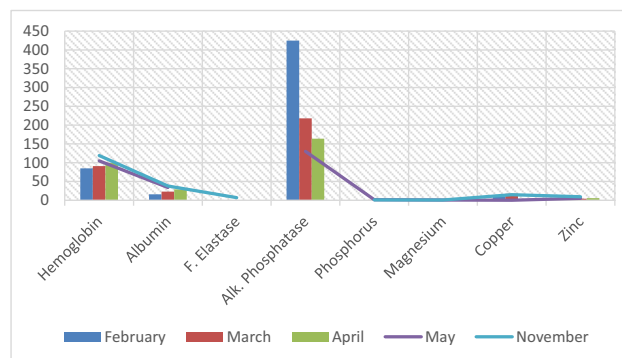


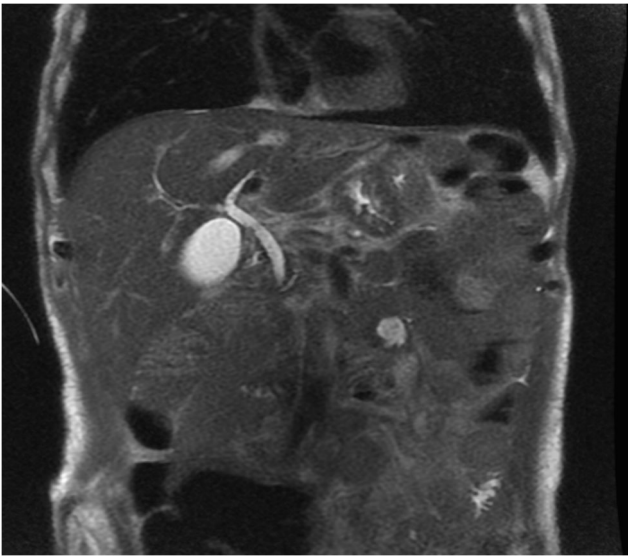
P13

Pancreatic Insufficiency post-bariatric surgery - A Myth?

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Obesity is a global health problem that has been increasing in prevalence over the past decade. It is an important metabolic disease that has a broad spectrum of hazards on the well-being of the individual. Over the years with more awareness, there has been an emphasis on treating obesity. Bariatric surgery now is more prevalent and accepted worldwide. Bariatric surgery has its own associated risks and complications. Pancreatic insufficiency is a recognized complication, but there is less awareness. We would like to discuss a patient who presented with Pancreatic exocrine insufficiency seven years after his initial Bariatric surgery. Revision surgery resulted in the resolution of chronic diarrhea and progressive weight loss.





P14

The effectiveness of bariatric surgery in idiopathic intracranial hypertension

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Introduction: Idiopathic intracranial hypertension (IIH) is characterized by raised cerebrospinal fluid pressure resulting in headache, tinnitus, nausea, diplopia and progressive vision loss. It mainly affects obese women in the reproductive age group. The increase in the incidence of IIH has paralleled the global increase in obesity.

Aim: The aim of this study is to evaluate the effectiveness of bariatric surgery in IIH.

Methodology: We retrospectively reviewed a prospective bariatric database between 2012 and 2021. Eighteen patients were identified to have IIH. Two had ventriculo-peritoneal shunts beforehand, were asymptomatic and excluded. The data collected included preoperative symptoms and retinal findings, weight loss and postoperative outcomes.

Results: All 16 patients were female with median age 40.5 years (27 – 57 years), median weight 120 kilos (102 – 148 kilos) with median follow-up of 4.5 years (8 months – 8 years). They had a variety of bariatric surgeries. The median total weight loss at one year was 34.5 kilos (18 – 54 kilos) Preoperative retinal examinations showed papilledema in all patients and they all had complete resolution at 1 year. Headache completely resolved in 10/16 (63%) patients. 3/16 (19%) had improvement in symptoms allowing a reduction in the dosage of medicines they were on. The remaining three (19%), despite achieving target weight loss and resolution of papilledema, had persistent symptoms requiring polypharmacy.

Conclusion: This study shows that bariatric surgery is an effective treatment modality for IIH as all of our patients had resolution of papilledema and nearly 80% had an improvement in symptoms.

P15

Laparoscopic diagnosis and repair of a Petersen's hernia and suboptimally located jejunojejunal anastomosis 18 months after a Roux-en-Y gastric bypass procedure – A case report

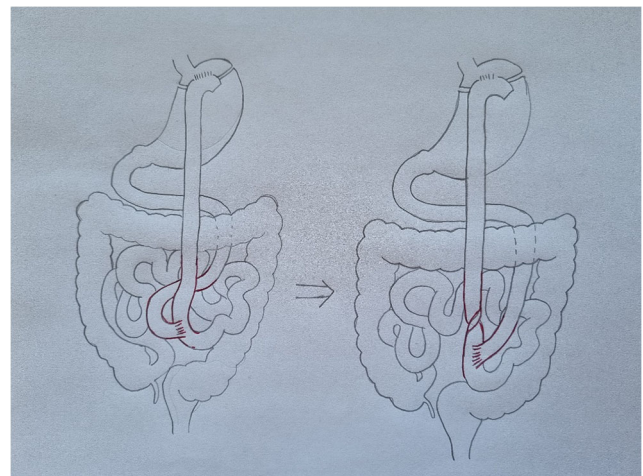
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Introduction: Bariatric tourism is proven to be a challenge with significant impact on the health service. Some patients undergo Bariatric procedures outside the UK and present with unusual findings and complications post-operatively. Early appropriate re-intervention and familiarity with post-operative anatomical variation is a must in these cases.

Case report: A 26-year-old woman presented with 2 weeks of colicky abdominal pain. Previous RYGB in Turkey 18 months earlier. Operation notes indicated antecolic RYGB and Peterson space closure with Vicryl. Bloods and CT abdomen/pelvis were unremarkable. On laparoscopy, Petersen's hernia was confirmed along with BPL crossing under the Roux limb to the patient's right side. After reducing the hernia, the BPL remained in this unusual position that hindered appropriate closure of the Peterson's space, despite several attempts. At Laparotomy, the Jejuno-jejunal anastomosis was noted to be fashioned to the patient's right-side with the BPL crossing under the Roux limb. Jejuno-jejunal anastomosis was taken down and refashioned in the correct position. This allowed appropriate anatomical orientation and closure of Peterson's space.

Discussion: This unusual anatomical layout post-RYGB has not been described before in the literature along with a Petersen's hernia. Low threshold for intervention in post bariatric patients, if there is clinical concern.



P16

Bariatric surgery in patients who have significant visual impairment or blindness; our experience preparing and guiding patients through our pathway and lessons learnt

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With increasing obesity rates, the rate of type 2 diabetes (T2DM) is also on the rise. According to public health England, 90% of adults with T2DM are overweight or obese, those with diabetes are at a greater risk of a range of chronic health conditions - one of which is blindness. Due to the increasing rate of T2DM globally it is anticipated that by the year 2030, 191 million people worldwide will develop diabetic Retinopathy (DR) and sadly DR remains the leading cause of adult-onset blindness.

While visual impairments or blindness are known to occur in patients with history of malabsorptive bariatric procedures due to hypovitaminosis A, to our knowledge no cases of blind patients undergoing BS have been reported to date. It is likely that in the near future, we will increasingly need to preform BS on patients with severe visual impairment are our services prepared to adequately meet these patient's needs?

Bariatric surgery is safe in blind patients; however in our experience this population may need enhanced monitoring in a multi-disciplinary team. Good patient communication for ongoing support will be key for optimal outcomes, ensuring that we meet the specialized needs of this patient group.

P17

Endoscopic revision of gastrojejunal anastomosis to treat complications of RYGB

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Introduction: Weight regain and dumping syndrome are possible long-term complications of Roux-en-Y gastric bypass (RYGB). They are both associated with dilatation of the gastro-jejunal anastomosis (GJA) resulting in rapid emptying of the gastric pouch. Endoscopic GJA revision using full thickness sutures can be used for outlet reduction. We describe our early experience with the Apollo Overstitch device used to achieve this.

Methods: Retrospective analysis of all endoscopic GJA revisions performed at our center between Nov 2020 and June 2021.

Results: Five procedures (4 female and 1 male) with a mean age of 49.2 ± 3.6yrs and mean BMI of 37.7 ± 8.6kg/m². Mean time lapse between primary

RYGB and endoscopic revision was 8.8 ± 5.54yrs (range 2-16). Two patients underwent revision for dumping symptoms and 3 for weight regain.

Both patients with dumping had complete resolution of post prandial hypoglycemia. Three patients who underwent revision for weight regain had mean weight loss of 11.5±6.72Kg and mean excess weight loss of 29.4% (range 8 - 54%).

Discussion and Conclusion: Endoscopic revision of GJA dilatation provides resolution of dumping symptoms, promotes weight loss and most importantly prevents continued weight regain. Standardization of suturing technique and anatomical goals may yield more effective and consistent results.

P18

A Systematic Review of Patient and Public Involvement and GRIPP 2 Use in Bariatric Surgery Trials: The Need for More Work

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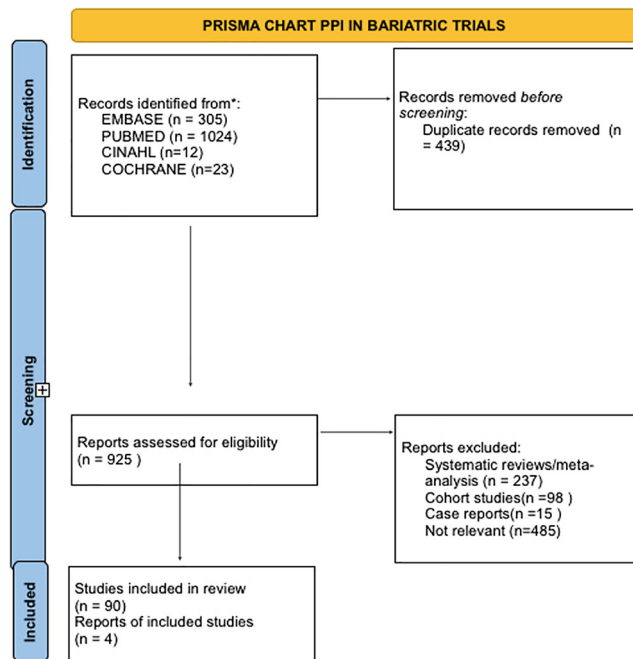
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Introduction: Patient and Public Involvement (PPI) has gained increased attention in research circles. Increasingly, PPI is being garnered attention by research funders and journals. The consistency of PPI reporting has been addressed somewhat by the development of standardised validated checklists such as GRIPP and more recently the GRIPP 2 in its long and short forms. The primary aim of this study is to identify the incidence of PPI reporting in bariatric research from 2018 to 2021. In addition, the quality and extent of reporting will be analysed by means of the GRIPP 2 checklist.

Methods: A systematic review was carried out. The study was registered on the PROSPERO database CRD42021274652. MEDLINE/ PubMed, EMBASE and CINAHL/Cochrane databases were searched between 1st October and 31st December 2021 and search dates were between 1st January 2018 to 31st December 2021. Search terms included “bariatric surgery” OR “weight loss surgery” OR “obesity surgery” AND “randomised controlled trials”. Two researchers independently extracted data regarding PPI and GRIPP 2 with discrepancies in the assessment with GRIPP 2 resolved by a third author until consensus gained.

Results: A total of 90 studies that fulfilled exclusion criteria were identified, see diagram 1. Two studies reported direct PPI involvement in the study methodology by using patient representatives in a steering committee, gathering patient satisfaction surveys and suggestions to the study design. One study indirectly reported PPI by having a patient representative on the steering committee but did not elaborate further. One study reported not using PPI methods. Of the remaining studies, no others made direct or indirect mention of PPI. No study reported using the GRIPP 2 checklist.

Conclusion: GRIPP 2 and PPI reporting in bariatric surgery trials is lacking.



P19

Patient-Centred Gastric Band Clinic Yields High Quality Outcomes – 5 Year Outcome Data

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Introduction: It is widely accepted that vigorous follow-up is paramount for successful outcomes following Laparoscopic Adjustable Gastric Banding (LAGB). We review the medium-term outcome data for patients who have selected to undergo LAGB and follow-up through our multi-centre clinics.

Methods: This is a retrospective study of 191 patients who underwent LAGB between 2011 and 2018 across 5 private hospitals. Baseline characteristics, complications and total body weight loss (TBWL) were analysed at 5.0 years (3.4–6.5 years).

Results: Following their band, patients had an average of 25.5 follow-up appointments. %TBWL at 5 years was 17.4% (+/-11.6%). 99 patients (51.8%) reported issues with their band and 37 (19.4%) had undergone revisional surgery or band removal at the time of follow-up. Complications included band intolerance (24%), component failure (18%) and severe reflux (12%). 16 patients (8.4%) had undergone a band removal due to intolerance or slippage, and 21 patients (11.0%) had undergone revision surgery to either a Roux-en-Y gastric bypass (76.2%), gastric sleeve (19.0%) or OAGB (4.8%).

Conclusion: LAGB with intensive follow-up through a patient-centred band clinic remains a viable surgical option for achieving modest weight loss. Our retrospective analysis confirms that a fifth of patients undergoing LAGB will experience problems requiring band removal or revisional surgery.

P20

Obesity and outcomes in trauma: A systematic review and meta-analysis

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Background: The physiological abnormalities relating to obesity and metabolic syndrome can contribute to worse outcomes following trauma. The aims of this systematic review were to investigate whether these patients had higher risk of in-hospital mortality, longer ICU length of stay, longer hospital stay and longer duration of mechanical ventilation than normal-weight patients.

Methods: A systematic search of MEDLINE, EMBASE, CENTRAL, Web of Science and CINAHL was performed for studies that reported a comparison of in-hospital obesity-related outcomes against normal-weight individuals aged over 15 years following trauma. Burn-related injuries, isolated head injury and orthopaedic related perioperative complications were excluded.

Results: The search yielded 7405 articles; 26 were included in this review. Patients with class 3 obesity (BMI>40) have significantly higher odds of in-hospital mortality than normal-weight individuals following blunt and penetrating trauma (OR, 1.75; 95% CI, 1.39–2.19, $p < 0.00001$), significantly longer hospital LOS (SMD, 0.23; 95% CI, 0.21–0.25; $p < 0.00001$) and significantly longer ICU LOS (SMD, 0.19; 95% CI, 0.12–0.26; $p < 0.0001$).

Conclusion: There is a higher risk of in-hospital mortality in class 2 and class 3 obesity following trauma when compared with normal weight individuals. Trauma units should develop weight class related pathways to manage and anticipate the complications that arise for these complex patients. PROSPERO registration: CRD42021234482.

P21

Impact of the Covid pandemic on functioning and process of bariatric surgery operating in the National Health Service

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Introduction: There is significant UK regional variation in equity of access to bariatric surgery and concerns abound that the COVID-19 pandemic could exacerbate this 'postcode lottery'. This study aimed to compare structures and processes between NHS bariatric units that have maintained or lowered activity volume during the pandemic.

Methods: Using National Bariatric Surgery Registry data, NHS bariatric unit activity was compared pre-pandemic (01/04/2018–31/03/2019) and pandemic (01/04/2020–31/03/2021). Lower-volume units were defined as submitting <25% of pre-pandemic activity volume during the pandemic timeframe, and as maintaining-volume units otherwise. A BOMSS-endorsed survey was sent to all NHS bariatric units exploring booking categorisation, presence of covid-free elective surgery hub, and case selection.

Findings: 25/38 units responded to the survey(66%). 16 were lower-volume units and 9 were maintaining. No units completely followed the RCS/FSSA guidance on prioritisation. 4/9 maintaining-volume and no lower-volume units used a covid-free elective surgery hub for bariatric surgery. 11/25 units had bariatric-specific ward areas with 10/11 having these repurposed for pandemic activity. 14/16 lower-volume and 8/9 maintaining-volume units report deferral of bariatric surgery cases due to the pandemic.

Conclusion: Variation in prioritisation, availability of elective surgery hubs and MDT-directed deferral may worsen UK regional provision of bariatric surgery in post-Covid recovery.

P22

The use of metabolic surgery for patients with obesity and type 2 diabetes in the United Kingdom

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Aim: Metabolic surgery is a NICE-approved treatment for patients with obesity and type 2 diabetes(T2D), however use in real-world UK practice is unknown. This study used the National Bariatric Surgical Registry (NBSR) to report on disease severity and procedural selection for patients with obesity and T2D undergoing metabolic surgery in the United Kingdom.

Methods: The NBSR was used to identify patients that underwent bariatric surgery(01/01/2015-31/12/2019). Demographics, clinical features and operative techniques were analysed and compared between T2D and non-T2D. Multivariate regression assessed associations with operation type.

Results: 10082/42805(23.6%) patients were recorded as having T2D preoperatively. 2355/10082(23.4%) were on insulin/injectables preoperatively, 2425/9775(24.8%) were diagnosed ≥ 10 years preoperatively and 6533/9509(68.7%) had preoperative BMI ≥ 40 kg/m². Patients with T2D (compared to non-T2D) were more likely to be male (3126/10082(31.0%) vs 4893/29191(16.8%); $p < 0.001$), older (≥ 60 years: 1512/10082(15.0%) vs 900/29191(6.5%); $p < 0.001$) and have a higher OSMRS (3+ : 2923/9439(31.0%) vs 3094/26487(11.7%); $p < 0.001$). RYGB and SG were commonest operations for T2D and non-T2D, respectively. T2D status independently associated with selection for RYGB, OAGB or SG compared to AGB ($p < 0.001$).

Conclusion: This NBSR study has uniquely shown that metabolic surgery for UK patients with obesity and T2D is frequently used too late in illness to achieve the best outcome.

P23

Effect of COVID on Bariatric Surgery Centre

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Introduction: Unfortunately for the patients awaiting life changing weight loss surgery, the last 2 years have been extremely difficult in

meeting the demands of the population for elective surgery. With the pandemic slowly coming to a conclusive ending, it is time to look back at the last 2 years and re-assess the damages caused by the cancellation of majority of elective surgery during the lockdowns.

Methods: Retrospective look at number of cases of weight loss surgery performed annually since 2013 and how the pandemic has affected those numbers.

Results: 1408 total number of cases were identified, yearly count performed from April to April to coincide with the start of the pandemic. 222 cases were performed between April 2018 and March 2019. Between April 2020 and March 2021, we had a 50% reduction in number of operations, recording 98 cases only. The numbers have increased once more between April 2021 and December 2021 to 125 cases.

Conclusion: With waiting lists longer than ever, the pandemic has caused a major slowdown in the surgical management of bariatric patients. We are steadily building up once more our caseloads in order to deliver the much-awaited services our patients need.

P24

Does Peri-operative Prophylactic Antibiotics Reduce The Rate Of Wound Infections In Bariatric Surgery?

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Introduction: Peri-operative antibiotic prophylaxis is used in a multitude of intra-abdominal procedures, with strong evidence to demonstrate the benefit in reducing SSIs and post-op complications. The same quality of evidence is yet to be produced when it comes to bariatric surgery.

Methods: Retrospective analysis of 620 patients, 323 had a LRYGB, and 297 had a LVSG. Electronic patient notes were used to collect data with a focus on peri-operative antibiotic prophylaxis, and incidence of post-operative wound infection.

Results: 90 (28%) of the patients who had LRYGB received no antibiotic prophylaxis. The rates of wound infection was 2.6% for the group that received prophylaxis, while it was 4.4% for the group who didn't, ($p = 0.44$). For the LVSG group, 90 (30.3%) of them did not have prophylaxis. 4.8% had wound infection in the patients who had antibiotics compared with 4.4% those who didn't ($p = 0.6$).

Conclusion: Although this is a small sample of patients, it appears the use of peri-operative antibiotics did not significantly reduce the risk of wound infections.

P26

One anastomosis gastric bypass (OAGB) produces considerable weight loss and resolution of medical complications with an acceptable rate of nutritional deficiencies.

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One anastomosis gastric bypass (OAGB) is a relatively novel bypass surgery variant, increasingly used as a primary surgical procedure.

The aim of this study was to evaluate the impact of OAGB on weight-loss, obesity-associated complications, and the development of nutritional deficiencies.

A total of 101 patients (mean age 44.7±10.7 years, mean BMI 47.2± 6.6 kg/m²) underwent OAGB between 2014-2019 in a single institution. Results obtained 6,12 and 24 months postoperatively were compared with the pre-operative values using “Analyse-it software v5.40.2”. Data were tested for normality, described as Mean± SD, compared using paired sample t-test with 5% p-value for significance and 95% confidence interval (CI).

A significant BMI, HbA1c and LDL reduction was recorded throughout follow-up period, with greatest improvement seen 2 years after surgery (47.6 ±22 kg/m² vs 29.4 ± 6.4kg/m², 6.7 ±1.8 mmol/mol vs 5.5±0.2 mmol/mol, and 3.2 ± 1 vs 2.05+ 0.7 mmol/l, p < 0.05). The number of glucose-lowering drugs decreased from 1.6±0.9 to 0.3 ±0.4 at 24-months, p<0.001. The rates for zinc, ferritin, folate, B12 and vitamin D deficiency at 24-months were: 8.9%,4%, 5.9%, 0% and 3% respectively.

OAGB can effectively reduce BMI and improve glucose and lipid homeostasis with a low risk for nutritional deficiencies.

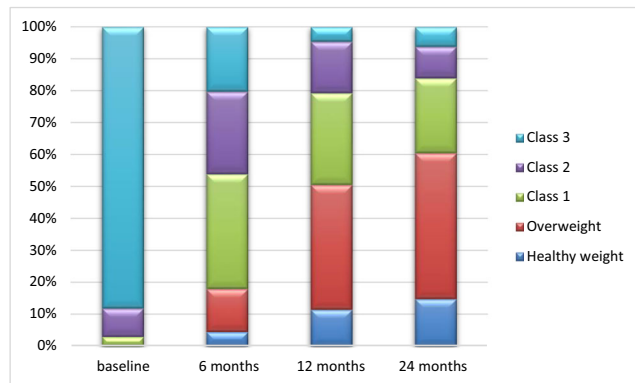


Figure 1 :BMI distribution at baseline and at 6-, 12- and 24-months PO; healthy weight BMI 18.5-24.9 kg/m²; overweight BMI 25.0-29.9 kg/m²; class I obesity BMI 30.0-24.9 kg/m²; class II obesity BMI 35.0-39.5 kg/m²; class III obesity BMI ≥40.0 kg/m²

Table 1 :Paired sample t-test comparing mean weight at 6-, 12-, and 24-months PO with mean baseline weight; SD=standard deviation, n=number, *=p<0.05 (statistically significant)

Weight	Mean ± SD	n	p-value
Baseline	129.9 ± 23.1	91	<0.001*
6 months	93 ± 18.8		
Baseline	129.3 ± 22.9	88	<0.001*
12 months	82.3 ± 15.6		
Baseline	129.6 ± 23.5	82	<0.001*
24 months	80.7 ± 16.1		

Table 2 :Paired sample t-test was used to analyse changes in the mean number of glucose-lowering medications used among T2D patients at 6-, 12- and 24-months from baseline; n=number; *=p<0.05 (statistically significant)

Glucose-lowering medications	mean ± SD	n	p-value
Baseline	1.6 ± 0.9	17	<0.001*
6 months	0.4 ± 0.5		
Baseline	1.6 ± 0.9	17	<0.001*
12 months	0.4 ± 0.5		
Baseline	1.6 ± 0.9	16	<0.001*
24 months	0.4 ± 0.5		

P27

Frequency and indication of revisional bariatric surgery: 6-years of data from our regional unit

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Introduction: Revisional surgery makes up 10.9% of bariatric cases in the UK. Sleeve gastrectomy may have revision rates as high as 12%2, with the commonest indications being weight regain or intractable acid reflux. There is a paucity of data on indications in the UK; we studied the rate and indication of revisional surgery in our unit.

Methods: Patients undergoing primary bariatric surgery in our NHS unit 1st April 2015 – 31st May 2021 were included. Notes for patients from this cohort that went on to have revisional surgery were retrospectively reviewed.

Results: 329 patients underwent a primary bariatric procedure with records inaccessible for 32. 181/329 primary cases were sleeve gastrectomy with a 49-month median follow-up. 9/181 (5%) sleeve gastrectomy underwent revision to bypass, occurring a median of 30 months after primary surgery.

Among the 9 sleeve revisions: all were female, median age was 47, 8 were for reflux and 1 was for weight regain.

Conclusions: Revisional surgery is infrequent in our unit and may be lower than other UK sites. This may be due to the low number of band insertions performed and comparatively short follow up period. Sleeve revisions are almost entirely due to intractable reflux.

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P28

Developing tier 4 patient-centred support group topics

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Introduction: Pre- and post-op tier 4 patients attend our monthly dietitian-led support groups. This enables participants at varying stages in their pathway to provide peer support and share practical information with others. We are discussing moving from an open forum format to some specific topics on nutrition, physical activity, and mental wellbeing.

Methods: We surveyed participants attending 7 monthly support groups between February 2019 to February 2020 for their topic priorities. A questionnaire listed 13 nutritional, 10 physical activity and 10 mental wellbeing topics. Participants could add additional topics and all attendees completed only one questionnaire during this period.

Results: Of the 82 questionnaires returned, 43% were from those attending their first support group. The mean age was 48 years, 17% were male, 42% were post-op patients and 29% were 3 or more years post-op. Most popular topics were nutrition: Tips for keeping weight off and preventing weight regain, physical activity: Strength and toning to prevent lean muscle loss and mental wellbeing: Dealing with emotional eating.

Conclusion: Identifying popular topics for tier 4 patients enables us to provide relevant online discussions and develop some specific talks. Some topics could be imbedded onto our website allowing patients to access information relevant to them at varying stages in their pathway.

P29

Single Anastomosis Gastric Bypass as a revision of failed Gastric Band

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Introduction: Adjustable Gastric Band (AGB) has become a rarely performed bariatric procedure, however many patients have them in place. Some develop symptoms related to the AGB making the band removal, and in some cases, a further revisional procedure is necessary. We present our experience and outcomes with single anastomosis gastric bypass (OAGB) as a revisional procedure for patients with failed AGB.

Methods: In a prospective longitudinal cohort study, consecutive patient undergoing AGB removal and second stage OAGB were collected in a local bariatric database between 2015 and 2020. Surgical technique included formation of a narrow gastric pouch terminating at the level of the incisura by avoiding the area affected by the AGB. Biliary limb length was 150cm, anastomosis was formed by using 30mm linear stapler. Clinical characteristics, postoperative outcomes and weight loss were recorded.

Results: 65 patients with a pre conversion BMI of 43.9 kg/m² (31-66) were enrolled to this study. BMIs decreased to 33 kg/m² (22-52) kg/m² after one year. This corresponds to 61% Excess and 25% Total Weight Loss. All revisions were carried out in two stages with OAGB being a second procedure at least six weeks after AGB removal. Two Clavien-Dindo Grade 3 and a single Grade 1 complication were encountered (overall 4.6%).

Conclusion: OAGB is a safe revisional procedure following gastric band removal with few complications and adequate weight loss.

P30

Bariatric Patients with Fibromyalgia: Subjective Experience

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We are increasingly seeing fibromyalgia as one of the comorbidities listed in referrals for bariatric surgery. To date we have noted 27 patients with this diagnosis on our pathway, with 13 of them having undergone bariatric surgery already.

Fibromyalgia is a widespread chronic pain condition and the exact multifactorial aetiology is still not well understood. Obesity is an inflammatory condition associated with musculoskeletal pain among many other complications.

We have contacted the 13 post-operative patients in our service to assess their subjective sentiments regarding weight loss surgery. As clinicians, we tend to focus on quantifiable numerical outcomes, but because pain and quality of life are experienced subjectively, we decided to ask patients to assess their outcomes using a short questionnaire.

50 percent of the participants found that their quality of life did not improve and no patients reported a decrease in pain medication use.

P31

Bariatric Tourism: Gastric Balloons Management during Covid-19 pandemic

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An estimated 27% of adults in the United Kingdom have a BMI >30 and are classified as obese. While obesity is associated with a variety of disease states, it also appears to increase risk of dying from Covid-19. A study published in April 2020 examining 16,749 UK patients in hospital with Covid-19 found that obesity was linked to a higher risk of dying (around a 37% increase in risk of death).

There is still a lot of stigma around bariatric surgery, even though it is the most effective weight loss tool to date. Countless studies have proven that bariatric surgery can be a life-saving treatment.

The inability of NHS hospitals being able to offer elective surgeries during Covid-19 pandemic and the scepticism from the population to undergo an invasive surgery, we noted a raised of patients going abroad to have a gastric balloon inserted during the period of 2020 and 2021. Unfortunately, due to travel restrictions, most of them were unable to flight back to the original country to have the balloon removed within the clinically indicated time-frame and they ended up on NHS hospitals seeking a balloon removal.

In total our department removed 30 gastric balloons during these last 2 years, adding pressure into our services and surgical pathways.

P32

Closure of mesenteric defects post laparoscopic Roux-en-Y gastric bypass by cyanoacrylate glue, updates from the largest UK series

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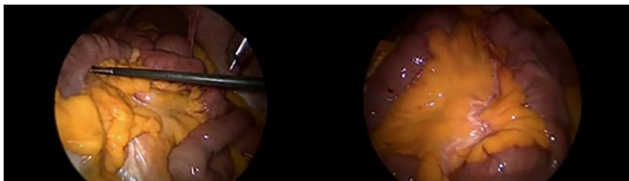
Background: Although several surgeries for the management of patients with morbid obesity and related metabolic disorders have emerged to the surface, laparoscopic Roux-en-Y gastric bypass (LRYGB) remains the gold standard for surgical management of these kinds of patients. Internal herniation is one of the dreadful complications of RYGB.

Provisional results for the use of fibrin sealant for closure of mesenteric defects were published before. Here, we report updates from the largest UK series in mesenteric closure by cyanoacrylate glue.

Methods: All patients who underwent LRYGB with closure of defects using cyanoacrylate glue in the period between November 2013 and June 2019 were retrospectively analysed. Post-operative internal hernia, weight loss, hospital admission, and abdominal pain were assessed in our cohort.

Results: We managed to reach 157 out of the 161 patients included. In our cohort 60.5% were females. The median and Inter-Quartile-Range (IQR) for follow-up was 648 (369-1058) days. Median and IQR for drop in Body Mass Index are 10.94 (7.9-14.5) Kg/m². Post-operative complications included port site hernia, gastro-oesophageal junction perforation and persistent abdominal pain. But no internal hernia. None of the complications was related to the glue.

Conclusion: This is the largest UK series to evaluate cyanoacrylate glue in closure of mesenteric defects. We conclude that cyanoacrylate glue is potentially effective, time-saving and low in perioperative complications. Further RCT is recommended to confirm the results.



P34

Developing a long-term follow up service for bariatric patients in the community: patient and professionals' perspectives

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Introduction: In the UK, patients who undergo bariatric surgery are followed up for 2 years in Secondary Care before being discharged into General Practice for long-term follow up. There is no formal consensus or detailed protocol for follow-up. The aim of the study was to understand what is needed to support the long-term management of bariatric surgical patients in community settings.

Methods: A qualitative approach was used, with both patients and healthcare professionals as participants. Semi-structured interviews were used to collect data which was transcribed verbatim and analysed using thematic analysis.

Results: 30 participants took part (14 patients and 16 professionals). Eight themes were constructed from the data (four for each cohort), supported by in-vivo quotes to illuminate participants' experiences. Patients (time from surgery 7 months – 8 years, mean time 4.4 years) reported a lack of structure and needing multidisciplinary support, particularly psychology. Professionals (GPs = 5, Nurses = 4, Pharmacists = 7) reported low knowledge levels of bariatric surgery, a lack of formal process, but acknowledging the need for long-term support and wanting to support patients.

Conclusions: Education and support need to be addressed and a formal pathway, co-constructed with patients and community professionals is needed.

P35

The real cost of Bariatric Tourism - the burden of bariatric surgery on a NHS District General Hospital

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Introduction: Bariatric Surgery is not funded in Northern Ireland (N.I.) despite being a leading issue in public health. This has meant some patients have sought surgery abroad. This can lead to uninformed decision making, improper counselling, consent and no aftercare. The burden thereafter lies with the NHS. The aim to explore the admissions of patients who sought Bariatric Surgery outside the NHS.

Method: Retrospective study of acute admissions of patients who had bariatric surgery outside the NHS from July to September 2021. We reviewed the type of surgery, country, complications, investigations, treatment and length of stay.

Results: 4 patients were admitted with 1 having recurrent admissions. 3 patients underwent sleeve gastrectomy and 1 a gastric balloon. 3 underwent surgery in Turkey and 1 in the Czech-Republic. The most common presenting complaint was vomiting. 3 had post operative complications

with 1 had appendicitis. All underwent at least X-ray and CT. Average length of stay was 1–2 days. It was felt no patients got appropriate counselling or aftercare.

Conclusions: N.I. residents are disadvantaged compared to other UK patients. Patients seeking care elsewhere has resulted in post operative costs being funded by the NHS and has the potential for patients to come to harm.

P36

A study using semi-structured interviewing to explore the best clinical practice solutions to manage people living with obesity during the COVID-19 pandemic

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Introduction: As a result of social distancing and reducing non-essential patient contact in hospitals, weight management services have had to adapt and develop innovative solutions to best manage people living with obesity. This study seeks to gather a consensus statement on the best changes to clinical practice within obesity services as a result of the COVID-19 outbreak.

Methods: Healthcare professionals working within obesity services across the UK were invited to semi-structured interviews to explore changes in clinical practice as a result of the pandemic. These were conducted both in groups and on a 1-1 basis using video conferencing software. Interviews were recorded and audio transcribed using third party software. Interview data were then analysed generating key domains and sub-topics relating to the research question.

Results: 16 participants were interviewed representing 10 centres across the UK and 6 different healthcare professions. Responses from the interviews were grouped into 3 domains: best practice in outpatient management, best practice in preoperative management and best practice in individual & team working. Changes to clinical practice included many centres adopting the use of virtual and distance management clinics such as video or telephone formats. New patient resources were created as means to share information for weight loss support and preparation for bariatric surgery. Group sessions/presentations were pre-recorded and sent to the patient for education purposes. Hybrid MDT meetings provide the option to attend virtually, as well as face to face.

Conclusion: Obesity services have had no choice but to innovate and adapt to provide care to patients during the pandemic. The main barrier has been due to the lack of face-to-face contact because of social distancing and isolation. Virtual and digital formats have been utilised in outpatient settings to communicate with patients to offer weight loss support and prepare for bariatric surgery. Adopting a hybrid way of working through face to face or virtual contact may help to facilitate communication within the MDT. The reliance on digital healthcare may provide an opportunity to embrace new ways of working when developing weight management services in the future.

This data will form the basis of a second phase of study, seeking to generate a consensus statement regarding best clinical practice solutions during the COVID-19 pandemic within obesity services.

P37

Laparoscopic assisted Trans Gastric – ERCP District Hospital experience

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Background: Traditional ERCP approach for choledocholithiasis becomes very challenging in patients with previous Roux-en-Y gastric bypass (RYGB) and cholecystectomy [1,2].

Various techniques like Double Balloon Enteroscopy and Spiral Enteroscopy were developed to manage these patients [3]. The use of paediatric colonoscope in long limb bypass patients was also reported [4,5].

Laparoscopic assisted ERCP (LA-ERCP) does not require special equipment. We describe using this method in a district hospital.

Presentation of cases: Three cases had LA-ERCP for CBD stones. They all had previous laparoscopic cholecystectomy and RYGB. In 2 cases stay sutures were used to bring the stomach to the abdominal wall. Then 15 mm port was inserted into a gastrotomy and ERCP performed. Both patients were discharged within 2 days.

Third patient had high BMI of 48. Adhesions prevented bringing the stomach to the abdominal wall. Endoscope was inserted via 15mm port into abdominal cavity and guided to the gastrotomy site. Patient stayed in hospital for 2 weeks due to COVID.

Conclusion: LA trans-gastric ERCP is a feasible procedure with short learning curve. it is safe and reliable, with low complication and good recovery. It can be performed in district hospital with appropriate expertise and avoids transfer to tertiary centers.

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P38

Postoperative weight loss after laparoscopic sleeve gastrectomy (LSG) correlates well with the volume of the resected specimen and not with the volume of the sleeve in both short and long term – data from multi detector computed tomography based follow up study.

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Introduction: Laparoscopic sleeve gastrectomy (LSG) relies on pre- and post-operative stomach volume for its effective outcome in terms of weight loss. This study was designed to evaluate the relationship of the excised stomach volume with weight loss after LSG at 3 months, one year and long term (more than 5 years).

Methods: The study has been conducted over two cohorts of patients with BMI ≥ 35 kg/m² and medical co-morbidities at different time intervals in the same institution. Twenty patients were included in the first cohort who underwent LSG between 2011 and 2013 and were analysed prospectively at an interval of 3 months and then at a minimum follow up of 80 months post LSG. 10 patients were lost to follow up over this long term period. The second cohort comprised of thirteen patients who underwent LSG between September 2018 and April 2020 and were followed up at 3 and 12 months post-operatively.

Low dose Multi Detector Computed Tomography (MDCT) of upper abdomen was performed preoperatively for all the patients and stomach volume was calculated. At surgery volume of excised stomach was measured with saline distension to calculate the volume of the sleeve (Pre-op gastric volume – excised specimen volume). MDCT was repeated during follow up periods and weights of the patients were recorded. Volume of the excised stomach specimen calculated by saline distension and the volume of the sleeve as measured by MDCT were correlated with the weight of the patients at these time points.

Results: Cohort 1: The mean pre-operative weight, BMI and stomach volume of the patients were 134.20 \pm 25.32 kg, 47.62 \pm 5.70 kg/m² and 1216.30 \pm 230.01 ml respectively. The mean volume of the resected specimen was 965 \pm 268.54 ml. The mean weight loss, % excess weight loss (%EWL) and the gastric sleeve volume at 3 months post LSG were 20.65 \pm 8.01 kg, 34.64 \pm 4.86% and 210.10 \pm 62.33 ml respectively. The mean weight loss, % excess weight loss (%EWL) and the gastric sleeve volume at long term follow up (average 91 months post LSG) were 34.21 \pm 12.44 kg, 56.46 \pm 4.90% and 330.90 \pm 56.42 ml respectively. At both the timepoints of observations, post-operative weight loss correlated with the volume of the excised specimen ($r=0.451$, $p=0.190$ @ 3 months; $r=0.826$, $p<0.01$ @ 91 months).

Cohort 2: The mean preoperative BMI and stomach volume were 40.50 kg/m² and 1102.74 ml respectively. The mean resected specimen volume was 935.38 ml. The mean postoperative gastric sleeve volume at 3 and 12 months was 181.41 ml and 288.39 ml respectively. The mean excess weight loss (%) (EWL) at these time points was 48.39% and 76.7% respectively. A positive correlation was observed between the volume of resected stomach and the % EWL at 3 ($r=0.363$, $p=0.223$) and 12 ($r=0.816$, $p=0.025$) months post LSG.

Conclusion: The present study shows that postoperative weight loss after LSG correlates well with the volume of the resected specimen at 3 months, one year and at long term follow up (more than 5 years).

P39

Utility of the Apollo OverStitch Device for the endoscopic revision of the gastro-jejunal stoma in patients with weight regain after Roux-en-Y gastric bypass (RYGB)

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Introduction: Roux-en-Y gastric bypass (RYGB) can achieve up to 60% weight loss 2 years after surgery but 30% of patients will regain their weight within 2 years. The options for this group of patients are limited; redo surgery can be challenging with a greater risk of complications. Endoscopic revision of the gastro-jejunal anastomosis using the Apollo OverStitch device now offers an alternative option in these patients to achieve further weight loss. Here we report our experience using this device, which is the largest patient cohort in the UK to date. Our experience was previously presented after a 3 month-follow-up and we want to update our outcomes to present.

Methods: Since April 2017 to date we used the Apollo OverStitch device in over 40 patients who had regained weight after an initial RYGB. All patients were discussed initially at our bariatric MDT. All patients underwent a prior gastroscopy to ensure a stoma size of at least 2cm. All cases were done under general anaesthetic.

Results: We reported on the 3 month data for our first cohort of 13 patients back in 2019. To date, we have over 40 patients in our cohort and we would like to share our current outcomes.

P40

Refractory Pain Post Roux-en Y Gastric Bypass: defining a management strategy

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Introduction: Refractory pain post Roux-en Y Gastric Bypass (RYGB) is a challenging and frustrating problem for both the patients and clinicians with no clear management strategy currently available to guide practice.

Methods: Patients identified over a 10 year period as having refractory pain post RYGB from a single unit were included in the study.

Results: 1445 patients who underwent RYGB were included. Of these, 34 patients presented with refractory post RYGB pain (2.4%), of which 30 were female, mean BMI 46(+/-7) kg/m².

Pain was post-prandial in 97% of cases with the site of pain varying; Mean time of onset of pain after surgery was 20 (0-368) days, duration of pain was 1000 (701-2002) days. A cause was identified and treated in 11 cases (32%). All patients were reviewed by psychologists.

Conclusion: The outcomes promote the importance of a rigorous psychological and medical pre-assessment to highlight at risk patients preoperatively. However, the management once presented requires a full 360 degree MDT approach to include not only a full investigation sweep to exclude organic causes without repetition but also evaluation from Dieticians,

Gastroenterologists and Psychologists before a referral to a chronic pain specialist or considered for a reversal of the bypass.

P41

Endoscopic sleeve gastroplasty to sleeve gastrectomy: when endoscopic procedures fail

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INTRODUCTION: Endoscopic sleeve gastroplasty (ESG) has grown in popularity as a potential minimally invasive bariatric procedure with acceptable short and medium-term outcomes.

METHODS:

A 36 year old female with a previous ESG complained of absence of weight loss. Barium swallow showed a wide ESG.

RESULTS: Laparoscopic findings confirmed previous investigations and a sleeve gastrectomy (SG) was performed.

Postoperative course was uneventful, and the patient was discharged the day after.

CONCLUSION: ESG when compared with SG has lower short-term weight loss outcomes with fewer complications. Nevertheless, its future as a substantive option among minimally invasive bariatric procedures remains still unclear.

P42

Acute abdomen following LRYGB: importance of rapid assessment and diagnosis

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INTRODUCTION: Roux-en-Y gastric bypass (RYGB) remains one of the most significant bariatric procedures worldwide. In addition to bleeding and anastomotic leak, there are early occurring complications such as obstruction at the jejuno-jejunostomy (j-j).

METHODS: A 52-year-old woman with a BMI of 41 kg/m² underwent an uneventful RYGB. On day 1 she presented disproportionate abdominal pain. Blood tests revealed a slight decrease of the hemoglobin. A CT scan showed the dilation of the remnant stomach and both the alimentary and biliopancreatic limbs, suggesting the possibilities of blood clots occupying the lumen of the jj anastomosis.

RESULTS: The patient underwent an emergency laparoscopy which confirmed the preoperative radiological findings. An enterotomy was performed at the common channel to evacuate clots and enterotomy was closed by interrupted sutures. After evacuation of the clots the j-j appeared patent and no staple line active bleeding was identified. The remnant stomach was decompressed, and a venting gastrostomy tube was also inserted. Patient was discharged one week after. Gastrostomy tube was removed 2 months later without any further complications to date.

CONCLUSION: Bowel obstruction is a serious complication after RYGB. Although uncommon, a haemobezoar should be considered. A bariatric on-call rota with appropriately trained personnel is essential.

P43

Bariatric surgery provision during the COVID-19 pandemic in the UK

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Aim: The Covid-19 pandemic put unprecedented pressure on elective surgical services. The aim of this study was to analyse the effect of the pandemic on total number, case mix, provider, patient demographic and peri-operative outcomes of bariatric surgery in the United Kingdom.

Methods: The National Bariatric Surgical Registry (NBSR) was used to identify patients that underwent bariatric surgery during the pandemic (one year from 1st April 2020) or prior to the pandemic (one year from 1st September 2018). The two groups were then compared to each other for outcomes of interest.

Results: Number of cases reduced to around one third of pre-pandemic volume (8615 versus 2930). Thirty-six (45%) hospitals experienced a 75–100% reduction in operating volume. Proportion of cases performed in the NHS fell from 74% to 53% (p<0.0001). Within the NHS, there was no change in demographic of patients at baseline or in peri-operative outcomes; however, the proportion of revisional cases increased.

Conclusion:

During the pandemic there was a dramatic reduction in bariatric operations performed in the NHS. Despite this, there was a relative increase in revisional surgery. Early indications are that there was no change in peri-operative outcome. This has implications for NHS preparation for future similar crises.

Table: NHS provision of bariatric surgery pre- and during the Covid-19 pandemic

	Pre-pandemic	Pandemic	p value
Number of cases performed n (% total NBSR)	6384 (74)	1566 (53)	<0.0001
Revisional cases n (% total NHS)	567 (9)	202 (13)	<0.0001
BMI prior to surgery kg/m ² ; mean ± standard deviation	45.5 ± 8.3	45.2 ± 8.3	ns
T2DM present/ pre-T2DM/ no T2DM n (%)	1635 (26) /242 (4) / 4393 (70)	397 (26) / 72 (5) / 1077 (70)	ns
Completed laparoscopically n (%)	6268 (>99.9%)	1552 (>99.9%)	ns
Length of stay days; median (IQR)	2 (1-2)	2 (1-2)	ns
Any complication n (%)	126 (2)	22 (2)	ns

Prior to the pandemic: one year from 1st September 2018; during the pandemic: one year from 1st April 2020. NBSR = National Bariatric Surgical Registry; T2DM = type 2 diabetes mellitus; IQR = interquartile range; ns = non-significant. Chi-square, chi-square for trend or Fisher's

exact tests were used to analyse categorical or ordinal data. Students t-test was used for continuous parametric data.

P44

The Clinical and Metabolic Impact of Alimentary Limb Length on Patient Outcomes in Roux-en-Y Gastric Bypass; A Systematic Review & Meta- analysis of the Literature

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Background: Roux-en-Y gastric bypass (RYGB) is the most effective bariatric procedure for weight loss and resolution of metabolic comorbidities. While many factors can influence these outcomes, there is little consensus about the impact of the alimentary limb length (ALL).

Aim: This systematic review and meta-analysis evaluated the impact of ALL limb length on weight loss and metabolic outcomes in patients undergoing RYGB.

Methods: A systematic literature review was performed using MEDLINE, EMBASE, the Cochrane Review and Scopus databases. Studies were included if they had investigated differential ALLs and reported the resultant bariatric outcomes. Independent quality assessment of included papers were performed using validated reporting tools. A meta-analysis of eight studies with comparable outcomes were also performed.

Results: Longer ALL (>75cm) resulted in greater total (SMD 0.70, CI 0.62-0.79, p<0.01) and excess (SMD -1.83, CI -2.02, -1.63, p<0.01) weight loss than shorter ALL. Longer ALL also resulted in higher resolution of type 2 diabetes mellitus (OR 0.85, CI 0.54-1.34) and cardiovascular comorbidities (OR 0.73, CI 0.51-1.05), although this was not statistically significant.

Conclusion: ALL longer than 75cm resulted in superior weight loss outcomes, however no significant differences were noted in the resolution of metabolic comorbidities between short and long ALLs.

P45

An international survey of methods of defect closure in Roux-en-Y gastric bypass. Establishing current practice.

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Introduction: Internal herniation can be a life-threatening complication of Roux-en-Y gastric bypass (RYGB). Randomised controlled trials support the routine closure of mesenteric spaces at RYGB. However, there is currently no consensus on method of closure in clinical practice. The purpose of this survey is to understand bariatric surgeons' practice in this regard.

Methods: We conducted an international survey which was distributed among BOMSS members, and international professional channels including TUGS and social media (Twitter).

Results: One hundred and thirty seven surgeons from 35 countries completed the survey. Of these, 49 respondents were UK-based surgeons with a cumulative experience of approximately 2500 RYGB per annum. Forty five (91.8%) respondents reported always closing mesenteric defects, of whom 57.8% elected to use non-absorbable non-barbed sutures, followed by staples/clips in 28.9% and a selection of other methods. The majority of respondents used more than one method. A total of 2 UK and 14 non-UK participants reported never closing mesenteric spaces.

Conclusion: This survey has shown heterogeneity among defect closure and no clear consensus on preferred type. Additionally there remains a practice of non-closure of mesenteric defects. We hope these findings help to inform further needed research and consensus building among experts.

P46

Gastric band removal outcomes in a tertiary bariatric centre: an 8-year study

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Introduction: – A retrospective study of 83 patients who had gastric bands removed from 2013 to 2020. This study investigates weight lost or gained while band in situ, difficulties with the band and if patients progressed to revisional surgery for weight loss.

Methods: – Analysis of anonymised data held in local hospital database, validated by cross referencing with unit data held on NBSR.

Results:

- Average pre-operative band insertion weight – 127.4 kg.
- Band insertion location – Private UK (56%) > Locally (26%) > Overseas (17%).
- Average duration of band in situ – 7.5 years.
- 81% of patients lost weight while band in situ.
- Main reasons for band removal: Upper GI symptoms (54%), Minimal weight loss (22%), Band leakage (10%).
- Undergone/on waiting list for sleeve gastrectomy: 54%.
- Complication of surgery rate 2.4% - 2 patients developed sepsis.

Conclusion: -The top three reasons for removing the band was upper GI symptoms, minimal weight loss & band leakage. Most patients kept the band in situ hoping for weight loss as the average duration in situ was almost 8 years.

Over half of our patients opted for further weight loss surgery, mostly sleeve gastrectomy.

P47

Effect of BMI on Safety of Bariatric Surgery during the COVID-19 pandemic, Procedure Choice, and Safety Protocols – an analysis from the GENEVA Study

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Background: It has been suggested that patients with a Body Mass Index (BMI) of >60 kg/m² should be offered expedited Bariatric Surgery (BS) during the Coronavirus Disease-2019 (COVID-19) pandemic. The main objective of this study was to assess the safety of this approach.

Methods: We conducted a global study of patients who underwent BS between 1/05/2020 and 31/10/2020. Patients were divided into three groups according to their preoperative BMI - Group I (BMI<50 kg/m²), Group II (BMI 50-60 kg/m²), and Group III (BMI>60 kg/m²). The effect of preoperative BMI on 30-day morbidity and mortality, procedure choice, COVID-19 specific safety protocols, and comorbidities was assessed.

Results: This study included 7084 patients (5197;73.4% females). The mean preoperative weight and BMI were 119.49±24.4 Kgs and 43.03 ±6.9 Kg/m², respectively. Group I included 6024 (85%) patients, whereas Groups II and III included 905 (13%) and 155 (2%) patients, respectively.

The 30-day mortality rate was higher in Group III (p=0.001). The complication rate and COVID-19 infection were not different. Comorbidities were significantly more likely in Group III (p<0.001). A significantly higher proportion of patients in group III received Sleeve Gastrectomy or One Anastomosis Gastric Bypass compared to other groups. Patients with a BMI of >70 kg/m² had a 30-day mortality of 7.7% (2/26). None of these patients underwent a Roux-en-Y Gastric Bypass.

Conclusion: The 30-day mortality rate was significantly higher in patients with BMI >60 kg/m². There was, however, no significant difference in complications rates in different BMI groups, probably due to differences in procedure selection.

P48

Safety of Bariatric Surgery in The Older Patients During the COVID-19 Pandemic

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BACKGROUND: The progressive growth of the older patients' population with obesity represents a challenge to the weight management teams. Although initially, old age was a relative contraindication to the surgical option, current advances in laparoscopic techniques and perioperative optimization protocols have changed the old notion. However, the performance of bariatric procedures in the older patients during the ongoing COVID-19 pandemic carries a potential risk. This study aimed to assess the safety of bariatric surgery (BS) in older patients during the pandemic.

METHODS: We conducted a prospective international study of patients who underwent BS between 1/05/2020 and 31/10/2020. Patients were divided into two groups - older patients ≥65-year-old (Group I) and young < 65-year-old (Group II). Two groups were compared for 30-day morbidity and mortality.

RESULTS: We included 7084 patients, the mean age was 40.35±11.9 years, and 5197 (73.4%) were females. The mean preoperative weight and body mass index (BMI) were 119.49±24.4 Kgs and 43.03±6.9 Kg/m², respectively.

The overall comorbidities were significantly higher in Group I, p=<0.001. The complications in Group I were significantly higher (11.4%) compared to Group II (6.6%), p= 0.022. However, the mortality rate and COVID-19 infection within 30 days were not significantly different between the two groups.

CONCLUSIONS: Bariatric surgery during the COVID-19 pandemic in the older patients (≥65 years old) is associated with a higher complication rate than the younger age group. However, the mortality and postoperative COVID-19 infection rates are comparable to the younger age group.

P49

Changes of liver function tests after one anastomosis gastric bypass: A comparison between 150 cm and 200 cm biliopancreatic limbs

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Background: Some studies have shown that one anastomosis gastric bypass (OAGB) results in the derangement of liver function tests (LFTs). The aims are to study the effect of OAGB on LFTs and to compare the effect of a biliopancreatic limb (BPL) of 150 cm (OAGB-150) to a BPL of 200 cm (OAGB-200).

Methods: The study was a retrospective cohort study conducted at a university hospital.

Results: A total of 405 patients underwent an OAGB-200 (n = 234) or OAGB-150 (n = 171) in our unit between October 2012 and July 2018. There were significant improvements in gamma-glutamyl transpeptidase (GGT) levels at 1 and 2 years after OAGB-200 and significant worsening in the levels of alkaline phosphatase (ALP) and albumin at 1 and 2 years. There was a significant improvement in GGT levels at 1 and 2 years after OAGB-150 and in alanine transaminase levels at 1 year. There was a significant worsening in ALP and albumin levels at both follow-up points in this group. OAGB-150 group had a significantly lower bilirubin level at 1 year and significantly fewer abnormal ALP values at 2 years in comparison with OAGB-200 patients.

Conclusions: This exploratory study demonstrates the overall safety of OAGB with regard to its effect on LFTs, with no remarkable difference between OAGB-150 and OAGB-200.

P50

Comparison of Histopathology Examination after Sleeve Gastrectomy with Preoperative Endoscopy

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Background: Sleeve gastrectomy (SG) is one of the most commonly performed bariatric procedures. However, the available literature on histological examination of the resected sleeved stomachs is widely inconsistent. This study aimed at assessing the histopathological findings after SG compared to the routinely performed preoperative oesophagogastroduodenoscopy (OGD) and the intraoperative findings.

Patients and methods: We conducted a case series study using the electronic bariatric unit database of all patients who had SG procedures from June 2007 to December 2019.

Results: Out of the 620 sleeve gastrectomies performed, there were 219 patients with complete data, including preoperative OGD reports, operative notes, and postoperative histopathology reports. We found normal specimens in 43.83% (n = 96) and evidence of inflammation in 50.68% (n = 111) of cases. There were 10 (4.56%) specimens with evidence of inflammation and other lesions and two (0.91%) specimens with lesions only. Twenty-five patients had inflammation, and 10 had lesions on preoperative OGD with negative histopathology reports.

Conclusion: Routine histopathology examination after sleeve gastrectomy does not change the management. Preoperative OGD can detect inflammatory changes and lesions that could have been missed on histology analysis only.

P51

Handling the Covid-19 Pandemic and Its Effects on Bariatric Surgical Practice: Analysis of GENEVA Study Database

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The overwhelming COVID-19 pandemic disrupted healthcare services worldwide and led to the loss of millions of lives. The surgical practice was one of the most affected sectors across its subspecialties. However, the bariatric service has special perspectives due to the reciprocal relationship between obesity and the worse outcome of COVID-19 infection. The current study aims to assess the handling of the pandemic and evaluate the effects of the COVID-19 pandemic on bariatric surgical practice worldwide.

Materials and methods: The current study is a sub-study of the 'Global 30-day outcomes after bariatric surgery during the COVID-19 pandemic' (GENEVA) study, a global, multicentre observational cohort assessing outcomes of bariatric and metabolic surgery between the 1st of May 2020 and the 31st of October 2020. The primary outcome measure of this study was to evaluate the effect of the pandemic on practices concerning bariatric surgery worldwide.

Results: A total of 527 surgeons from 439 hospitals in 64 countries submitted data regarding their practices and handling of the pandemic. 70% of practices reported a peak of COVID-related hospital admission in March/April 2020 and 25% in May/June 2020. In 400 of 527 cases (75.9%), elective bariatric practice ceased completely at some point. Hospitals stopped their bariatric activity at a mean of 5 days (± 27.96) after the first of COVID-19 was diagnosed in the city. 49 out of 109 (45%) private practices reported having a peak in hospital admissions at a similar time when government and combined practices reported a peak. A second peak followed in 46% of the private practices, which was not seen for other setups. There was a significant difference in the time interval between the stoppage and/or reduction and restart of bariatric services between government-funded practices (97.1 ± 76.2 days), combination practices (84.4 ± 47.9 days) and private practices (58.5 ± 38.3 days) ($p < 0.001$). Precautionary measures adopted included patient segregation, adherence to PPEs and Preoperative patients' testing.

Conclusion: This study showed the handling of the COVID-19 pandemic across the GENEVA collaborative practices. Data from our study indicated differences in handling the pandemic across various countries and bariatric practices.

P52

What we know about left gastric artery embolisation and will EMBIO provide the next solution to treat obesity?

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Introduction: Left gastric artery embolisation (LGAE) has shown promising results for weight loss and could be a treatment option in-between our current tier-3 and 4 services. EMBIO is a NIHR funded trial, the first multi-centre double blinded randomised controlled trial comparing LGAE vs Placebo procedure to evaluate its efficacy on weight loss and obesity related co-morbidities. Here, we perform a systematic review of the existing literature.

Methods: 9 studies were reviewed. 5 single arm studies and 1 single blinded RCT met our inclusion criteria which investigated weight loss as a % +/- Ghrelin % change at 3,6 and 12 months, the same pre-defined time points which correlate with the EMBIO protocol.

Results: 62 patients were included. Mean weight loss reported was 8.5%, 8.8% and 10% and Ghrelin levels reduced by 36%, 16.2% and 16.5% at 3, 6 and 12 months respectively post LGAE. Cases of superficial gastric erosions managed non-surgically, healed on endoscopy by day 90 were reported and one case of subclinical pancreatitis.

Conclusion: LGAE potentially offers a day case procedure under local anaesthesia and sedation to treat obesity. The EMBIO trial will provide level 1 evidence to confirm if LGAE is a viable and safe intervention for obesity.

P53

Simulation training to create the gold standard framework to run the EMBIO trial (left gastric artery embolisation vs placebo), a double blinded, multi-centre, randomised controlled trial.

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Introduction: EMBIO is a NIHR funded, multi-centre, double blinded RCT to evaluate left gastric artery embolisation (LGAE) vs placebo, to assess weight loss. Well conducted double blinded RCT are commonly performed in medicinal trials, however evidence remains scarce for interventional procedures. For EMBIO, we used simulation training with a primary aim to create a gold standard framework on concealing treatment allocation.

Methods: 5 simulation sessions were conducted. The primary objective was to attain >90% on the blinding index assessment. The blinding index assessed the participant and recovery nurse(s) on treatment allocation with the options of 1) intervention 2) placebo 3) I don't know.

Methodology to maintain blinding included erect sterile drapes and noise cancelling headphones for participant visual and auditory isolation respectively and IR staff training. Deliberate errors in each scenario were scripted to test staff competency.

Results: 20 (N=5 participants, N=15 recovery nurses) responses were received. 95% (N=19) answered 'I don't know'. 1 participant correctly identified treatment allocation through a simulated staff error.

Conclusion: New interventional or surgical procedures should be assessed for validity and safety with level 1 scientific evidence. The EMBIO simulation programme can form the gold standard training framework for future interventional double blinded RCT'S.

P54

Actinomycosis Involving Acute Cholecystitis: A Case Report with Literature Review

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Aims: Actinomycosis is a rare granulomatous disease caused by filamentous, gram-positive, anaerobic bacterium *Actinomyces israelii*. Although actinomycosis can occur in a variety of regions, the involvement of the gallbladder is very rare. The aim of this study was to report the clinical diagnosis of a case of gallbladder actinomycosis in our hospital and provide a review of recent literature.

Methods: We report a case of a 71yo female who initially presented with clinical and radiological features of acute calculus cholecystitis. Patient responded well to conservative treatment and an elective laparoscopic cholecystectomy was performed 8 weeks later.

Results: Intraoperatively, the gallbladder was inflamed and contained many calculi. Gram's staining of an abscess of the gallbladder's fundus revealed *Actinomyces oris* in enrichment cultures. Postoperative treatment with additional antibiotic therapy has followed.

Conclusion: Actinomycosis of the gallbladder is an extremely rare pathology with less than 80 confirmed cases published in literature till date. Preoperative diagnosis remains a challenge because it sometimes mimics acute calculus cholecystitis. A high index of suspicion, especially in patients with a chronic, indolent course and nonspecific abdominal symptoms is necessary, as treatment with prolonged antibiotic therapy (6 to 12 months) is recommended to prevent disease recrudescence.

P55

Robotic Gastric Bypass Surgery

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Introduction: Robotic surgery was approved in 2001 in the USA. Since then it has been adopted by surgeons of various specialties. Robotic bariatric surgery has the advantages of reduced torque in the abdominal wall of obese patients. This is in addition to the improved visualization, articulating intuitive movements that are inherent to the technology. Time taken and result benefits are some of the areas of concern.

Method: We compared 100 patients each of roux en Y gastric bypass done by robotic and laparoscopic methods. Time taken for surgery, immediate post operative complications of bleeding and leakage were compared. Also incidence of anastomotic stricture between the sutured robotic surgery vs stapled laparoscopic surgery were compared. To avoid learning curve bias, only patients after the initial 100 cases of learning curve were included.

Results: The time taken was divided into four parts of intubation to incision, dissection time, anastomosis time and closure to extubation time. While the first and last of these parts took longer in robotic group, it had overall less time taken compared to laparoscopic group. Time taken in superobese was less in the robotic group compared to laparoscopic. The incidence of bleeding was the same in both groups. Leak and stricture rate was higher but not significant in the laparoscopic group.

Conclusion: Robotic bypass is a good option for bariatric surgery, specially in the super obese group.

P56

Mini Gastric Bypass- A 17-year experience

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Introduction: Surgical treatment of obesity is the effective method of weight loss with resolution of comorbidities. We continue to seek surgical methods of an advantageous relationship of the obtained benefits and the risks associated with surgery. Mini gastric bypass/one-anastomosis gastric bypass (MGB-OAGB) is a surgical option for treating obesity to get the desired results with less complications.

Method: The aim of the study was to assess the effectiveness of mini gastric bypass/one-anastomosis gastric bypass (MGB-OAGB) within weight loss parameters and the safety of the surgery, as based on own material.

Results: Mini gastric bypass/one-anastomosis gastric bypass (MGB-OAGB) was performed in 639 patients. A comprehensive follow up protocol was designed and those who were not doing periodic follow up excluded from the study. Finally, 456 patients long term follow up was recorded as per our follow up protocols. Of these 216 were available with more than 5 year follow up. Mean %EBMIL was $100.2 \pm 33.2\%$ (range: 34.5–207.2), and mean %WL was $29.3 \pm 8.1\%$ (range: 15.3–49). In 4 cases (0.96%), characteristics of dehydration were observed in the postoperative period. In 35 patients (8.41%), nutrition deficiencies were diagnosed and corrected through supplements. Marginal ulcers were noted in two cases (0.48%). Excessive weight loss occurred in one patient (0.24%).

Conclusion: Mini gastric bypass is associated with higher weight loss but it requires a close association of multidisciplinary unit for better outcome. Follow up is the most important factor post mini gastric bypass/one-anastomosis gastric bypass (MGB-OAGB).

P57

Routine use of oesophago-gastro-duodenoscopy (OGD) in bariatric surgery – what is your current practice?

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Introduction: The role of oesophago-gastro-duodenoscopy (OGD) in bariatric surgery has been widely discussed. In 2020, The International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) issued recommendations on the routine use of OGD before and after bariatric surgery. However, little is known of our current practice and the guidance uptake.

Methods: We conducted an international survey assessing bariatric surgeons' practice on the use of OGD. The survey consisted of 16 questions asking whether surgeons offer OGD in the following settings: pre-operative, post-operative at 1 year, every 2-3 years following longitudinal sleeve gastrectomy (LSG) or one-anastomosis gastric bypass (OAGB). Data was analysed according to United Kingdom (UK) and non-UK international practice.

Results: Among 121 respondents, 48 surgeons practise in the UK and 73 internationally. The commonly performed procedures in both groups were LSG, Roux-en-Y gastric bypass (RYGB) and OAGB. In the UK, 27.1% surgeons would routinely offer pre-operative OGD and 0% post-operatively at 1 year. In contrast, the reported rates among international surgeons were 71.2% (pre-operative OGD) and 23.3% (post-operative OGD) respectively.

Conclusion: UK surgeons do not currently comply with IFSO recommendations. Further research on the role of OGD could provide an evidence-base to guide future practice in UK.

P58

Fast track surgery is feasible in patients undergoing primary sleeve gastrectomy

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Introduction: Sleeve gastrectomy is the most common bariatric procedure performed as per the latest registries. Fast track protocols have resulted in high rates of one day discharges in major centres.

Methods: All patients who underwent primary sleeve gastrectomy were included in the study. Factors which may influence one day discharge rates were analysed using logistic regression analysis.

Results: 104 patients underwent primary sleeve gastrectomy. Demographics include: Median age: 47 (21–69); M:F = 20:84; BMI : 44.7 (34.2 – 60.2); Pre-op body weight: 119.6 Kg (88.7 – 179.5); 60 patients were ASA 2 and 44 patients were ASA 3. 77 patients (74%) were discharged on day one. 2 patients (1.9%) had complications. 8 patients (7.7%) were readmitted within 30 days of discharge. There was no mortality. Factors such as Age, Sex, BMI, Body weight, Co-morbidities, ASA grade, additional surgical procedures and previous history of abdominal surgery were analysed using logistic regression analysis to determine their effect on one day discharge and none were found to be significant.

Conclusions: Fast track surgery protocols can be successfully applied to patients who undergo sleeve gastrectomy with high one day discharge rates.

P59

30 day readmission is more common in patients undergoing primary gastric bypass who have longer length of stay

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Introduction: Fast track protocols in bariatric surgery has been in vogue with major centres achieving a high rate of one day discharge. 30 day readmission rates act as a quality control measure in monitoring fast track protocols.

Methods: All patients who undergo primary gastric bypass surgery in a major bariatric centre were included in the study. Rates of one day discharge along with 30 day readmission was analysed. Factors which affect this was analysed using logistical regression analysis.

Results: 756 patients underwent primary gastric bypass surgery over a four year period. Demographics include: Median age: 47(20-74); M:F = 157:599; BMI: 45 (30-62); Body weight: 122.1 Kg (83.2 – 190.7). 20 patients (2.6%) had complications and there was no mortality. 593 patients (78.4%) were discharged on day 1 and 91 patients (12%) were readmitted with in 30 days of discharge. Logistic regression analysis showed that patients who failed the fast track protocol and one day discharge had higher 30 day readmission rate (p=0.000; chi squared = 13.2).

Conclusion: Patients who have more than one day length of stay after primary surgery are at higher risk of 30 day readmission and may need more robust follow up protocols.

P60

Factors which predict delayed discharge after bariatric surgery

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Introduction: Fast track bariatric surgery is very much a reality in recent times with most centres reporting almost 70 % one day discharge.

Methods: All patients who underwent primary and revisional bariatric surgery in a major tertiary centre were included. Factors which delayed one day discharge were analysed using logistic regression.

Results: 898 patients underwent primary and revisional bariatric surgery (Gastric bypass: 756, Sleeve : 104, Revision surgery : 38) over a four year period. Demographics include: Median age 47 (20-74); M:F = 183:715; Mean pre-op body weight: 123 Kg (sd+/- 19/8 Kg); Median BMI : 45

(24.5-62). 624 patients had significant co-morbidities and 67 patients had history of previous abdominal surgery. 696 patients (77.5%) were discharged on day 1 (range 1-23). 30 day readmission rate was 11.5% (n=103) and 25 patients (2.7%) had complications. Logistic regression analysis revealed that presence of co-morbidities (OR = 1.92; 95% CI: 1.26-2.94; p=0.002) and history of previous abdominal surgery (OR = 2.22; 95% CI: 1.27 – 3.89; p = 0.005) increases risk of delayed discharge.

Conclusions: Patients with history of significant co-morbidities and abdominal surgery are poor candidates for fast track bariatric surgery.

P61

Fast track surgery is feasible even in patients undergoing revision bariatric surgery

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Introduction: Revision surgery is becoming increasing in vogue in recent times for various indications after primary bariatric surgery.

Methods: All patients undergoing revision bariatric surgery in a leading tertiary centre were included. Analysis was done to look into possible predictive factors which may delay discharge.

Results: 38 patients underwent revision bariatric surgery (band to bypass: 18, Sleeve to bypass: 11, Mini bypass to bypass: 4, Revision of bypass: 5). Demographics include: Age 49(26-71); M:F = 6:32; BMI : 40.9 (24.5 – 55); Body weight: 110.2 Kg (62-161). 26/38 (68%) were discharged on day 1. There were no complications or mortality. Regression analysis did not show any obvious significant factors which predicted one day discharge (Age, Sex, BMI, body weight, presence of comorbidities, previous surgery, type of surgical procedure or additional procedures).

Conclusion: Revision surgery can be performed safely with a high rate of one day discharge in high volume centres.

P62

Changing perceptions of obesity and bariatric surgery amongst medical students and consultants along with inclusion in the medical school curriculum – the need of the hour?

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Introduction: Bariatric surgery is a treatment modality for obese patients meeting specific criteria.

Methods: A multiple-choice survey was sent out to medical students and consultants simultaneously in a medical school attached to a university teaching hospital. Respondents provided information on demographics and perceptions of obesity and bariatric surgery. Results were presented as frequencies with comparison of medical student and consultant responses.

Results: There were 215 and 165 student and consultant respondents respectively. 61.3% of student respondents were in years 1-3 and were in normal BMI range. 90% of consultant respondents had over 10 years of NHS experience and 46.7% were in normal BMI range. 16.0% students and 1.8% consultants were not aware obesity is classified as a disease. 23.2% of students and 42.5% of the consultant respondents felt that obesity is a self-inflicted disease. 54.0 % students and 73.4 % consultants agreed that bariatric surgery is an effective treatment for obesity.

Conclusions: Though overall perceptions were positive, a large number of medical students and consultants felt that obesity is self-inflicted and just over 50% of students thought bariatric surgery was effective, indicating the need to include obesity and bariatric surgery in the curriculum.

P63

Hiatus hernia repair can be safely done in patients with High BMI undergoing bariatric surgery

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Introduction: Hiatus hernia repair is often denied to patients with high BMI on the grounds of high recurrence rate and technical difficulty.

Methods: All patients who underwent hiatus hernia repair at the time of bariatric surgery were included and outcomes in terms of immediate post op complications, 30 day readmission and symptoms at 12 month follow up were assessed.

Results: 45 patients (median age 53 [range 32-72]; M:F = 7:38) who underwent bariatric surgery (Primary bypass – 32, Primary sleeve – 6, Revision surgery – 5, band removal – 2) along with repair of hiatus hernia were included. Median BMI was 41.8 (range = 25.1-58.4) with a median body weight of 110.8 Kg (range = 67.8 – 180). Median length of stay was 1.6 days (range = 1-12) with 30 patients going home the next day. There were no immediate post op complications or mortality. 30 day readmission was 13% (n=6) with 2 patients undergoing surgery due to obstruction at the JJ anastomosis. At 12 month follow up, none of the patients had any symptoms attributable to the hiatus hernia repair.

Conclusions: Hiatus hernia repair done concurrently with bariatric surgery results in good outcomes in patients with high BMI.

P64

Does weight loss associated with bariatric surgery result in improvement in euthyroid status in hypothyroid patients?

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Introduction: Weight loss following bariatric surgery with its resultant effect on metabolism is thought to reduce thyroxine requirements in hypothyroid patients.

Methods: All patients with hypothyroidism undergoing gastric bypass were included. Pre-op TSH levels and thyroxine doses were compared with post-op TSH levels and thyroxine doses and its relation to weight loss analysed using Pearson correlation.

Results: Data of 26 patients were analysed. Demographics include: Median age: 55 (32-74), M:F = 24:2; Body weight: 115.9 (94 – 167 Kg); BMI : 45 (33.7 – 58.2). At 19 months median follow up (3-44), median post op weight was 82.7 Kg (53.2-126) and BMI was 32 (19.9-43) with a median %EBWL of 64.9 Kg (26-134). Mean TSH dropped from a pre-op level of 14.1 (0.02-328) to 1.83 (0.01-9.00) with a drop in median levothyroxine dose from 125 micrograms pre-op to 110 micrograms post op. Correlation between %EBWL and change in levothyroxine dose was analysed using Pearson correlation and this was not significant (p=0.811; R=-0.049).

Conclusion: Though there was a drop in mean TSH levels and levothyroxine dose after bariatric surgery, there was no correlation with %EBWL. This needs to be ascertained with larger sample size before definite conclusions can be drawn.

P65

Patients with comorbidities undergoing primary gastric bypass are poor candidates for fast track bariatric surgery

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Introduction: Fast track bariatric surgery is well established in major high volume centres.

Methods: All patients who underwent primary gastric bypass surgery in a high volume centre were included. One day discharge rate and factors which may possibly influence this was analysed using Logistic Regression analysis.

Results: 756 patients underwent primary gastric bypass surgery over a four year period. Demographics include: Median age: 47(20-74); M:F = 157:599; BMI: 45 (30-62); Body weight: 122.1 Kg (83.2 – 190.7). 2 patients were ASA 1. 390 patients were ASA 2. 364 patients were ASA 3. 538 patients (71.2%) had at least one co-morbidity. 20 patients (2.6%) had complications and there was no mortality. 593 patients (78.4%) were discharged on day 1. Logistic regression analysis revealed that presence of co-morbidities was an important factor which reduced one day discharge as per fast track protocols ($p=0.003$; chi squared = 8.58).

Conclusion: Patient with comorbidities have delayed one day discharge and pre-op optimisation may help improve this.

P66

Modified laparoscopic Merendino procedure as revision of Roux-en-Y gastric bypass for excessive weight loss

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Background: Excessive weight loss is a rare complication of Roux-en-Y gastric bypass (RYGB). When faced with excessive weight loss and malnutrition, bypass reversal can be considered. We present a case in which direct reversal was not feasible due to altered anatomy. To our knowledge, this is the first reported case of small bowel interposition between pouch and remnant stomach for restoration of continuity.

Case: A 54-year-old female patient with BMI 35.8 kg/m² originally planned for sleeve gastrectomy underwent subtotal gastrectomy with Roux-en-Y reconstruction due to intraoperative complications. The patient reached a BMI of 17.5 kg/m² 4 years postoperatively, developed malnutrition and became reliant on enteric and parenteral nutritional support.

The video depicts the laparoscopic interposition of the alimentary limb between the gastric pouch and gastric antrum remnant as a modified Merendino procedure. Post-operative course was uneventful up to some intraluminal bleeding which was managed conservatively and the patient was discharged on post-operative day 7.

Conclusion: In cases of revision surgery for RYGB in which reversal is not technically possible, a modified Merendino procedure is a feasible and safe option.

P67

Retained gastric remnant following SADI-S performed abroad: a complication of bariatric medical tourism

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Background: Long NHS waiting lists make bariatric tourism an ever more attractive option for people with obesity. Consequent post-operative complications can pose significant challenges as patients often present to their local hospital without relevant documentation.

Case presentation: A 26-year-old female patient returned to the UK on post-operative day (POD) 3 following laparoscopic bariatric surgery abroad. She presented to our hospital on POD 4 with abdominal pain and vomiting and reported having undergone mini gastric bypass but no documentation was available. The CT scan was initially reported by teleradiology services as demonstrating no complications but further discussion with the in-house GI radiologist revealed an indeterminate fluid filled structure in left upper quadrant with unusual contour, raising the suspicion of collection or ischemic gastric remnant.

The video presented is of emergency diagnostic laparoscopy on POD 6. This revealed a completely dissected ischaemic gastric remnant following SADI-S. The remnant was extracted and the patient was discharged on POD 4.

Discussion: Complications following bariatric tourism pose significant challenges for local hospital surgeons and can have a significant cost on NHS resources. Operation notes may not be accessible, patients often present in a delayed fashion and weekend on-call teams may lack bariatric expertise.

P68

Is there a perfect sleeve gastrectomy?

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Introduction: Laparoscopic sleeve gastrectomy (SG) has grown in popularity world-wide, though technique varies amongst bariatric surgeons. We undertook a literature review, examining key complications and evidence informing optimal technique.

Methodology: Relevant papers from 2010-2021 were identified via PubMed and Google Scholar. Landmark papers and highest level of evidence where possible were used. Two independent reviewers assessed the articles before including them in the review.

Results: Staple-line reinforcement (SLR) reduces leak risk with a systematic review suggesting absorbable polymer membrane SLR had lowest rates. Gastro-oesophageal reflux disease (GORD) risk is debated. Patients with proven GORD should avoid SG where possible. A wider antrum, narrow angle of His, and avoiding both remnant fundus and damage to sling fibres around the cardia reduce risk of GORD. Hiatal hernia defects <4cm should be closed with interrupted sutures using a non-absorbable suture via posterior approach. Defects >4cm may benefit from a slow resorbable mesh.

Ideal sleeve shape sleeve is a 'real' tubular structure. Starting resection of the stomach 5cm from the pylorus and avoiding remnant fundus reduces risk of weight recidivism. 40Fr bougie balances risk of leak, GORD and weight regain.

Conclusion: Evidence in the literature points towards considerations to optimise technique in SG.

P69

Acute herniation of small bowel through Minimizer® ring following banded one anastomosis gastric bypass (OAGB) - a case report.

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Introduction: We present the case of a 43 year old female who underwent a One Anastomosis Gastric Bypass (OAGB) in 2019 which was additionally banded using a Minimizer® ring. Two years post-operatively she presented as an emergency to our unit with symptoms of pain and vomiting.

Management: After resuscitation and equivocal CT imaging, laparoscopy was performed due to the clinical concern of obstruction. This demonstrated that the loop of jejunum immediately adjacent to the GJ anastomosis had herniated through the Minimizer® ring and become strangulated. The ring was carefully manipulated and divided, along with capsular and omental adhesions, and removed with subsequent recovery of the jejunum. Post-operatively she recovered well and was discharged on post-operative day two.

Prior Evidence: Previously obstruction secondary to a banded procedure has been reported in the case of RYGB, however, as far as we are aware, we are the first to report a case of band prolapse and obstruction in the case of OAGB.

Conclusion: As OAGB gains popularity and banded augmentation continues to be considered by clinicians, our case report gives a cautionary tale to the potential complications and highlights the possibility of band obstruction for clinicians managing bariatric emergency presentations.

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P70

Once-weekly semaglutide 2.4mg improved metabolic syndrome in adults with overweight or obesity: post hoc analysis of the STEP 1 trial

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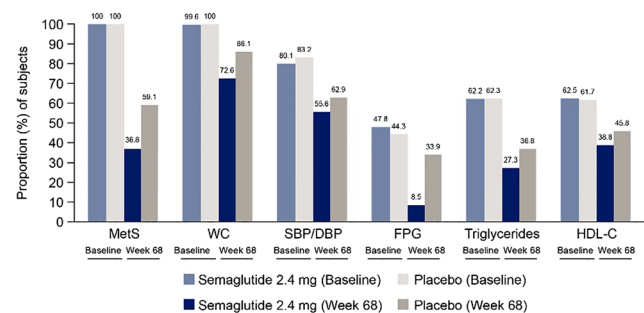
Introduction: Overweight/obesity is a key cause of metabolic syndrome (MetS). This post hoc analysis of STEP 1 evaluated the effect of weight loss with semaglutide 2.4mg on MetS.

Methods: In STEP 1 (NCT03548935), 1961 adults with overweight/obesity without diabetes were randomised 2:1 to once-weekly semaglutide 2.4mg (n=1306) or placebo (n=655), both plus lifestyle intervention, for 68 weeks. This post hoc analysis assessed changes in prevalence of MetS and individual MetS components in participants with data available at baseline and week 68 (N=1038).

Results: The proportions of participants with MetS and fulfilling criteria for individual components of MetS at baseline were similar for semaglutide 2.4mg (693; 53.1%) and placebo (345; 52.7%), but lower for semaglutide versus placebo at week 68, in those with MetS at baseline (Figure). Significantly greater mean improvements in all MetS components were observed at week 68 with semaglutide versus placebo (Table). Proportions achieving MetS remission at week 68 were 63.2% with semaglutide versus 40.9% with placebo (p<0.0001).

Conclusion: In adults with overweight/obesity, once-weekly semaglutide 2.4mg led to >60% of participants with MetS at baseline achieving resolution. Improvements in components of MetS versus placebo at week 68 were observed, suggestive of beneficial metabolic effects of semaglutide 2.4mg treatment.

Figure. Proportion of subjects with MetS and individual MetS components at baseline and at week 68 (in subjects with MetS at baseline).



DBP, diastolic blood pressure; FPG, fasting plasma glucose; HDL-C, high-density lipoprotein cholesterol; MetS, metabolic syndrome; WC, waist circumference; SBP, systolic blood pressure.

	Semaglutide 2.4 mg (n=693)	Placebo (n=345)	Treatment comparison [95% CI] semaglutide 2.4 mg vs placebo
WC			
Baseline mean, cm	117.6	117.1	
Estimated mean change, cm	-13.2	-4.1	ETD: -9.1 [-10.4, -7.9]; p<0.0001
SBP			
Baseline mean, mmHg	130	131	
Estimated mean change, mmHg	-7.4	-2.8	ETD: -4.6 [-6.3, -2.9]; p<0.0001
DBP			
Baseline mean, mmHg	83	83	
Estimated mean change, mmHg	-3.4	-1.3	ETD: -2.0 [-3.2, -0.9]; p=0.0005
FPG			
Baseline mean, mmol/L	5.50	5.48	
Estimated mean change, mmol/L	-0.57	-0.11	ETD: -0.46 [-0.55, -0.37]; p<0.0001
Estimated mean change, mg/dL	-10.26	-1.95	ETD: -8.31 [-9.95, -6.67]; p<0.0001
Triglycerides			
Baseline mean, mmol/L	1.9	2.0	
Ratio to baseline, %	-25.4	-10.2	ETR: -17.0 [-21.5, -12.3]; p<0.0001
HDL-C			
Baseline mean, mmol/L	1.2	1.2	
Ratio to baseline, %	8.2	2.2	ETR: 5.8 [3.6, 8.1]; p<0.0001

Treatment comparisons were done using an ANCOVA model with randomised treatment as factor and baseline value as covariate. Ratio to baseline and estimated treatment ratio expressed as percent.

ANCOVA, analysis of covariance; CI, confidence interval; DBP, diastolic blood pressure; ETD, estimated treatment difference; ETR, estimated treatment ratio; FPG, fasting plasma glucose; HDL-C, high-density lipoprotein cholesterol; MetS, metabolic syndrome; SBP, systolic blood pressure; WC, waist circumference.

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P71

30-day morbidity and mortality of sleeve gastrectomy, Roux-en-Y gastric bypass and one anastomosis gastric bypass: a propensity score-matched analysis of the GENEVA data

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Introduction: This study aimed to compare the 30-day safety of sleeve gastrectomy (SG), Roux-en-Y gastric bypass (RYGB), and one anastomosis gastric bypass (OAGB).

Methods: This analysis utilised data collected from the GENEVA study; a multicentre observational cohort study of Bariatric and Metabolic surgery during the COVID-19 pandemic. 30-day complications were categorised according to the Clavien-Dindo classification. Patients receiving SG, RYGB, or OAGB were propensity-matched according to baseline characteristics and 30-day complications were compared.

Results: 6770 patients (SG 3983; OAGB 702; RYGB 2085) were analysed. 702 pairs of SG and OAGB; 2085 pairs of SG and RYGB and 702 pairs of OAGB and RYGB; were propensity score-matched. The complication rate in the SG group was 7.3% (n = 51) as compared to 7.5% (n = 53) in the OAGB group (p = 0.68). The complication rate in the SG group was 6.1% (n = 127) as compared to 7.9% (n = 166) in the RYGB group (p = 0.09). The complication rate in OAGB and RYGB groups was the same at 7.5% (n = 53; p = 0.07).

Conclusions: This study found no significant difference in the 30-day morbidity and mortality of SG, RYGB, and OAGB in propensity score-matched cohorts.

P74

Say what you mean, mean what you say- the importance of language in the treatment of obesity

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Introduction: The use of negative language contributes to stigma against obesity as a disease and patients with obesity. The aim of this study was to quantify the use of stigmatising language in scientific literature and determine impact on patients.

Methods: A quantitative analysis of the prevalence of stigmatising language within obesity publications was carried out by performing a search for two terms, 'fail' and 'morbid'. A parallel qualitative study was undertaken to determine the perceptions of these terms in patients with obesity and their impact on treatment.

Results: Of 3020 papers screened, 2.4% included the term 'fail' and 16.8% contained 'morbid'. The use of 'fail' was associated with revisional surgery (OR-38.9). The qualitative study included 16 patients. The word fail was viewed as particularly negative, inferring a suggestion of personal responsibility for lack of weight loss. Clinically meaningful language was identified as important for forming positive relationships with healthcare providers.

Conclusions: Stigmatising language remains widespread within scientific publications which may serve to undermine the message that obesity is a disease while perpetuating obesity stigma. In interactions with patients, negative language is often interpreted as suggesting that the patient rather than the intervention has failed which may also impact their engagement with weight management services.

P75

Efficacy of the Elipse™ device - a swallowable gastric balloon.

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Background: The Elipse Balloon is a swallowable gastric balloon for non-surgical weight loss, avoiding the need for gastroscopy.

Methods: This is a retrospective study of 81 patients who were offered Elipse at a private hospital. Inclusion criteria were patients with BMI > 27kg/m² who were struggling to lose weight through diet and exercise alone and wished to use this as an adjunct. Patients with history of GERD, inflammatory bowel disease, multiple or complex abdomino-pelvic surgery, eating disorders or risk of gastrointestinal bleeding were excluded. All patients received lifestyle counselling during the therapy period.

Results: 81 patients were enrolled (63 (78%) female). Mean age was 45 years, mean starting BMI 36.95kg/m² (range 27.3–55.92 kg/m²), and mean starting weight 103.6kg. Two balloons were removed due to intolerance at weeks 1 and 6, no serious adverse events were reported. Weight gain was reported in two patients (1.8kg and 16.2kg). Mean excess weight loss was 27.20%, mean total weight loss was 7.75kg (7.37%). Median length of follow up was 9 weeks (range 2-20 weeks).

Conclusion: This study demonstrates that Elipse balloon can be an effective treatment, with comparable weight loss results and safety profile to other non-swallowable devices including in those with BMI >40.

P76

Gastric band tube fistulating into the colon: Rare complication of laparoscopic gastric band during Covid-19 pandemic

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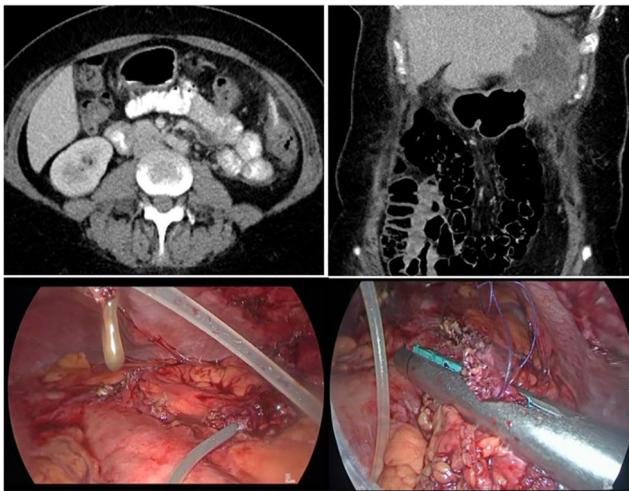
Background: Laparoscopic adjustable gastric band (LAGB) rose to popularity since 1993. There has been rapid decline in view of the long-term complications/reoperations. Erosion into colon and fistula are major late complications.

Case report: A 53-year woman with BMI of 44.6kg/m² underwent LAGB in 2004. %EWL was 76.34%. During the pandemic patient

presented with diverticulitis which was treated conservatively. Due to ongoing symptoms of reflux/dysphagia patient was planned for LAGB removal. Intraoperatively, the colon was adherent at the exit point of the gastric tube. Tube was fistulating into colon. Band was removed with no erosion confirmed on OGD. The colonic fistula was stapled avoiding colonic resection/stoma. Post-operative collection was treated with antibiotics. At 2-month follow-up the patient was asymptomatic.

Discussion: LAGB complication rate is 5-20% with almost 25% needing re-operation. In this case diverticulitis can be a contributing factor for fistula formation. Gastric band erosion into the colon has been rarely reported. If detected early, major resections can be avoided.

Conclusion: Band tubing fistulating in colon should be in the differential diagnosis in patients with LAGB having non-specific abdominal pain. High index of suspicion can facilitate timely identification and avoid major surgical intervention. We hope to raise awareness with this case report.



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Connecting tube colonic erosion and gastrocolic fistula formation following late gastric band erosion.

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Case Reports. BJR Case Rep. 2017 Mar 10;3(3):20160135. doi: 10.1259/bjrcr.20160135. eCollection 2017.

Gastric and colonic erosion caused by laparoscopic gastric band: a case report

Luis E Gonzalez¹, Rajendra P Kedar¹

P77

Evaluating the impact of Covid-19 on internet searches in the UK for bariatric surgery

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Introduction: The Covid-19 pandemic has significantly impacted on the provision of UK bariatric surgery. This study evaluated the impact of the Covid-19 pandemic on internet searches for bariatric surgery in the UK population.

Methods: Google Trends data search using search topics: 'gastric bypass surgery', 'sleeve gastrectomy', 'adjustable gastric band' and 'gastric balloon' was performed. Relative search volume (RSV) indices were reported from March 2017 to March 2022. Mean RSV pre-Covid (March 2017-March 2020) and Covid (March 2020-March 2022) were compared. ANOVA was performed to determine the impact of Covid on RSV.

Results: In the pre-Covid timeframe, gastric bypass surgery was most commonly searched, whilst during Covid, sleeve gastrectomy became most commonly searched. ANOVA analysis revealed a significant increase in searches during Covid for sleeve gastrectomy (47.2% v 20.4%; p<0.001), gastric bypass surgery (30.7% v 25.4%; p<0.001) and gastric balloon (12.0% v 8.4%; p<0.001) but not adjustable gastric band (37.8% v 38.7%; p=0.350).

Conclusion: During the pandemic there has been a significant increase in internet searches for metabolic surgery, most pronounced for sleeve gastrectomy, and for gastric balloons. UK weight management services need to ensure the provision of accurate and easily available public bariatric surgery information.

P78

Closure of mesenteric defects during laparoscopic roux-en-y gastric bypass surgery and its effect on internal hernia rates and small bowel obstruction: A Meta- Analysis

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Objectives: To systematically review, and analyse pooled data from all studies evaluating the impact of routine closure of mesenteric defects on the incidence of internal hernia in laparoscopic antecolic Roux-en-Y gastric bypass (RYGB) surgery for obesity. Secondary endpoints for analysis included the incidence of early and late small bowel obstruction (SBO), need for re operation, bleeding, anastomotic leak, marginal ulceration and weight loss.

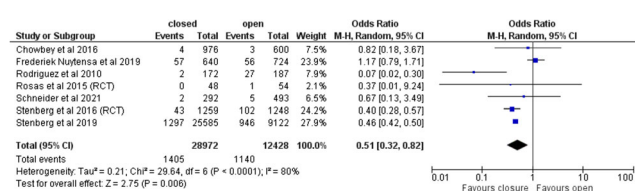
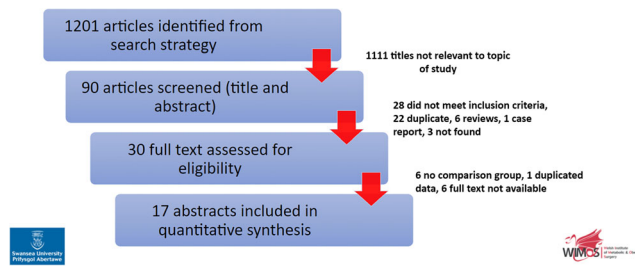
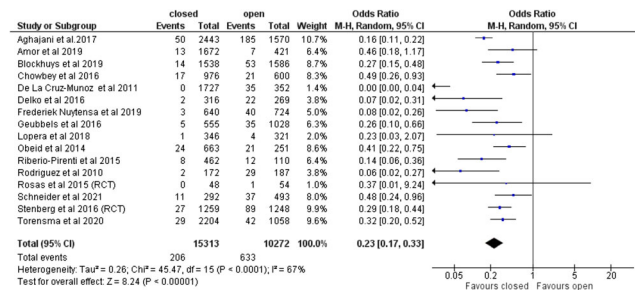
Methods: Ovid, MEDLINE, EMBASE and Cochrane databases were searched on 13 September 2021 using a combination of MeSH and non-MeSH terms, including 'gastric bypass', 'mesenteric defect', 'hernia', and 'small bowel obstruction'. Studies comparing closure with non-closure of mesenteric defects were included. Two researchers independently examined titles, then abstracts, and finally, full text articles. Disagreements were arbitrated with the senior author.

Fixed- or random-effect models were used, as appropriate. Results have been reported with 95% confidence intervals and I-squared indices to assess uniformity among results for each outcome measured.

Results: Seventeen studies met the criteria and were included, including two randomised trials. A total of 61,220 patients were included with follow-up ranging from 24-120 months. In the closure group the incidence of all types of internal hernia was lower (OR 0.23, 95% CI 0.17, 0.33), SBO beyond 30 days was less frequent (OR 0.51, 95% CI 0.32,0.82), and the re operation rate was lower (OR 0.26, 95% CI 0.13,0.52). The odds ratio of incidence of SBO within 30 days was

1.91 (CI 0.84,4.37).

Conclusions: This new pooled analysis updates previous meta-analyses, adding data from eight additional studies and almost 45,000 additional patients. This provides firm evidence that routine closure of mesenteric defects during laparoscopic gastric bypass reduces rates of internal herniation and SBO beyond the post-operative period. Closure of the mesenteric defects should be standard practice in RYGB. Our meta analysis also suggests a higher incidence of early SBO, which has been shown in the landmark Stenberg randomised controlled trial (1). This is postulated by some studies as being attributable to technical factors, including kinking of the jejunal anastomosis and bleeding. This must be considered when closing defects.



P79

A contemporary review of smart phone applications in Bariatric & Metabolic Surgery; an underdeveloped UK support service

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Background: With the widespread utilisation of digital technology in everyday life mobile health (mhealth) is a rapidly expanding field. We aimed to review the bariatric and metabolic surgery (BMS) apps currently available to patients/clinicians.

Methods: Smart phone apps were identified using pre-determined search terms in Android and Apple app stores. Data was collected on metrics,

functionality, UK access and medical/allied health professional involvement (MAPI). Apps were assessed via Silberg scale and classified as per the NICE Evidence Standards Framework.

Results: 52 apps were identified. 42(80.7%) targeted patients, the majority, 35(67.3%) had direct links to private clinics/services. 21(40.3%), were freely accessible by UK users, but only 2(3.8%) were primarily targeted UK users. More than half, 28(53.8%), targeted at US users. 41(78.8%) had MAPI and the Mean Silberg score was 4.9.

Conclusions: Compared to previous studies the quality of BMS apps is improving with more MAPI and useful/interesting functionality. However, there is a paucity of apps available for UK patients considering BMS. Those that are available tend to be developed with US users in mind. Development of a UK targeted BMS app, possibly based on NICE guidance, is needed. It would complement patient care and look to impact on weight management outcomes.

P80

COVID-19 infection is the new differential diagnosis in list of early complications after bariatric surgery

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Background: Bariatric surgery has been shown to be feasible and safe under strict protocol during COVID-19 surges. COVID-19 can present with gastrointestinal manifestations and can mimic postoperative complications. We present a case of COVID-19 infection 14 days after bariatric surgery.

Methods: A 59-year-old double vaccinated female patient with BMI 35.5 kg/m² underwent laparoscopic one anastomosis gastric bypass. Her hospital stay was uneventful and she was discharged on the 1st postoperative day (POD). On POD 14, she developed fever and abdominal pain and returned to our hospital with suspicion of postoperative complications. Examination revealed mild abdominal tenderness. Inflammatory markers were mildly raised. A SARS-CoV-2 antigen lateral flow test was performed in the A&E department which was positive. A postoperative complication was ruled out clinically and her symptoms were attributed to COVID-19 infection.

Results: She made a satisfactory recovery at home. At 6-month follow-up she reported partial loss of smell and taste as contributing factors to her difficulties with diet. Her %EWL was 72%.

Conclusion: COVID-19 infection should be considered as a differential diagnosis to postoperative complications after bariatric surgery. People with obesity must be encouraged to be vaccinated, as this leads to improved outcomes in cases of COVID-19 infection.

P81

Efficacy and safety of bariatric surgery during the Covid-19 pandemic –a retrospective cohort study from a UK unit

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Background: The strain on resources during the Covid-19 pandemic has led to disruption to bariatric surgery(BS).The aims of this study were to compare peri-operative outcomes following BS during the pandemic, with historical cohort operated one year previously.

Methods: 100 consecutive bariatric procedures from July 2020 onwards (study cohort-SC) were compared with 100 consecutive patients from July 2019 (historical cohort-HC) for weight loss at one year and complications using multivariate analysis,while accounting for gender, pre-op BMI, type of procedure and co-morbidities.

Results: The SC included 67 LRYGB, 32 LSG and 1 DS compared with 79, 21 and 0 respectively in the HC(p=0.12). There was no difference in mean pre-operative BMI(46.4 vs 48.6 kg/m² p=0.17), gender or co-morbidities. Percentage TWL at one year was 26.2%(95%CI 24.1-28.4) for the SC, compared with 25.8% in the HC (95%CI 23.6-28.0) (p=0.78). The EWL was 58.4% (95%CI 53.4-63.3), compared with 60.0% (95%CI 55.0-65.0) (p=0.64) respectively. Regression analysis also demonstrated no difference in weight loss. There was no significant increase in complications in the SC (OR 0.66 CI 0.12–3.70 p=0.64).There were no positive COVID cases reported at follow up.

Conclusion: This study demonstrates BS is effective and safe through the Covid pandemic with the appropriate precautions.

P82

The effect of bariatric surgery on knee joint pain, quality of life and function

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This longitudinal study followed 36 female bariatric patients, recruited from clinic prior surgery. Quality of life data measurements: Oxford Knee Score (OKS), Visual Analogue Scale Knee (VAS) and Euroqol 5D-5L (EQ5D5L) were used to collect data prior to surgery and postoperatively, during semi structured interview. Data was collected preoperatively and then: 6,12,18, and 24 months postoperatively. The main focus is on 6 month postoperative data, with brief comments on later data. Preliminary results when comparing the preoperative data and six months postoperative data are encouraging in terms of seeing improved OKSS. Which showed strong correlation between preoperative data to 6 month postoperative data with increased OKS (0= poor, 48=best). The other tools used have shown more mixed results. The VAS showed weakly positive correlation between data, signalling minor improvement of knee pain. The data sets were also analysed by mean sample t testing and once again, OKS showed an increase in average mean between Preoperative data and 6 months Postoperative. The outcomes shown already can be applied to the body of evidence that surgically induced weight loss can have positive effects on weight loading joints such as the knee and the potential to help ameliorate the progression of osteoarthritis.

P83

A 'novel breakthrough' for gastric bands

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Introduction: We share a rare case of 39 year old male with a percutaneous erosion of gastric band tubing. Till today, there is no comparable case in the literature.

Methods: We retrospectively studied the history of case and identified factors leading to this complication. We prospectively approached the management in multidisciplinary fashion and had discussions about preventing this in future.

Results: The patient had laparoscopic gastric banding 12 years ago. In 2020 he had ITU admission with pyloric perforation and contamination necessitating laparotomy, relook, laparostomy and concurrent severe COVID-19 pneumonia. Mortality was estimated at >99%. As a sequela of prolonged catabolic state, the muscle overlying tubing had atrophied, ensuing liposarcopaenia resulted in 3cm long percutaneous erosion of the tubing. Endoscopy demonstrated migration without luminal erosion. MDT recommended removal of the system to prevent further complications.

At surgery, extensive intraabdominal adhesions prevented visualisation and safe removal of the band; patient became hypotensive intraoperatively, necessitating premature termination. Only the port and associated tubing could be removed leaving band in situ with future follow up.

Conclusion: Consider removal of gastric band when therapeutic aims achieved or no longer in use. Is it necessary to attempt removal of this band and risk laparostomy?



P84

Quality of life for Elderly Patients after Bariatric Surgery

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Introduction: Although studies have demonstrated increased complications and reduced weight loss for elderly patients following bariatric surgery, the benefits in terms of quality of life (QOL) or improvement in co-morbidities has not been extensively investigated. The aim of this study was to determine the success of bariatric surgery using these latter two outcomes.

Methods: This prospective analysis included all patients aged ≥60 undergoing primary bariatric surgery between July 2018 to December 2019. Patients were asked to complete an electronic BAROS assessment, with notes reviewed to identify complications. Surgery was considered a failure if the BAROS outcome score was ≤ 1.

Results: 52 patients participated in this study (12 LSG and 40 LRYGB) with a follow up period of 34 months (SD 4.9). Pre-operatively mean weight was 127.1kg (SD 23.5) and mean BMI of 45.8 kg/m2 (SD 6.9). At follow up, average %TWL was 22.6% (SD 14.5), no deaths, with two revisions from sleeve to LRYGB for reflux. 32 (61.5%) reported an improvement, 4 (7.7%) complete resolution and 11 (21.2%) worsening of their co-morbidities with osteoarthritis being the most common cause. The BAROS score described 18 (34.6%) procedures as a failure, 11 (21.2%) as fair, 19 (36.5%) as good, but only 2 (3.8%) each as very good or excellent.

Conclusions: The data demonstrates acceptable levels of weight loss in concordance with literature for younger patients. However, the impact on elderly patients' co-morbidities and QOL is relatively poor. Such information should be taken into consideration when selecting and consenting elderly patients.

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Bariatric Surgery Related Clinical Incidents: Lessons Learned and a Proposed Safety Checklist for Bariatric Surgery

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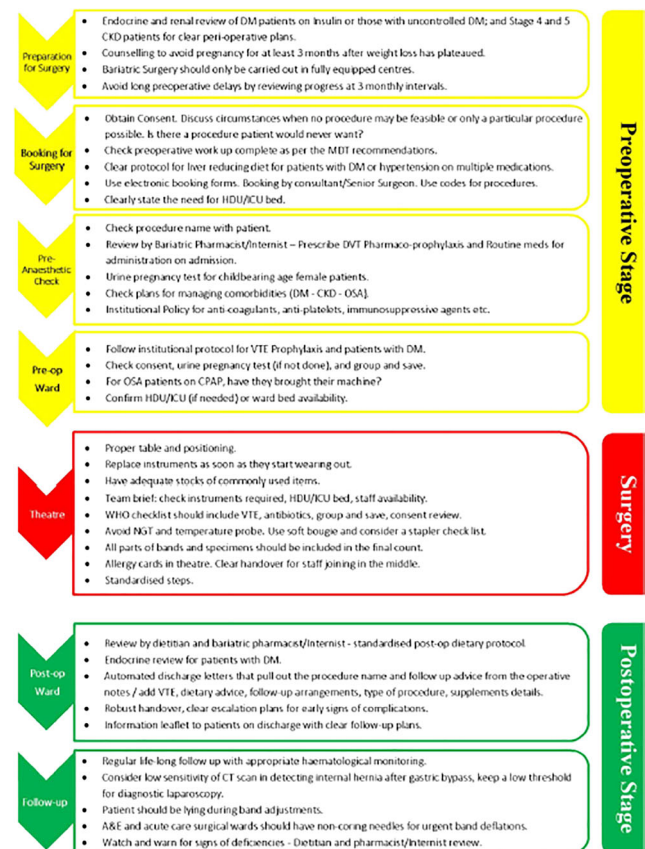
Background: Hundreds of thousands of patient-safety clinical incidents are reported to the National Reporting and Learning System (NRLS) database in England and Wales every year. The purpose of this study was to identify bariatric surgery-related learning points from these incidents.

Methods: We analysed bariatric surgery-related clinical incidents reported to the NRLS database between 01 April 2005 and 31st October 2020. The authors used their experience to identify learning themes, attribute severity, and design a safety checklist from these reported incidents.

Results: We identified 541 bariatric surgery-related clinical incidents in 58 different themes. Preoperative, intraoperative, and postoperative incidents represented 30.3%(N = 164), 38.1%(N = 206), and 31.6%(N = 171) incidents respectively. One hundred fifty (27.7%), 244 (45.1%), and 147 (27.2%) incidents were attributed high, medium, and low severity respectively.

The most commonly reported high severity theme was the failure of thromboprophylaxis (50; 9.2%). Intraoperative high severity incidents included 17 incidents of stapling of orogastric/nasogastric tubes or temperature probes, 8 missed needles, 8 broken graspers, and 6 incidents of band parts left behind. Postoperatively, the most commonly reported high severity theme was improper management of diabetes mellitus (DM) (35; 6.5%). Medication errors represented a significant proportion of the medium severity incidents.

Conclusion: We identified 58 specific themes of bariatric surgery-related clinical incidents. We propose specific recommendations for the prevention of each theme and a safety checklist to help improve the safety of bariatric surgery worldwide.



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Effect of Bilio-Pancreatic Length on Haematinics, Vitamin D and Parathyroid Hormone Levels after One Anastomosis Gastric Bypass

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Introduction: There is little data on the effect of one anastomosis gastric bypass (OAGB) on haematinics, vitamin D and parathyroid hormone levels. It is further unclear if an OAGB with a bilio-pancreatic limb (BPL) of 150 cm (OAGB-150) would deliver better outcomes than that with a BPL of 200 cm (OAGB-200).

Materials and Methods: We investigated our records to obtain information on patients who underwent an OAGB-200 or OAGB-150 until 31st July 2018 in our unit.

Results: A total of 405 patients underwent either an OAGB-200 (n = 234) or OAGB-150 (n = 171). The mean age was 46 ± 10.98 years and 276

(68.1%) were females. The mean preoperative weight and the body mass index (BMI) were 139 ± 29.96 kg and 49 ± 8.14 kg/m² respectively. With OAGB-200, there was a significant increase in anaemia rates at 1 and 2 years compared to preoperative levels with a significant fall in haemoglobin levels. After OAGB-150, there was a significant fall in haemoglobin levels at 1 and 2 years but the increase in anaemia rate was only significant at 2 years. There was a significant increase in PTH levels and the number of abnormal values at 1 and 2 years with OAGB-200. With OAGB-150, PTH changes were significant at 2 years only.

Conclusion: We found that both OAGB-200 and OAGB-150 are associated with a significant increase in anaemia and secondary hyperparathyroidism. Our findings should prompt the evaluation of supplementation protocols with higher dosages than we recommend for iron, folate and calcium. Consideration should also be given to evaluating shorter BPL lengths than 150 cm with OAGB.

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