

POSTER ABSTRACTS

P1. GENDER DIFFERENCES IN OUTCOMES FOLLOWING HAND ASSISTED LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS SURGERY.

Kevin Tymitz, MD; George Kerlakian, MD; Amy Engel, MA; Cyndy Bollmer, RN
Good Samaritan Hospital, Cincinnati, OH

Background:

Male gender has been associated with a higher morbidity and mortality rate after bariatric surgery including laparoscopic and open procedures. This study, however, focused on hand assisted laparoscopic Roux-en-Y gastric bypass and morbidity and mortality among genders.

Methods:

Hand assisted laparoscopic Roux-en-Y gastric bypass operations (N=319) were evaluated from October 2003 to March 2006. Comparison between males (N=54) and females (N=265) were conducted using t-test or Fishers exact test and chi-square analysis.

Results:

Patients' average age was 42.3 ± 10.3 and the average BMI was $49.2 \pm 7.9 \text{ kg/m}^2$. There was no significant difference between males and females in age or BMI. Males did have a significantly greater average weight than females ($p < 0.001$), and were also significantly more likely to experience sleep apnea ($p = 0.006$) and have heart disease ($p = 0.017$). For operative risk factors, males had a significantly longer anesthesia time ($p = 0.003$), operative time ($p = 0.027$), and length of Roux limb ($p = 0.038$). There was no significant difference between males and females on any hospital outcome. At six and 12 months post surgery there was no significant difference between males and females with any complication. Although BMI did not differ significantly, males continued to weigh significantly more than females and lost significantly more pounds than did females at both six and 12 months post-operation.

Conclusion:

Given their larger size and tendency to accumulate fat in the abdominal compartment that increases the technical difficulty of the procedure, males are historically associated with a higher morbidity and mortality following bariatric surgery. Based on the current study, however, there was no difference in outcome among genders following hand assisted laparoscopic Roux-en-Y gastric bypass.

P2. BARIATRIC SURGERY IN ADOLESCENTS: AN HISTORIC CASE SERIES.

Anita P Courcoulas, MD, MPH; Jessie K Eagleton; Anthony O Udekwu, MD¹; Madelyn Fernstrom, PhD
University of Pittsburgh Medical Center, Pittsburgh, PA; ¹Geisinger Medical Center, Danville, PA

Background:

The epidemic of morbid obesity is increasingly impacting the adolescent population. It is important to review past program experiences to demonstrate both weight and health improvement and to plan future prospective studies.

Methods:

We retrospectively reviewed our program data over 15 years (1992-2006) for all adolescents between the ages of 13 and 21. Those patients with severe obesity and a BMI > 35 kg/m² underwent either vertical banded gastroplasty (VBG), early in the experience, or gastric bypass (GBP). Outcome measures included percent excess weight loss, complications, and long-term health evaluations.

Results:

Twenty-five adolescents (14 female, 11 male; 22 White, 3 Black) ranging in age from 16 to 21 years underwent bariatric surgery (19 GBP, 6 VBG; 10 open, 14 laparoscopic) during this period. Mean BMI was 53±13 kg/m² (range 35-92). Two patients were lost to follow-up. Preoperative comorbid conditions included: 10 arthritis, 9 depression, 9 reflux, 6 hypertension, 5 sleep apnea, 5 hypercholesterolemia, 2 diabetes. Mean follow-up was 4 years with 48% excess weight lost and 83% of all documented co-morbid conditions improved/resolved. There were no deaths or anastomotic leaks. Short-term complications included 2 wound infections in the open patients and 5 other minor problems. Major late complications included one small bowel obstruction requiring operation and 5 patients (4 VBGs) who regained more than 20% of their excess weight lost. Five female patients achieved successful pregnancies 3-11 years following surgery.

Conclusion:

Historic bariatric surgery data in adolescents demonstrates its safety and efficacy and highlights the need for systematic data collection and long-term follow up.

P3. GASTRIC POUCH DILATION AFTER LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS.

Patricio Fajnwaks, MD; Olga Tucker, MD; Tomas Escalante-Tattersfield, MD; Samuel Szomstein, MD; Raul J Rosenthal, MD
Cleveland Clinic Florida, Weston, FL

Background:

Laparoscopic Roux-en-Y gastric bypass (LRYGB) achieves weight loss by restricted intake, and a degree of malabsorption. The creation of a small 15-30ml proximal pouch is key. We reviewed our series of LRYGB to evaluate the influence of pouch size and dilation, on outcome.

Methods:

A retrospective review of a prospectively maintained database was performed from January 2001 to October 2006 on all patients undergoing primary LRYGB. All primary LRYGB were performed from 2001-2003.

Results:

Of the 1,763 primary procedures, 21 patients (1.1%) required revision for pouch dilation; mean age 38 (range 21-52) years, mean BMI 54 (range 35-77) kg/m², M:F 2:19. Symptoms included nausea, vomiting n=3, back pain n=1, weight regain n=17 (81%), dysphagia n=2, malnutrition n=1, failure to lose weight n=5. Other findings included gastrojejunal anastomotic (GJA) dilation n=1, GJA stricture n=3, GJA ulceration n=3. Revisional procedures included pouch trimming n=13 (62%), laparoscopic adjustable gastric band (LAGB) n=3 (14%); laparoscopic silastic ring around GJA n=2 (9.5%); pouch trimming, removal silastic ring, redo GJA n=1 (5%); pouch trimming with remnant gastrectomy n=2 (10%); mean length of hospital stay 4 (range 3-9) days. 6 patients required a second procedure; umbilical seroma n=1, removal silastic band due to erosion n=1, pouch trimming and silastic banding n=1, bleeding from pouch staple line n=1, LAGB port replacement for dislocation n=1, adhesiolysis n=1. 2 patients (9.5%) had a third revision due to pouch leak n=1, chronic pouch fistula n=1 (5%).

Conclusion:

Pouch dilation can contribute to significant morbidity. We routinely perform a small 15-30 ml pouch, which achieves optimal outcome and reduces requirement for revisional surgery.

P4. DO FORMER SMOKERS REQUIRE EXTENDED VENTILATORY SUPPORT AND LENGTH OF STAY FOLLOWING GASTRIC BYPASS SURGERY?

Anthony V Huynh, DO; Christina Hartman; Peter N Benotti, MD, FACS; Anthony T Petrick, MD, FACS; William E Strodel III, MD, FACS; Christopher D Still, DO, FACN
Geisinger Medical Center, Danville, PA

Background:

In our institution, smoking cessation of at least 2 months is required prior to gastric bypass surgery (GBS). In this retrospective study, we evaluated patients with a history of significant tobacco smoking with their extubation time and length of stay (LOS) after GBS. We hypothesized that patients with a history of tobacco use require prolonged intubation and LOS compared to nonsmokers.

Methods:

Patients with a five or more pack-year history of smoking tobacco who underwent smoking cessation at least two months or longer prior to the GBS were included in this study. Prolonged intubation was defined as requiring ventilatory support for more than 30 minutes after GBS was completed. Prolonged hospitalization includes any hospital stay longer than 2 days.

Results:

45 former smokers were evaluated and compared to 45 non-smokers. Two of the former smokers (4.4%) required prolonged intubation post-operatively (35 and 37 minutes respectively) compared to one (2.2%) of 45 non-smoking patients (39 minutes). None of the three patients required increased LOS. Among the two groups, 8 former smokers (17.7%) compared to 11 non-smokers (24.4%) had an increased LOS of one day.

Conclusion:

This study shows that patients with a history of tobacco use who underwent smoking cessation at least 2 months prior to GBS did not require prolonged intubation or hospital stay after surgery compared to non-smokers. Moreover, the vast benefits of smoking cessation in reducing peri-operative morbidity and mortality, despite the risk of weight gain, should be emphasized and required prior to GBS.

P5. ENDOSCOPIC FINDINGS IN PATIENTS WITH WEIGHT REGAIN AFTER GASTRIC BYPASS.

Suthep Udomsawaengsup, MD; *Stacy Brethauer, MD*; Jeff Landers, MD; Matt Metz, MD; Tracy Pitt, MD; Silas Chikunguwo, MD; Philip Schauer, MD; Bipan Chand, MD
Cleveland Clinic, Cleveland, OH

Background:

Weight regain after gastric bypass is a common reason patients seek revisional surgery. Postoperative anatomy must be clearly defined prior to offering revisional surgery. The purpose of this study is to describe the endoscopic findings in patients referred for weight regain after Roux-en-Y gastric bypass (RYGB).

Methods:

A retrospective review of our bariatric endoscopic database was conducted. The primary indication for endoscopy was weight regain after RYGB. A gastric pouch was considered enlarged if it was longer than 6 cm, wider than 5 cm or contained a large amount of fundus on retroflexion. A gastrojejunostomy measuring greater than 2 cm was classified as enlarged.

Results:

32 patients met our study criteria. 24 (75%) were female and the average age was 47 years (range 33-59). The average BMI at the time of evaluation was 44 kg/m². Patients presented an average of 6.7 years after their initial operation with an average weight gain of 77 pounds (39-198). Fifteen patients (47%) had an enlarged stoma, 13 (41%) had pouch enlargement, and 2 (6%) had a gastrogastic fistula. Five patients had two of these findings. Seven patients (22%) had normal postoperative anatomy. Eight patients have been offered surgical revision, 8 have been offered endoscopic anastomotic reduction, and the remaining patients have been referred for continued behavioral therapy.

Conclusion:

Endoscopy is a useful tool in the evaluation of patients who present with weight regain after RYGB. A high percentage of these patients will have findings amenable to surgical revision such as pouch and stomal enlargement.

P6. VIRTUAL THREE-DIMENSIONAL COMPUTED TOMOGRAPHY EVALUATION OF THE GASTRIC POUCH FOLLOWING LAPAROSCOPIC ROUX-Y GASTRIC BYPASS.

Suraj Alva, MD; Kurt E Roberts, MD; Dan Eisenberg, MD; Gary Israel, MD; Andrew J Duffy, MD; Robert L Bell, MD
Yale University School of Medicine, New Haven, CT

Background:

The construction of the gastric pouch during surgery is largely based on the prevailing dogma of Roux-en-Y gastric bypass (RYGB) surgery. The scarce data that exist suggests that the smaller the gastric pouch, the greater the weight loss after surgery. Current estimations of pouch volume have inherent limitations. We describe the use of virtual three-dimensional computed tomography (3-D CT) to assess pouch volume in the immediate postoperative period.

Methods:

We performed 3-D CT on three patients one day after laparoscopic RYGB using a 16-channel multidetector CT scan. Effervescent granules were administered, along with 1 ounce of water, orally to achieve gastric pouch distension. Transaxial images were transferred to the 3-D workstation (Vitrea, Vital Images, Inc.) and endoluminal views of the gastric pouch were generated with perspective volume rendering. Pouch area was also measured from the standard postoperative upper gastrointestinal (UGI) contrast study.

Results:

All patients were female, with a mean preoperative BMI of 43.7 kg/m^2 and a mean age of 44.3 years. Mean pouch height was 4.07 cm, mean pouch width was 3.79 cm, and mean pouch depth was 2.1 cm. The mean calculated pouch volume was 31.6 cm^3 . The calculated pouch area using 3-D CT was statistically indistinct from the pouch area calculated using the UGI study (15.2 cm^2 vs. 16.9 cm^2 ; $p=0.549$.)

Conclusion:

For the first time, we describe the use of 3-D CT to accurately measure post-operative pouch volume. Additionally, we were able to confirm the utility of area (postoperative UGI) as an accurate surrogate for pouch volume.

P7. EFFECT OF HISTAMINE-2 BLOCKERS OR PROTON PUMP INHIBITORS ON THE INCIDENCE OF ANASTOMOTIC ULCER AFTER LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS.

Ioannis Raftopoulos, MD, PhD; *Kambiz Zainabadi, MD*
University of Pittsburgh, Pittsburgh, PA

Background:

The impact of routine use of histamine-2 (H-2) blockers, or proton pump inhibitors (PPI) on the incidence of anastomotic ulcer (AU) and pouch gastritis (PG) is not known.

Methods:

230 consecutive patients who underwent laparoscopic Roux-en-Y gastric bypass (LRYGB) and had a minimum of a 2 month follow-up were included in this study. Postoperative esophagogastroduodenoscopy (EGD) was performed selectively on patients with suspicious symptoms. $P < 0.05$ was significant.

Results:

Mean age and body mass index (BMI) were 44.9 (18-73) years and 49.7 (35.3-75.5) Kg/m² respectively. The incidence of AU was 4.3% (10/230) and PG 0.9% (2/230). The following prophylactic treatment variations were observed: Histamine 2 (H2) blockers only (n=93), proton pump inhibitor (PPI) only (n=31), H2 blockers followed by PPI (n=27), PPI followed by H2 blockers (n=6), intermittent therapy (n=62), or no treatment (n=11). There was a significant reduction ($p=0.02$) of AU, or PG in patients who were on PPI therapy compared to patients on H2 blockers (7/141, 4.96%), or without prophylactic treatment (5/73, 6.84%). The incidence of AU, or PG was higher, but not statistically significant, in patients without prophylactic treatment than H2 blockers and in patients on ranitidine treatment compared to famotidine (2/20, 10% vs. 5/125, 4%). The length of time on no prophylactic treatment had no effect on the incidence of AU or PG.

Conclusion:

Prophylactic treatment, particularly with PPI, can decrease the incidence of AU and PG after LRYGB and should be recommended.

P8. EFFECT OF LIMB LENGTH IN ROUX-EN-Y GASTRIC BYPASS IN PATIENTS WITH BMI 45-50KG/M².

Neelu Pal, MD; Robert Brolin, MD

University Medical Center at Princeton, Princeton, NJ

Background:

Published reports have demonstrated that increasing the length of the Roux limb in RYGB results in increased weight loss in super-obese patients. Conversely, extending Roux limb length in patients with BMI<50kg/m² has not consistently shown an increase in weight loss. The purpose of this study was to determine if increasing Roux limb length would affect weight loss in a subset of patients with BMI 45-50kg/m².

Methods:

A retrospective review of 272 patients with BMI 45-50kg/m² was performed. Patients operated on from 1984-2001 underwent open RYGB, whereas 2002-2004 had laparoscopic RYGB. All patients had ante-gastric Roux limb (75-150 cm), bilopancreatic limb of 20-30cm, and a circular stapled gastrojejunostomy. Weight loss at 6 and 12 months was compared between short and long limb patients.

Results:

154 patients underwent long limb RYGB (58 open, 96 laparoscopic) and 118 short limb RYGB (76 open, 42 laparoscopic). The mean preoperative weight for the long and short limb patients was 135.7kg (BMI 47.kg/m²) and 124.2kg (BMI 46.3kg/m²) respectively. Mean %EWL at 6 months in long and short limb groups were 58.3% and 54.5% and at 12 months 70% and 71.1%. There was no significant difference in post-operative complications or length of hospital stay between the two groups.

Conclusion:

The subset of patients with BMI 45-50kg/m² does not benefit from an increase in Roux limb length. Further subset analyses may identify patient groups that could benefit by increase in limb length in patients with BMI<50kg/m².

P9. PREOPERATIVE WEIGHT LOSS IS NOT A PREDICTOR OF POSTOPERATIVE WEIGHT LOSS AFTER LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS.

Arthur M Carlin, MD; Sameeh Kavar, MD; Elizabeth A O'Connor; Jeffrey A Genaw, MD
Henry Ford Hospital, Detroit, MI

Background:

Identification of preoperative predictors of weight loss following laparoscopic Roux-en-Y gastric bypass (LRYGB) could lead to improved clinical outcomes. The purpose of this study was to determine if preoperative weight loss was associated with improved %EWL one year after LRYGB.

Methods:

A retrospective analysis was performed on 295 patients who underwent LRYGB at our institution from July 2004 thru November 2005. Routine preoperative weight loss goals were implemented to facilitate the laparoscopic approach and ensure compliance with an appropriate nutritional and exercise program. Patients with a BMI at initial consultation of <50, 50 thru 59, and ≥ 60 kg/m² were given weight loss goals of 5 lbs, 5% of body weight, and 10% of body weight, respectively.

Results:

The mean age was 45 ± 10 ; 89% were women and 70% white. The mean BMI at initial consultation was 51 ± 7 kg/m². There was a significant inverse correlation between preop BMI and %EWL at one year postop ($p < 0.001$). When controlling for BMI there was no significant correlation between %EWL and % preoperative weight loss or attainment of weight loss goal. Weight loss goals were met or surpassed by 79% and the others achieved a median 82% of their weight loss goal. Patients achieving $\geq 150\%$ of their weight loss goal had significantly greater %EWL one year postop (69% vs. 64%; $p < 0.008$).

Conclusion:

Preoperative weight loss does not predict postoperative weight loss following LRYGB. However, greater weight loss goal percentage achieved may identify patients who will have better %EWL at one year postop

P10. VERTICAL SLEEVE GASTRECTOMY IS A VERSATILE OPERATION FOR THE BARIATRIC SURGEON'S ARMAMENTARIUM.

David C Voellinger, MD; Pamela Sutton, PA-C
Southeast Bariatrics, PA, Charlotte, NC

Background:

Laparoscopic vertical sleeve gastrectomy (VSG) was initially described by Gagner as the first stage of a planned two-stage duodenal switch. The VSG has since been used as both a primary and staged procedure. We have examined our usage of the VSG to determine its versatility and efficacy.

Methods:

Retrospective analysis was performed on all VSGs accomplished from November 2002 to November 2006. Data collected included: operative indication and length; length of stay (LOS); 30-day readmissions and re-operations; morbidity and mortality; weight reduction; and improvement of co-morbidities.

Results:

Twenty-eight VSGs were performed, 26 laparoscopic and 2 open. There were no conversions. Indication for operation included: super-super obesity (20), extensive intra-abdominal adhesions (5), severe co-morbidity (1), multiple abdominal operations (1), patient's sole preference (1). Four patients have undergone second-stage laparoscopic gastric bypasses (14%). Mean weight was 405.1 lbs, mean BMI 63.3 (range 40.6-81.7) kg/m². Mean operative time was 86 minutes. Median LOS was 3 days (range 2-21). There was one 30-day re-admission (4%) and one re-operation (4%). There were five minor (18%) and five major (18%) complications with no mortalities. EWL% at 6 and 12 months was 31% and 43% with a mean BMI of 52.4 kg/m² and 49.5 kg/m². At 6 months, 52% of co-morbidities were improved, 19% resolved. At 12 months, 57% were improved, 20% resolved.

Conclusion:

Vertical sleeve gastrectomy is a versatile and efficacious bariatric operation. It can be used in a variety of specialized situations and offers a significant advantage in the short-term over medical management.

P11. LAPAROSCOPIC GASTRIC BYPASS IN HIV-INFECTED PATIENTS.

Rafael Fazylov, MD; Eliana A Soto, MD; Stephen Merola, MD
New York Hospital Queens, Flushing, NY

Background:

The introduction of highly active antiretroviral therapy (HAART) has led to substantially prolonged survival among patients living with human immunodeficiency virus (HIV) infection and HIV has now become a chronic disease. Long-term complications related to obesity have gained a new importance. Obesity is more prevalent than wasting among HIV patients. A variety of treatment related metabolic changes have been reported since introduction of HAART. In particular, use of HAART has been associated with body weight gain in HIV infected patients. Performance of bariatric surgery in morbidly obese patients with HIV infection is controversial. If surgery is performed on patients receiving HAART, the effect of this treatment on surgical outcome has not been examined.

Methods:

We performed a retrospective review of two HIV-infected patients who underwent laparoscopic Roux-en-Y gastric bypass at our institution and report their outcomes. We reviewed the world literature and evaluated the effect of gastric bypass on their disease and efficacy of HAART.

Results:

One patient who was not on HAART preoperatively had a significant decrease in her CD4 count at 8 months postop and was started on HAART. Our second patient who was on HAART preoperatively had had less than ideal weight loss.

Conclusion:

Our findings suggest that performing gastric bypass surgery on HIV-infected patients may not be beneficial to the patient's disease. In addition, the use of HAART may counteract the effects of the gastric bypass surgery and lead to less than optimal weight loss.

P12. MARGINAL ULCER AFTER LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS.

Soo Hwa Han, MD; Nicole Basa, MD; Lubna Suleman, MD; Darshni Vira, BS; Erik Dutson, MD; Carlos Gracia, MD; Amir Mehran, MD
David Geffen School of Medicine at UCLA, Los Angeles, CA

Background:

The formation of marginal ulcers (MU) is a well-known complication of the Roux-en-Y gastric bypass (RYGB) occurring in 1-16% of cases. Its etiology is unclear and effective preventative strategies are lacking. We hypothesized that a 4 month course of prophylactic proton pump inhibitor therapy will prevent or significantly reduce the incidence of MU formation.

Methods:

From January 2003 to June 2006, 835 laparoscopic Roux-en-Y gastric bypass (LRYGB) procedures were performed. All patients received 4 months of prophylactic therapy with either Omeprazole, 20mg twice daily, Lanzoprazole, 30mg once a day or Pantoprazole, 40mg once a day, depending on their insurance coverage. All patients with known positive *Helicobacter pylori* (H.pylori) serology were treated. A prospective database consisting of demographic, body mass index (BMI), comorbidities, and time to ulcer development was created and retrospectively reviewed.

Results:

Follow-up data was available for 746 patients. MU was confirmed in 24 patients (3.2%). The MU and non-MU patients were comparable for age, sex, BMI and comorbidities. 3 patients from the MU group had positive H.pylori serology and were treated preoperatively. MU perforation occurred in 9 patients (1.2%) and required emergent operations. 15 patients (2%) had endoscopically proven MU and were treated successfully with Sucralfate and proton pump inhibitors. The average time from surgery to the development of MU was 20 weeks (range 2-76 weeks). There were no deaths. The follow-up period ranged from 1 month to 3 years.

Conclusion:

A short course of prophylactic proton pump inhibitor therapy following LRYGB did not prevent MU formation. Our results were unexpected and have prompted our program to initiate a prospective randomized trial comparing the alternative methods for ulcer prophylaxis

P13. COMPRESSION ANASTOMOSIS FOR ROUX-EN-Y GASTRIC BYPASS: OBSERVATIONS IN A LARGE ANIMAL MODEL.

Olga Tucker, MD; Nahum Beglaibter, MD¹; Raul J Rosenthal, MD
Cleveland Clinic Florida, Weston, FL; ¹Hadassah University Hospital Jerusalem, Israel

Background:

In the morbidly obese, laparoscopic Roux-en-Y Gastric Bypass (LRYGB) is effective in achieving weight loss with resolution of comorbidities. As the goal is to create a small pouch with a narrow outlet, gastrojejunal anastomotic (GJA) strictures commonly occur. The use of a compression anastomotic device to create sutureless gastrointestinal anastomosis (GIA) replacing sutures or staplers, may reduce tissue trauma, reduce the inflammatory response, and improve patency. A temperature-dependent, memory-shape nitinol compression anastomosis clip (CAC) (NiTi Medical Technologies, Israel) has been successfully used in intestinal anastomoses. Compression of the entrapped bowel leads to necrosis with device expulsion after 7-10 days.

Methods:

We designed a pilot study in an animal model of RYGB to examine its role in gastrointestinal anastomoses. Six 40kg female pigs underwent RYGB. Group A, n=3, underwent GJA with the CAC, and stapled jejunojunal anastomosis (JJA). Group B, n=3, underwent GJA and JJA with the CAC. One pig from each group was euthanized at 1, 4 and 8 weeks.

Results:

Two pigs, one from each group, developed gastroparesis. At autopsy, all anastomoses were patent; mean GJA diameter with CAC 1.6cm (range 0.6-3), mean JJA diameter with stapler 3.8 cm (range 3.5-4), mean JJA diameter with CAC 3.2cm (range 3-3.5). Anastomotic burst pressures were similar between stapled and CAC. The device was expelled by POD 9 (range 8-12). Histological examination of CAC anastomoses demonstrated a complete mucosal lining with re-epithelialization, which was unidentifiable at 2 months.

Conclusion:

This small animal study demonstrates the safety and efficacy of sutureless compression anastomoses in open RYGB.

P14. LAPAROSCOPIC ASSISTED ERCP IN THE ROUX-EN-Y GASTRIC BYPASS PATIENT: EVALUATION OF 5 CASES AND A REVIEW OF THE LITERATURE.

G Brent Sorensen, MD; Ronald H Clements, MD
University of Alabama, Birmingham, AL

Background:

According to the Centers for Disease Control and Prevention, 30% of the current U.S. population is obese. Weight reduction surgery is becoming more and more common to try and combat this problem. Laparoscopic Roux-en-Y gastric bypass provides an excellent means for weight loss. In doing this procedure, however, the patient's anatomic layout is completely changed. Generally this does not cause problems. However, if a patient were to develop pancreatobiliary problems after surgery, standard ERCP is considered difficult if not impossible. Recently, there have been descriptions of percutaneous transgastric endoscopy after radiologic placement of a gastrostomy tube. While this technique is effective, blind access to the gastric remnant could be potentially dangerous. Because of this we have modified a technique utilizing laparoscopy to gain access into the blind stomach.

Methods:

We describe a case series of 5 patients who underwent laparoscopic assisted ERCP. We also will discuss the current literature involving upper endoscopic intervention in the post-bypass patient.

Results:

5 patients who had previously undergone laparoscopic Roux-en-Y gastric bypass had developed biliary diseases requiring ERCP. 2 patients had biliary strictures, 2 had choledocholithiasis, and 1 had sphincter of Oddi dysfunction. Laparoscopic assistance, transabdominal, transgastric ERCP was performed. These patients all did well post-operatively.

Conclusion:

Laparoscopic Roux-en-Y gastric bypass is becoming more and more common. These patients have been shown to be at risk for biliary problems. Classically these problems are difficult to manage. We feel that this procedure is viable, a relatively easy, and safest access into the gastric remnant.

P15. A RETROSPECTIVE ANALYSIS OF ABDOMINAL PAIN IN THE POST-OP LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS PATIENTS: IS A SIMPLE ALGORITHM THE ANSWER?

Emmanuel A Agaba; Charmaine V Gentles; Shamseddeen Hazem; Domick Gadelata; Larry Gellman, MD
North Shore University Hospital, Manhasset, NY

Background:

While three-dimensional spiral computed tomography is clearly a desirable non-invasive technique for investigating abdominal pain, the best achievable results is often suboptimum in postoperative Laparoscopic Roux-en-Y Gastric Bypass (LRYGB) patients. We have found spiral CT with oral contrast to be a particularly robust technique for the triage of abdominal pain with possible internal hernia. This study aims to analyze our retrospective experience of 1,500 patients over a 60 months

Methods:

In the period between January 2001 and October 2006, we performed 1,500 bariatric procedures of which 66% were laparoscopic Roux-en-Y gastric bypass. Of these, 75 patients presented with abdominal pain suggestive of an internal hernia.

Results:

Of the 75 patients with abdominal pain, 40 (53%) were found on spiral CT scan with oral contrast to have an internal hernia. All 40 patients underwent laparoscopy which confirmed the internal hernia. Of the remaining 35 with no CT scan evidence of internal hernia, 23 patients continued to have pain and also underwent laparoscopy. Of these, 17 (73%) patients had an internal hernia,. Six patients had another diagnosis (3 cholecystitis, 2 appendicitis, 1diverticulitis). In 12 patients, the symptoms resolved spontaneously. Thus the sensitivity = 70%, specificity=100%

Conclusion:

Although we have found spiral CT with oral contrast to be a sensitive and robust technique in the triage of the post LRYGB patient who has abdominal pain, the method is not yet reliable enough. We believe that, the risk of misdiagnosis and hence delay in initiating management is significant and therefore the threshold for laparoscopy should be low.

P16. COMPARISON OF SELECTIVE CLIPPING VS. ROUTINE OVERSEWING OF THE GASTRIC REMNANT STAPLE LINE ON POSTOPERATIVE HEMORRHAGE AFTER LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS. A PROSPECTIVE NON-RANDOMIZED COMPARISON TRIAL.

Loannis Raftopoulos, MD, PhD; Barbara Mikash, RN
University of Pittsburgh Medical Center, Pittsburgh, PA

Background:

The effect of gastric remnant staple line oversewing on the incidence of postoperative hemorrhage after laparoscopic Roux-en-Y gastric bypass (LRYGB) was examined.

Methods:

Two hundred and eleven consecutive patients were assigned in a non-randomized fashion to undergo LRYGB with selective clipping (Group A) versus routine oversewing (Group B) of the gastric remnant staple line. A 30 cc gastric pouch was created in all cases with a 3.5 mm linear stapler. A 10 mm clip applier, or a running 2.0 non-absorbable suture was used in Group A and B, respectively. Incidence of postoperative lower gastrointestinal (LGI) hemorrhage requiring blood transfusion, > 2 gm/dl hemoglobin drop and difference of first and last postoperative hemoglobin were assessed. $P < 0.05$ was considered significant.

Results:

There were 178 (84.4%) females and 33 (15.6%) males with a mean age of 43.8 (19-73) years. The mean body mass index (BMI) was 47.2 (35-70) kg/m². A hundred and thirty-two (62.6%) patients were assigned in Group A and 79 (37.4%) in Group B. Group B patients were older (46.2 vs. 42.2 years, $p=0.01$), whereas Group A patients had a higher BMI (48.5 vs. 42.2 kg/m², $p=0.002$). LGI hemorrhage was significantly reduced in Group B (0/79, 0% vs. 7/132, 5.3%, $p=0.04$). The incidence of > 2gm/dl hemoglobin drop (Group A: 23/132, 17.4% vs. Group B: 13/79, 16.5%) and overall hemoglobin drop (Group A: 1.39 vs. Group B: 1.31 gm/dl) was similar.

Conclusion:

Routine oversewing of the gastric remnant staple line may completely eliminate clinically significant postoperative LGI hemorrhage.

P17. CAN PRE-OPERATIVE AND INTRA-OPERATIVE ASSESSMENT ADEQUATELY PREDICT SIGNIFICANT LIVER DISEASE IN PATIENTS UNDERGOING ROUX-EN-Y GASTRIC BYPASS (RYGB) FOR MORBID OBESITY.

Joshua E Roller, MD; Eric J DeMaria, MD; Rebecca P Petersen, MD, MSc; John P Grant, MD; Aurora D Pryor, MD
Duke University Medical Center, Durham, NC

Background:

Significant concern has been raised that obesity may lead to non-alcoholic fatty liver disease (NAFLD) and non-alcoholic steatohepatitis (NASH), which can be clinically silent and progress to cirrhosis in up to 25% of patients. Liver biopsy results of patients undergoing RYGB were evaluated.

Methods:

Liver biopsies were routinely performed during RYGB over 18 months. Data were prospectively collected and retrospectively reviewed.

Results:

153 patients undergoing RYGB had liver biopsies performed. Preoperatively, liver function tests were elevated in 8.5% and ultrasound detected fatty liver in only 36.4%. 92% had abnormal liver biopsies with mild, moderate, or severe steatosis present in 58.3%, 21.1%, and 12.6%, respectively. Intra-operatively, the liver appeared normal in 65% of which 25% had moderate/severe steatosis and 8.3% had fibrosis. NASH was present 24.5% of all patients and 48.6% of these had fibrosis. NASH was higher in males vs. females (45.8 vs. 20.5%, $p = 0.007$), Caucasians compared to African-Americans (27.9 vs. 9.7%, $p = 0.035$), and patients over age 50 compared to under 50 years (35 vs. 20.5%, $p = 0.082$). Fibrosis was higher in Caucasians vs. African-Americans (16.4 vs. 0%, $p = 0.019$) and males (33.3 vs. 8.5%, $p = 0.001$). NASH/fibrosis was not affected by preoperative weight loss, weight gain or BMI.

Conclusion:

Obesity-related liver disease may be clinically under-recognized. Males, Caucasians, and patients over the age of fifty have a significantly higher risk of NASH and fibrosis. Our results show that a normal liver ultrasound, LFTs and gross appearance does not exclude the presence of significant liver disease.

P18. 4155 MINILAPAROTOMY ROUX-EN-Y GASTRIC BYPASS OPERATIONS: TIME AND VOLUME TESTED APPROACH FOR SAFETY, EFFICACY AND EFFICIENCY IN THE TREATMENT OF MORBID OBESITY.

Oswaldo Anez, MD; Denis Halmi, MD¹; Evgeni Kolesnikov, MD, PhD¹; Rafael Canadas, MD; Eunice Moh, RN
Obesity Surgery Center, Fair Oaks Hospital, Fairfax, VA; ¹Obesity Surgery Center, Potomac Hospital, Woodbridge, VA

Background:

The purpose of the study was to determine the safety, efficiency and reproducible efficacy of the minilaparotomy Roux-en-Y gastric bypass (MLRYGB) in two obesity surgery centers of excellence. Size of the incision and perioperative morbidity are very important parts of the operation. Upper midline minilaparotomy approach for performing MLRYGB was developed and utilized.

Methods:

4,155 [Potomac Hospital (PO): 1,032, Fair Oaks Hospital (FOH): 3,123] consecutive MLRYGB operations were performed by two surgical teams using the same surgical protocol, from January 2001 to September 2006. Perioperative data were collected and analyzed (Exemplo medical Minnesota database) from two hospitals: PH and FOH. Respectively in the two hospitals (PH/FOH); female: 86.5%/83.6%, average age: 40.5/42 (16-67) years, average BMI: 46.1/46.4 (35-80) kg/m², average hospital stay: 3.1/2.8 (2-24) days, operative time: 59.8/48 (35-79) min. The size of the upper midline incision was 7-8 cm.

Results:

Respectively in the two hospitals; mortality: 1/5 patients (0.1%/0.16%), postoperative morbidity: 4.7%/4.8%, anastomotic leak: 0/3 (0%/0.1%), small bowel obstruction: 7/50 (0.7%/1.6%), hemorrhage from staple line required re-operation: 3/28 (0.3%/0.9%), incisional hernia: 20/92 (2%/2.9%). Both hospitals achieved similar good postoperative outcomes, including weight loss (70-75% EBW). The cost of MLRYGB operation with short hospital stay, was significantly lower than for laparoscopic bariatric surgery, reported in a literature. Average learning curve for MLRYGB is approximately 25-30 cases.

Conclusion:

Roux-en-Y gastric bypass performed through the minilaparotomy incision is a safe, efficient and effective operation that can be easily reproduced in other hospitals with short training and minimal cost.

P19. RACIAL DIFFERENCES BETWEEN BLACK AND WHITE FEMALE PATIENTS FOLLOWING SURGICAL WEIGHT LOSS SURGERY.

Titus D Duncan, MD; Qammar Rashid, MD¹; Ijeoma A Ejeh, MD¹; Fredne Speights, MD¹
Morehouse School of Medicine, Atlanta, GA; ¹Peachtree Surgical Associates, Atlanta, GA

Background:

Much of the literature today suggests that black female patients lose less weight and have a significantly higher rate of weight regain following surgical weight loss procedures than their white counterparts. We herein present the results of our series comparing the percentage of excess body weight loss (%EBWL) between black and white female patients following laparoscopic roux-en-y gastric bypass surgery.

Methods:

We reviewed our series of over 4,000 patients who have undergone laparoscopic gastric bypass surgery for morbid obesity since 2001. Over 3,000 female patients of which over 900 African Americans were in this group. The patients were randomly assigned and divided equally into two groups based upon race and follow-up a minimum of three years from surgery. Total weight loss and %EBWL were reviewed and compared between the two groups.

Results:

There were no statistically significant differences in %EBWL at 1, 2 or three years between the two groups. Both groups had similar resolution and/or improvement in preoperative co-morbid conditions.

Conclusion:

There are several studies documenting differences in weight loss following surgical weight loss procedures between black and white patients. To accommodate for such differences we have incorporated practices in an attempt to improve and maintain the amount of fat loss following surgery. There were no significant differences in long-term weight loss between black and white patients following laparoscopic gastric bypass surgery in this series.

P20. COMPARISON OF WEIGHT LOSS, COMPLICATIONS, COMORBIDITIES FOR PATIENTS WITH BMI 40-50, 50-60 AND >60 KG/M² WITH 12 YEAR FOLLOW-UP FOLLOWING GASTRIC BYPASS.

Laurie Spaulding, MD

Fletcher Allen Health Care and University of Vermont, Burlington, VT

Background:

The surgical approach to the severely obese is often influenced by presumed higher complication rates and lower weight loss in this cohort. We sought to determine the validity of this approach by reviewing our experience.

Methods:

Between 1993 and 2005, 1183 patients underwent open short-limb gastric bypass, by a single surgeon. Outcomes for patients were made comparing those with BMI 40-50, 50-60, and > 60 kg/m². The percentage of excess weight loss, number of complications, impact on comorbidities in all patients, and those with and without diabetes were compared.

Results:

There were 1,183 patients, 510 with BMI 40-50 kg/m², 431 with BMI 51-60 kg/m², and 244 with BMI > 60 kg/m². At one year after gastric bypass, the mean percentage of excess weight loss for patients with BMI 40-50, 50-60 and > 60 kg/m² was 63.3%, 58.3% and 49.9%. In the ensuing 11 years the weight loss is about the same for each group; however the follow-up rates do drop precipitously after 2 years. Complications of: anastomotic leak were 1%, 2% and 3.5%; wound infection 1%, 1.6%, and 6.5%; death 0.5%, 0.1%, and 4.9%; incisional hernia 6.8%, 12.5%, and 10.2% respectively for each group. Resolution of: diabetes was 67%, 58% and 75%; esophageal reflux 100%, 85%, and 100%; hypertension 78%, 48% and 58%; hypertriglyceridemia 60%, 52%, 37%; obstructive sleep apnea 85%, 68.5% and 50%.

Conclusion:

There was a trend suggesting less weight loss the higher the BMI in patients who undergo short-limb gastric bypass during the first year. This did not reach statistical significance, and the differences disappeared over time. Some complications do occur at a higher rate in the superobese. Percentage of patients with resolution of hypertension, hypertriglyceridemia and sleep apnea is significantly less in the superobese.

P21. CHARACTERISTICS OF WEIGHT LOSS AND BODY COMPOSITION IN PATIENTS WITH MORBID OBESITY UNDERGOING LAPAROSCOPIC GASTRIC BY-PASS (GBP).

Tatiana M Palazuelos, RD; *Enriqueta Carbajal, RD*; Miguel Herrera, PhD
The American British Cowdray Medical Center, Mexico City, Mexico

Background:

The weight loss of patients undergoing gastric bypass (GB) surgery should be primarily from fat mass (FM), minimizing the fat free mass (FFM) loss. The aim of this review was to assess the body weight and body composition of patients undergoing laparoscopic GB at the American British Cowdray (ABC) Medical Center.

Methods:

The patient's weight and body composition were obtained using bioelectrical impedance analysis (BIA), before surgery and one year later. The results obtained were averaged to determine the percentage FM and FFM lost during the 12-month period. Data was included from 26 subjects, 16 women, 10 men that underwent GB from October 2004 to October 2005. The average age was 41(16-61) years.

Results:

The average BMI before surgery was 44.1 (35.3-66) kg/m² and one year after 28.1 (20.6-37.9)kg/m². The percentage of excess body weight loss was 89% for women and 80% for men. The percentage of FM in women before surgery was 48.3 (44.3-56.4) %, one year later 29.9 (20.8-40.8)%. The percentage of FM in men before surgery was 48 (35.6-54.2), one year after 28.2(12.2-32.8). The percentage of FM recommended for women assessed using BIA is 21-36% and for men 8-22%. The initial FFM for all subjects was 65 kg (43.6-134.6) and the following year was 57.1kg (42.8-93).

Conclusion:

There was a significant weight loss in all patients. Women's percentage of FM reached the recommended levels after one year and FFM loss was not significant in both groups.

P22. CLINICAL OUTCOMES FOR ADOLESCENTS UNDERGOING BARIATRIC SURGERY.

Roy J Kim, MD, MPH; Jessica M Langer¹; Kristoffel Dumon, MD¹; Diane E Filter, MSN, MPH¹; David B Sarwer, PhD¹; Noel N Williams, MB, BCh, M¹

Children's Hospital of Philadelphia, Philadelphia, PA; ¹University of Pennsylvania, Philadelphia, PA

Background:

Bariatric surgery is an effective treatment for adult obesity. The medical literature describing the safety and efficacy of bariatric surgery in obese adolescents is limited. Here, we describe clinical outcomes following Roux-en-Y gastric bypass (RYGB) in a cohort of severely obese adolescents.

Methods:

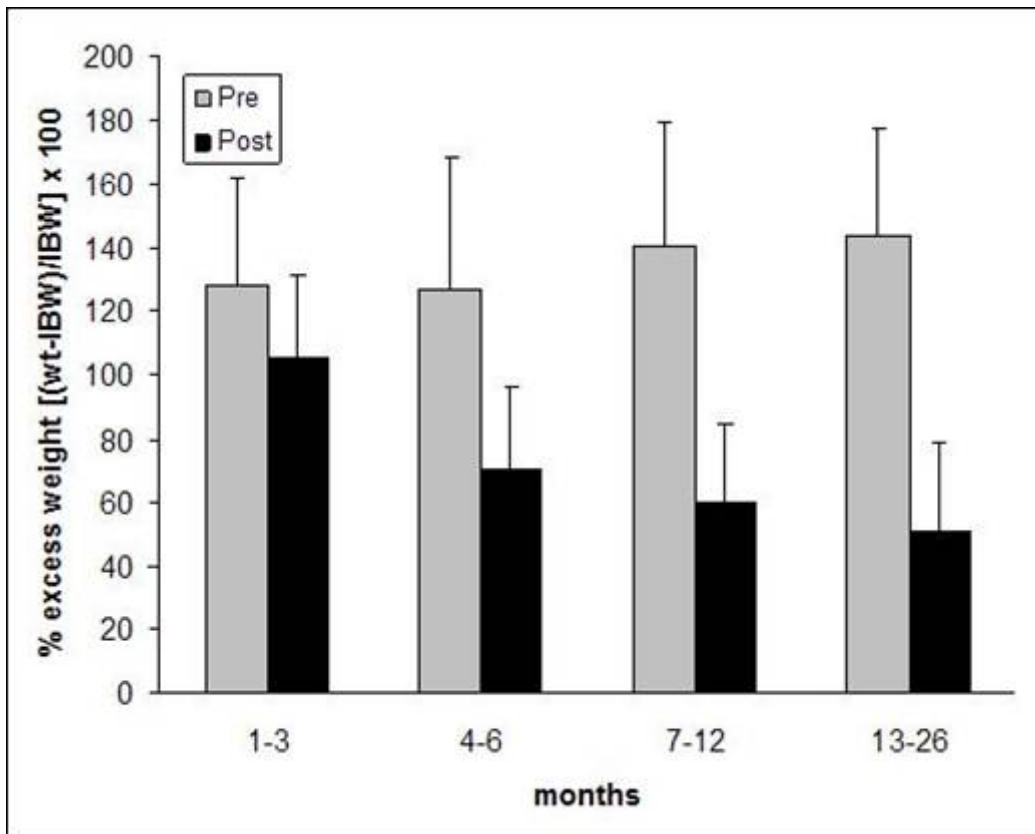
We reviewed clinical charts for patients age 16-21 yrs who had RYGB between 2000 and 2005 at the Hospital of the University of Pennsylvania Bariatric Surgery Program. The following data were abstracted: demographic information, height, weight, medical history, status of comorbid conditions, medications, postoperative complications, and results of a psychosocial evaluation.

Results:

The records of 26 patients were reviewed. The mean age and body mass index (BMI) were 18.8 ± 1.6 years and 51 ± 8.2 kg/m², respectively. Depression, diagnosed from the psychosocial evaluation, was the most common serious comorbidity (62%), followed by obstructive sleep apnea (58%), hypertension (46%), and diabetes (34%). Mean excess weight loss was 18% at 1-3 months, 44% at 4-6 months, 57% at 7-12 months, and 65% at 13-24 months (see figure). The mean BMI at the time of maximal weight loss was 33.2 ± 4.5 kg/m² for patients with at least 6 months of follow-up data. Morbidity included one patient who sustained a pulmonary embolism and underwent caval filter placement, and one patient who developed a sacral decubitus ulcer. There were no other significant complications and no patient deaths.

Conclusion:

Adolescents who underwent RYGB had a high level of preoperative comorbidity. The weight reduction experienced by obese adolescents following RYGB is similar in magnitude to what is observed in adults.



P23. GASTROGASTRIC FISTULAS: TREATMENT MODALITIES FOR A RARE BUT SERIOUS COMPLICATION IN THE ERA OF DIVIDED LAPAROSCOPIC GASTRIC BYPASS SURGERY.

Mathieu D'Hondt, MD; Franky Vansteenkiste, MD; Frank Van Rooy, MD; Dirk Devriendt, MD
AZ Groeningehospital, Kortrijk, W-Vlaanderen Belgium

Background:

Gastrogastric fistulas are a serious but rare complication. Since the introduction of divided stapling devices the incidence of gastrogastric fistulas has decreased significantly. But there is no clear consensus on the treatment of this complication

Methods:

We report a series of 452 consecutive laparoscopic Roux-en-Y gastric bypasses. The stomach was completely divided. All stapler lines were oversewn at the gastroenterostomy and at the enteroenterostomy.

Results:

The course of six of our patients was complicated by gastrogastric fistulas (1.1%). Five patients had the gastric bypass as the initial operation and one patient had the gastric bypass to revise a vertical banded gastroplasty with a gastrogastric fistula. In two cases early (< 30 days postoperative) fistulas occurred which were treated with Somatostatin, total parenteral nutrition, antibiotics and high dose proton pump inhibitors. The other three cases were late fistulas (>30 days postoperative). Their treatment was based on the presentation. Two patients underwent reoperation and one patient was treated conservatively. The former regained weight because of the fistula. The latter has had good weight loss but requires high dose proton pump inhibitors.

Conclusion:

In our series the incidence of gastrogastric fistulas was 1.1%. The treatment of gastrogastric fistulas is dictated by the time of occurrence and their presentation. Early fistulas were treated with Somatostatin, total parenteral nutrition, antibiotics and high dose proton pump inhibitors. Late fistulas were treated conservatively with high dose proton pump inhibitors if the patient had good weight loss and no ulcer. If the patient has a non-healing ulcer or when long-term acid suppression therapy is undesirable reoperation should be advised. Reoperation is also advocated for patients who fail to lose weight. For small fistulas endoscopic injection of fibrin sealant can be attempted first.

P24. PRE-OPERATIVE UPPER ENDOSCOPY IN PATIENTS UNDERGOING LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS IS NOT MANDATORY.

Jody M Johnson, DO; Tonya M Carter, RN; Richard W Schwartz, MD; Raymond J Gagliardi, MD
University of Kentucky Medical Center, Lexington, KY

Background:

The preoperative evaluation for morbidly obese patients that are to undergo laparoscopic Roux-en-Y gastric bypass (LRYGB) has often included an esophagogastroduodenoscopy (EGD). However, the routine use of EGD in the work-up prior to LRYGB remains controversial. The purpose of this study was to discover if pre-operative EGD produced significant change in the surgical management of LRYGB patients.

Methods:

A retrospective analysis of consecutive patients undergoing LRYGB from March 2002-July 2003 at a single institution was conducted. All of the upper endoscopies were performed by two experienced surgeons.

Results:

During the 17 month study period, 81 patients underwent evaluation with EGD and subsequent LRYGB, respectively. The average age of the patients was 39.7 years (range 20-60). The average BMI was 50.2 (range 38-62) kg/m². At our institution, the average hospital cost of an EGD with and without biopsy is \$3,732 and \$3,038, respectively. Findings at EGD included hiatal hernia in 10 (12.3%), gastritis in 7 (8.6%), esophagitis in 5 (6.2%), gastric polyp in 1 (1.2%) and duodenal polyp 1 (1.2%). These endoscopic findings (2 with *H. pylori* and 1 with polyps) altered the preoperative management in only 3 patients (3.7%). None of the patients required a change in intra-operative technique.

Conclusion:

The routine use of EGD in the evaluation of morbidly obese patients is expensive, has a low diagnostic yield and is not necessary in every patient undergoing LRYGB.

P25. OPEN RNY GASTRIC BYPASS PROVIDES EXCELLENT SHORT TERM OUTCOMES IN PATIENTS WITH BMI ≥ 65 KG/M².

Peter T Hallowell, MD; Thomas A Stellato, MD; John J Jasper, MD; Margaret Schuster, RN; Kristen Graf, RN; Ann Robinson, BA
University Hospitals Case Medical Center, Cleveland, OH

Background:

Bariatric surgery has become increasingly popular in the treatment of morbid obesity and its co morbid conditions. Controversy remains over the appropriate procedures for patients especially those who are super morbidly obese. We report our experience with open Roux-en-Y gastric bypass (RYGB) in patients with a BMI ≥ 65 kg/m².

Methods:

Retrospective review of prospectively maintained database. 962 patients from 1998 – Oct. 2006 were reviewed. Revisions were excluded. 923 patients were identified, of those 54 patients with a BMI ≥ 65 kg/m² and 869 patients with a BMI < 65 kg/m².

Results:

Demographic and complication data are listed below.

Conclusion:

Open RYGB can be performed safely in super obese patients with low morbidity and mortality. In the setting of an experienced program, length of stay and ICU utilization are minimal. The percentage of death, Leak and ICU stay is higher in patients with a BMI ≥ 65 kg/m² verses patients with a BMI < 65 kg/m² these differences were not statistically significant.

	Mean Age	Mean BMI kg/m ²	Mean ASA	Mean OR Time	Mean LOS	ICU Stay	Leak	Death
BMI ≥ 65 kg/m ²	41.1	70.4	2.9	165	3.2	7 %	3.7%	1.9%
BMI < 65 kg/m ²	43.3	49.3	2.9	164	3.3	4.0 %	1.4%	0.2%
P value	NS	<0.0001	NS	NS	NS	NS	NS	NS

P26. COMPLICATIONS, REVISIONS AND MANAGEMENT OF THE OMEGA LOOP BYPASS.

Ramsey M Dallal, MD, FACS and Linda Bailey, PA-C

Albert Einstein Healthcare Network, Philadelphia, PA

Background:

The loop gastric bypass with a Braun enteroenterostomy, the “omega loop bypass,” has no published data with regards to safety, efficacy or outcomes.

Methods:

A case series of four patients with complications from an omega loop bypass were compiled.

Results:

Four patients were seen for complications secondary to an omega loop bypass. All complained of nausea, abdominal pain and food intolerance. On history, all of the patients stated they had had a Roux-en-Y gastric bypass, and only after obtaining operative records as well as radiographic and endoscopic studies was the patients' anatomies appreciated. The primary procedures were performed between 2001 and 2004. All the patients had bile reflux gastritis proven on endoscopy or HIDA scan. Three patients were revised to a Roux-en Y gastric bypass, two by resection of the afferent limb of the loop and one by complete takedown and revision of all anastomoses. A fourth patient had previously undergone a revision to a Roux-en-Y gastric bypass for severe bile reflux. He had numerous life-threatening nutritional and metabolic complications that necessitated our reversing his anatomy to normal.

Conclusion:

The incidence of complications and outcomes after omega loop bypass is unknown. Surgeons contemplating revisional surgery should obtain previous operative records as well as perform radiographic and endoscopic studies, as clinically important anatomic variations of the gastric bypass are sometimes performed. We see no advantages to the omega loop bypass over several standard procedures that are supported through evidence-based medicine.

P27. LAPAROSCOPIC SLEEVE GASTRECTOMY IN THE TREATMENT OF MORBID OBESITY: EARLY RESULTS.

Ralph Peterli, MD; Bettina Uglioni, MD; Beatrice Kern, MD; Thomas Peters, MD¹; Markus von Fluee, MD
Surgical Clinic, St. Claraspital, Basel, BS Switzerland; ¹Interdisciplinary Centre of Nutritional and Metabolic Diseases, St. Claraspital, Basel, Switzerland

Background:

Laparoscopic sleeve gastrectomy (LSG) is the restrictive part of biliopancreatic diversion duodenal switch (BPD) that has recently been used as an isolated operation in a staged therapy concept. We investigated early results of LSG in a prospective pilot study.

Methods:

Between 6/04 and 10/06 LSG was performed on 52 pts, 23 times after failed gastric banding, 71% were female, mean age was 43 (24-64) years, mean initial BMI 49 (38-58) kg/m². Mean follow-up time was 9 (1-25) months, the rate was 100%.

Results:

Mean operative time was 101 (70-200) minutes for primary LSG. No intraoperative complications were observed. There was one conversion to an open procedure. Early morbidity was 8% (dysphagia: 1, portal vein thrombosis: 1, non-surgical: 2). Mean BMI loss 12 months postop. was 12 kg/m² following LSG, corresponding to an excessive weight loss of 54% respectively. Up to date laparoscopic BPD had to be performed twice after insufficient weight loss following LSG.

Conclusion:

LSG is a safe initial bariatric procedure in a staged concept and has the potential to be sufficient as definitive operation in some patients.

P28. COMPLICATIONS FOLLOWING MINI-GASTRIC BYPASS IN 2,804 PATIENTS: PART 1 - SHORT TERM (LESS THAN 30 DAYS).

Robert Rutledge, MD

The Centers for Laparoscopic Obesity Surgery, Henderson, NV

Background:

The Mini-Gastric Bypass is still a relatively new bariatric procedure. A 9 year experience with the Mini-Gastric Bypass (MGB) allows a good overview of the risks and complications seen in the post operative period. This is the first of two studies describing the short and long-term complications of the operation.

Methods:

The study population consisted of 2,804 patients that underwent Mini-Gastric Bypass over a 9 year period from 1997 through 2005. Measurements included outcomes and complications.

Results:

The overall rate of complications was low at 4.36%. The complications found were: Leaks 29 (1.02%), Bleeding 16 (0.56%), Dyspepsia/Gastritis 8 (0.28%), Pneumonia 8 (0.28%), Pulmonary Embolus 5 (0.19%), Thrush 5 (0.19%), DVT 5 (0.19%), Pain 3 (0.09%), Bad Taste 3 (0.09%), Port Site Infection 3 (0.09%), Port Site Bleeding 3 (0.09%), Other 3 (0.09%), Port Abscess 3 (0.09%), Re-exploration 3 (0.09%), Infection 3 (0.09%), Port Leak 2 (0.07%), Hemorrhoids 2 (0.07%), Fever 2 (0.07%), Failed Intubation 2 (0.07%), Drug reaction 1 (0.04%), Dehydration 1 (0.04%), C Diff Infection 1 (0.04%), Bowel Injury 1 (0.04%), Ulcer 1 (0.04%), Ileus 1 (0.04%).

Conclusion:

This study delineates the spectrum and frequency of complications after MGB. The most frequent complications after MGB, leaks, bleeding, dyspepsia and pneumonia occur rarely 1%, 0.6%, 0.3% and 0.3% respectively. This study shows that the MGB has a low rate of short-term complications.

P29. SIZE DOESN'T MATTER: LACK OF CORRELATION BETWEEN GASTRIC POUCH SIZE AND WEIGHT LOSS AFTER LAPAROSCOPIC GASTRIC BYPASS.

Elizabeth A O'Connor; *Arthur M Carlin, MD*; Jeffrey A Genaw, MD
Henry Ford Hospital, Detroit, MI

Background:

Controversy exists in the literature regarding the influence of gastric pouch size on weight loss after gastric bypass (GB). The purpose of this study was to determine if the anatomical volume of the gastric pouch correlates with weight loss 1 year after laparoscopic GB.

Methods:

We prospectively collected intraoperative data on gastric pouch size during laparoscopic GB in 231 morbidly obese patients. Construction of a lesser curve based gastric pouch was done utilizing an orogastric tube for sizing and diameter determination. The height of the cylindrical pouch was measured by the number of staple fires.

Results:

The mean age was 45 ± 10 ; 90% women and 68% white. Mean preoperative BMI was $48 \pm 6 \text{ kg/m}^2$. The %EWL 1 year after GB was 66%. Calculated gastric pouch volume ranged between 10 and 20 ml. There was no significant difference in %EWL at 1 year based on gastric pouch size. Pouch size was not dependant on age, gender, preop weight or BMI. There was a significant inverse correlation between %EWL and both preoperative weight and BMI ($p < 0.001$). Blacks had significantly smaller gastric pouches as compared to whites ($p = 0.001$), however, whites had significantly greater %EWL at 1 year as compared to blacks (67% vs. 61%; $p = 0.016$).

Conclusion:

The size of the gastric pouch does not correlate with %EWL 1 year after laparoscopic GB.

Gastric pouch size (ml)	10	12.5	15	17.5	20
# of patients	4	54	135	26	12
% EWL at 1yr	68.5±22	66.9±16	65.3±16	66.0±14	62.0±14
p = 0.8746					

P30. ITALIAN MULTICENTRIC EXPERIENCE OF ROUX-EN-Y GASTRIC BYPASS ON VERTICAL BANDED GASTROPLASTY: 4 YEAR RESULTS OF AN EFFECTIVE AND SAFE INNOVATIVE PROCEDURE WHICH ENABLES ENDOSCOPY AND TRADITIONAL X-RAY STUDY OF THE BYPASSED STOMACH AND BILIARY TRACT.

Stefano Cariani, MD¹; Patrizio Palandri, MD²; Edoardo Della Valle, MD³; Alberto Della Valle, MD⁴; Leonardo Di Cosmo, MD⁵; Carlo Vassallo, MD⁶; Antonio Caminiti, MD⁷; Enrico Amenta, MD⁸

¹University of Bologna, Bologna, Italy; ²General Hospital of Pistoia, Pistoia, Italy; ³General Hospital of Reggio Emilia, Reggio Emilia, Italy; ⁴General Hospital of Stradella (PV), Stradella (PV), Italy; ⁵University of Siena, Siena, Italy; ⁶Private Hospital Morelli, Pavia, Italy; ⁷General Hospital of Montebelluna, Montebelluna (TV), Italy; ⁸University of Bologna, Bologna, Italy

Background:

Cancer, perforation and bleeding in the bypassed stomach after RYGBP are rare but serious complications that need early diagnosis. The goal was to perform a Gastric Bypass where the traditional endoscopic and x-ray study of the gastric remnant would be possible, and at the same time, obtain a good result in terms of weight loss as found in standard RYGBP procedures.

A previously published study demonstrated that complete occlusion of the gastro-gastric outlet wasn't necessary to lose weight. We have developed a Roux-en-Y Gastric Bypass on Vertical Banded Gastroplasty (RYGBP on VBG) in open surgery.

Methods:

Since 2002, 289 patients with mean age $50,5 \pm 14,8$ SD years, mean BMI $51,4 \pm 7,3$ SD kg/m², mean EBW% $107,3 \pm 36,7$ SD underwent RYGBP on VBG as a primary procedure.

Results:

The follow-up included radiological, and if necessary, endoscopic studies at six months, one year, and every year postoperatively. Two cases of anastomotic ulcer were detected, but no cases of infection of the prosthetic material were found. Mean EWL% was $36,2 \pm 18,8$ SD after six months, $49,0 \pm 17,7$ SD after one year, $63,3 \pm 23,9$ SD after two years, $66,9 \pm 17,5$ SD after three years and $70,0 \pm 17,7$ SD after four years. The weight loss curve, compared to standard RYGBP, is similar.

Conclusion:

RYGBP on VBG results are as effective as traditional RYGBP, while allowing the traditional x-ray and endoscopy of the bypassed stomach, and therefore the biliary tract, of every patient. This is the fundamental aspect of this new procedure

P31. WEIGHT LOSS OUTCOMES UTILIZING A STANDARDIZED ROUX-LIMB LENGTH: A COMPARISON BETWEEN SUPER-OBESE AND NON-SUPER OBESE PATIENTS UNDERGOING LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS.

Soo Hwa Han, MD; Nicole Basa, MD; Amir Mehran, MD; Lubna Suleman, MD; Darshni Vira, BS; Ian Soriano, MD; Carlos Gracia, MD; Erik Dutson, MD
David Geffen School of Medicine at UCLA, Los Angeles, CA

Background:

In the laparoscopic Roux-en-Y gastric bypass (LRYGB), the ideal alimentary limb length is unknown. Controversy exists regarding whether various body mass index (BMI) ranges require different alimentary limb lengths for optimum weight loss results. At our institution, an 80 centimeter (CM) Roux-limb is created for both the super-obese (BMI ≥ 50 kg/m²) and non-super obese (BMI < 50 kg/m²) patients. We hypothesized that this approach will result in comparable weight loss results.

Methods:

Between January 2003 and June 2006, 835 LRYGBs were performed. One year follow-up data was available in 246 patients. The patients were divided into two groups: Group I - 167 patients with BMI < 50 kg/m² (average= 43, range 35-49); and group II - 79 patients with BMI ≥ 50 kg/m² (average= 54, range 50-82). Their demographic, comorbidity, excess body weight loss (%EBWL), and peri-operative complications were collected into a prospective database and retrospectively reviewed.

Results:

The two groups were comparable in age, sex, pre-operative comorbidities and post-operative complications. The average EBWL was 76% (range 8-100%) in group I and 54% (range 16-99%) in group II (p= .0075).

Conclusion:

With a standardized 80 CM Roux-limb, weight loss results were inferior in the super obese group when compared to their non-super obese counterparts. These results have prompted us to make a programmatic change by creating a longer Roux-limb length in super obese patients.

P32. LAPAROSCOPIC GASTRIC BYPASS IN A GROUP OF PATIENTS AVERAGING MORE THAN 70 YEARS OF AGE.

Viet H Nguyen, BS; Jorge L Sosa, MD; Nancy Rubio, CST
Palmetto General Hospital, Hialeah, FL

Background:

Bariatric surgery was determined to be safe and effective by the Medicare Coverage Advisory Committee, but additional data was requested on older patients. There are few published results of gastric bypass procedures on the elderly Medicare population. To add to the existing literature we looked at our results of laparoscopic gastric bypass (LGB) in patients averaging greater than 70 years of age.

Methods:

We reviewed our prospectively collected database for all patients 69 years or older. All patients underwent LGB. We analyzed the data for hospital stay, morbidity, mortality, and excess weight loss.

Results:

Out of a total of 1260 patients operated between the years 2001 and 2006 there were 17 aged 69 years or older (1.3%). This subgroup of older patients had an average age of 72 years (69-75). The preoperative BMI averaged 47.5 (36-59) kg/m². The in hospital complication rate was 6%. Hospital length of stay averaged 3.3 days (2-8). There were no deaths. Weight loss data was available in 13 patients with a median follow-up of 12 months (1-54). Excess weight loss averaged 56%. This was associated with resolution or significant improvement of comorbidities.

Conclusion:

In our small group of elderly patients, LGB has proven to be a safe and effective operation. Our zero percent mortality rate and low morbidity rate is comparable to younger age groups. It also resulted in excellent weight loss and resolution of comorbidities. Age alone should not be a contra-indication to LGB. The maximum age acceptable is yet to be determined.

P33. EFFICACY OF LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS (LRYGB) IN OBESE PATIENTS WITH A PREVIOUS FUNDOPLICATION.

Patricio Eduardo P Donnelly, MD; Javier J Salgado, MD; Daniel D Gagne, MD; Pavlos P Pappasavas, MD; Philip PF Caushaj, MD
The Western Pennsylvania Hospital, Pittsburgh, PA

Background:

LRYGB has proved to be effective against GERD in obese patients, and has become one of the most common options for surgical treatment of obesity. The aim of this study is to evaluate the feasibility and efficacy of LRYGB in obese patients with previous fundoplication.

Methods:

Single institution retrospective analysis of patients with previous fundoplication undergoing LRYGB. The variables analyzed were age, gender, BMI, operative time, length of hospital stay, morbidity and mortality. Postoperative symptoms associated with GERD were evaluated by a telephone questionnaire.

Results:

Between July 1999 and July 2006, 1,139 patients underwent LRYGB. Seven patients had a previous fundoplication. There were 6 females, 1 male, with a median age of 43 years, BMI of 44 (range 36-50) kg/m². The mean operative time was 186 minutes and median length of hospital stay 2 days. There were no intraoperative complications and no conversions to open surgery. The morbidity was 28% (n=2). There were no postoperative deaths. The mean Excess Weight Loss was 58%, 79% at 6 and 12 month respectively. Patients who were symptomatic (n=3) before surgery, improved their reflux symptoms post-operatively. Two were asymptomatic preoperatively, of whom, 1 remained asymptomatic and the other experienced worsening of his reflux after surgery. We were unable to complete the telephone questionnaire in 2 patients.

Conclusion:

Despite the considerable complication rate of LRYGB in obese patients with previous fundoplication, this technique is feasible, achieves an effective weight loss and contributes to maintain asymptomatic or improve GERD symptoms in most patients.

P34. DIAGNOSTIC LAPAROSCOPY IS SAFE AND EFFECTIVE FOR THE DIAGNOSIS OF ABDOMINAL PAIN FOLLOWING LAPAROSCOPIC ROUX-EN Y GASTRIC BYPASS.

Kimberely E Steele, MD; Michael A Schweitzer, MD; Anne Lidor, MD; Gregory P Prokopowicz, MD; Molly Sebastian, MD; Thomas Magnuson, MD
Johns Hopkins Univ, Baltimore, MD

Background:

The approach to the patient with unexplained abdominal pain following laparoscopic Roux-en-Y gastric bypass remains a subject of debate. Despite the acquisition of an appropriate history and physical examination and the use of radiographic studies, the definitive diagnosis may remain unclear. We have found diagnostic laparoscopy to be a safe and effective tool, and have used it liberally for the diagnosis and treatment of post-operative complications following laparoscopic gastric bypass.

Methods:

We performed a review of one surgeon's experience with diagnostic laparoscopy following laparoscopic Roux-en-Y gastric bypass. Data were collected prospectively from March 2003 to August 2006, during which time 448 consecutive gastric bypasses were performed. Patients were followed for a minimum of one year postoperatively, and were encouraged to report any symptoms, treatments or hospitalizations. The retrocolic retrogastric approach was used for the first 131 patients and the antecolic antegastric approach for the remaining 317. All defects were closed at the time of surgery. Diagnostic laparoscopy was performed in all patients who presented with either unexplained abdominal pain or suspicion of gallbladder disease.

Results:

Diagnostic laparoscopy was performed after 37 of the 448 laparoscopic gastric bypass procedures (8.3%). Eight patients (1.8%) required urgent laparoscopy in the immediate postoperative period; four of these had suspicion of bleeding and four had suspicion of a post-operative leak. At laparoscopy, no leaks were found in any of these patients. Following discharge, diagnostic laparoscopy was performed in 29 additional patients (6.5%). One patient had a small bowel obstruction, two had internal hernias, and fifteen (41%) had no identifiable pathology. Both patients with internal hernias had the retrocolic retrogastric approach. None of the 11 patients who underwent laparoscopic cholecystectomy with concomitant exploration for internal hernia were found to have any complications. No complications occurred that were directly attributable to diagnostic laparoscopy.

Conclusion:

Diagnostic laparoscopy for unexplained abdominal pain following laparoscopic Roux-en-Y gastric bypass is safe and reliable, and provides a definitive diagnosis of intra-abdominal pathology after gastric bypass. Despite the frequency of negative findings, the potential to identify life-threatening complications justifies its widespread use.

P35. LIVER FUNCTION TESTS AND METABOLIC SYNDROME: IS THERE A DIFFERENTIAL EFFECT AFTER GASTRIC BYPASS?

Betsy Encarnacion, BS; Eric Ketchum, BS; Judith C Hagedorn, MHS; John M Morton, MD,MPH
Stanford School of Medicine, Stanford, CA

Background:

Morbid Obesity is a leading public health concern and gastric bypass has been proven to be an effective treatment for this disease. Little is known about the interplay between weight loss, liver function tests and metabolic syndrome. The study aim was to examine the effect of surgically induced weight loss upon liver function tests.

Methods:

Serological and clinical records for 184 gastric bypass patients were reviewed. All patients underwent laparoscopic gastric bypass surgery by a single surgeon. Patient demographics included average age 43, 82% female, average pre-op BMI 49 kg/m², and 12 month BMI was 31 kg/m². Liver function was measured by total bilirubin, alkaline phosphatase, AST and ALT and complete lipid panels were obtained. Patients were divided into two groups: those with and without Metabolic syndrome as denoted by a Triglyceride/HDL ratio > or < 3.5.

Results:

There were statistically significant differences between AST and ALT at baseline and at 3, 6, and 12 months. There were no significant differences in post-operative Total Bilirubin levels. These changes in liver function test were further influenced on the basis of a metabolic syndrome diagnosis. The results are summarized in the table below.

Conclusion:

In this study, there were slight increases in AST and Alkaline Phosphatase for gastric bypass patients post-operatively at 3, 6, and 12 months while mild decrease was noted in ALT at 3, 6, and 12 months. The diagnosis of metabolic syndrome did affect AST and ALT primarily and Total Bilirubin did not demonstrate any significant changes. Liver function surveillance in the post-operative gastric bypass should include AST and ALT.

P36. ANALYSIS OF COMPLICATIONS FOLLOWING USE OF INSULIN DRIP TO ACHIEVE GLYCEMIC CONTROL IN GASTRIC BYPASS PATIENTS.

John D. Angstadt, MD, FACS

Memorial Health University Medical Center, Savannah, GA

Background:

Infection is a well known risk following gastric bypass. Tight glycemic control using insulin drips has substantially reduced the risk of deep sternal wound infections in cardiac bypass surgery. We initiated an insulin drip protocol on our bariatric patients to decrease infection.

Methods:

A retrospective review was conducted of all gastric bypass cases performed at our institution between May 1, 2004 and September 30, 2006. All cases were done with a standard operative protocol and all received the same postoperative care. Beginning August 26, 2005, our institution started a glycemic control protocol in our bariatric patients. We compare complication rates before and after implementing the glycemic control protocol. Statistic analysis was performed using chi square test.

Results:

198 patients underwent Roux-en-Y gastric bypass to treat morbid obesity during the study period. 97 patients had surgery before the glycemic control started and 101 had surgery after the protocol started. Results are as follows:

Conclusion:

Glycemic control with insulin drips significantly reduced overall complication rates. The majority of those complications eliminated are infection and ventral hernia formation.

Complication	Pre-Insulin	Post-Insulin	P value
# Cases	97	101	
Infection	19	2	<0.001
Incisional Hernia	6	1	<0.05
Atelectasis	4	2	NS
Stenosis	4	10	NS
Ileus	3	0	NS
Hemorrhage	2	6	NS
Internal Hernia	1	2	NS
Intra-abdominal Abscess	1	0	NS
Bowel Obstruction	1	1	NS
DVT	1	0	NS
Respiratory Insufficiency	0	1	NS
Leak	0	1	NS
Total	42	26	<0.001

P37. APPETITE REGULATION FOUR YEARS AFTER WEIGHT LOSS SURGERY - RESULTS FROM A RANDOMIZED CLINICAL TRIAL.

Torsten Olbers, MD, PhD; Erik Fernstrom, MD; Sten Skogmar, MD; Anna Laurenus, RD; Hans Lonroth, MD, PhD; Jan Karlsson, PhD

Sahlgrenska University Hospital, Gothenburg, Sweden

Background:

Weight loss surgical options, according to the current assumptions, act through either restriction of food intake or decreased uptake of calories from the bowel. The mechanism of action in gastric bypass has, by many, been regarded as restrictive since there is no evidence for calorie malabsorption. However, there are recent studies suggesting an increased physiological satiety signaling after gastric bypass.

Methods:

Twenty-eight subjects who four years previously were randomized to either gastric bypass (n=15) or vertical banded gastroplasty (VBG) (n=13) were interviewed. Using a blinded design, patients were interviewed regarding their appetite regulation, feeding sensations and eating behavior. Special effort was put into defining the different sensations of hunger, craving, satiety, and restriction.

Results:

Gastric bypass patients reported less discomfort when eating and less feeling of restriction when eating compared to VBG patients. Perceived hunger was equal in the two groups while craving seemed to be less pronounced in gastric bypass subjects. The mean excess body weight loss was 79 and 69% respectively after gastric bypass and VBG.

Conclusion:

Patients who underwent gastric bypass experienced less discomfort and less feeling of restriction when eating, yet they lost more weight, compared to VBG patients. This strongly suggests that gastric bypass is not merely a restrictive weight loss surgical procedure but rather acts through altering the sensations of appetite.

P38. LONG-TERM RESULTS OF SCLEROTHERAPY FOR DILATED GASTROJEJUNOSTOMY AFTER GASTRIC BYPASS.

Laurie Spaulding, MD

Fletcher Allen Health Care and University of Vermont, Burlington, VT

Background:

One potential contributor to weight gain after gastric bypass has been dilation of the gastrojejunostomy. Endoscopic sclerotherapy of the gastrojejunostomy has been demonstrated to result in decrease in diameter of the gastrojejunostomy and provide weight loss or cessation of weight gain in 6 month follow-up. We now report the results 6 months to 5 years after sclerotherapy.

Methods:

Endoscopic sclerotherapy by single surgeon was performed on 118 gastric bypass patients from 2001 to 2006. The procedure was performed by endoscopic measurement of gastrojejunostomy. If greater than 10 mm in a patient with no evidence of staple line disruption, sclerotherapy was performed. Sodium morrhuate was injected in 1 cc increments circumferentially around in gastrojejunostomy in the muscular wall of the stomach. Percent excess weight loss was measured before and serially after this procedure for 6 months to 5 years after the procedure.

Results:

The procedure was performed on 118 patients over the study period. The mean pre-procedural diameter of the gastrojejunostomy was 15mm (range 11-24 mm). The mean increase in percent excess weight loss was 1.63% (range was decrease of 4.0% to increase of 8.6%). 73% of patients lost weight or stopped gaining weight.

Conclusion:

Endoscopic sclerotherapy provides weight loss or stabilizing of weight in most patients with a dilated gastrojejunostomy after gastric bypass.

P39. LONG TERM OUTCOME OF LAPAROSCOPIC BARIATRIC SURGERY IN ELDERLY PATIENTS AT UNIVERSITY SETTING.

Yong Kwon Lee, MD; Atif Iqbal, MD; Dimitrios Katsavelis, MS; Jon Thompson, MD; Corrigan McBride, MD
University of Nebraska Medical Center, Omaha, NE

Background:

Morbid obesity has been described as a continuing epidemic affecting a growing portion of our population. Age ≥ 55 years is considered a relative contraindication for bariatric surgery. The aim of the present study is to report long term outcome of laparoscopic gastric bypass in elderly patients at a University setting.

Methods:

This is a retrospective study in a university setting with IRB approval. Between 2001 and 2006, 74 elderly patients ≥ 55 years underwent laparoscopic gastric bypass. Data were collected using patient charts, and radiographic reports. Variables included were age, sex, follow up time (FT), post-operative complications in less than 30 days (PCL30), and post-operative complications in more than 30 days (PCM30).

Results:

Current follow-up mean (\pm SD) available on 74 patients (9 male and 65 female) was 27.7 (± 13.5) months. Age was 60 (± 4.5). PCL30 reported was 9.5% (abscess n = 3; DVT n = 1; dehiscence n = 1; respiratory failure n = 5; leak n = 3), while PCM30 was 20.3% (hernia n = 2; stenosis n = 4; ulcer = 12).

Conclusion:

Laparoscopic gastric bypass in elderly patients can be performed safely with low rates of complications including abscess, DVT and leak. Our long-term outcomes show a low rate of complications comparable to the short-term data available in the literature.

P40. THE ROLE OF EARLY ROUTINE UPPER GASTROINTESTINAL CONTRAST STUDIES AFTER LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS.

*Iswanto Sucandy, MD; Olga Tucker, MD; Samuel Szomstein, MD; Raul J Rosenthal, MD
Cleveland Clinic Florida, Weston, FL*

Background:

Routine performance of upper gastrointestinal contrast studies (UGI) after laparoscopic Roux-en-Y gastric bypass (LRYGB) is controversial. At our center, a routine UGI is performed on postoperative day (POD) 1 after LRYGB.

Methods:

A retrospective review of a prospectively maintained database was performed from January 2004 to October 2006 on all patients undergoing primary LRYGB.

Results:

995 patients underwent LRYGB; mean age: 43 (range 17-81) years, mean BMI: 49 (range 37–90) kg/m², M:F 1:3. POD 1 UGI demonstrated pathology in n=6; gastrojejunal anastomotic (GJA) stenosis in 4 (complete n=2, incomplete n=2), jejunojejunostomy anastomotic (JJA) stenosis in 2, suspected pouch staple line leak in 1. The pouch staple line leak was unconfirmed on abdominal CT and the patient remained well (false positive rate 0.1%). Of the 2 patients with complete GJA obstruction, repeat UGI 4 days later was normal suggesting anastomotic edema. Only 1 patient required intervention; a percutaneous gastrostomy was inserted in the remnant in 1 patient with JJA stenosis, which was complicated by gastric wall leak requiring laparotomy. A further 8 patients with a negative POD1 UGI were diagnosed with a GI complication at a mean of 3.5 (range 2-6) days after surgery; GJA leak n=1, JJA stenosis n=7. Surgical intervention was required in all 8; conversion n=2, laparotomy n=3, laparoscopy n=3.

Conclusion:

POD1 UGI after LRYGB had a negative predictive value of 99%, a false positive rate of 0.1%, and a false negative value of 0.8%. It accurately assessed anastomotic patency and early leaks. However, a negative study may not diagnose evolving complications, therefore continued careful clinical evaluation is essential.

P41. USEFULNESS OF LIQUID DIET PRIOR TO LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS.

Molly F Wangsgaard, MS, RD; Jennifer G Ginnings, RN; Christian R Ketel, MSN, NPC; Alfonso Torquati, MSCI, MD; William O Richards, MD, FACS
Vanderbilt University Medical Center, Nashville, TN

Background:

This study assesses the weight loss resulting from a high protein, liquid diet prior to laparoscopic Roux-en-Y Gastric Bypass (RYGB) surgery, as well as the impact on operating time and incidence of macroscopic fatty liver disease.

Methods:

During the pre-operative nutrition assessment, 80 RYGB patients (19 male, 61 female) were instructed to follow a liquid diet for 4-11 days (7.6 ± 1.3 days) prior to surgery. The liquid diet consisted of six, skim milk-based drinks per day (approximately 930 kcal, 75 g protein) plus > 48 oz very low calorie (≤ 5 kcal/8 oz) liquids. Body weights were obtained at the assessment (within six weeks of surgery) and the day of surgery.

Results:

The prescribed liquid diet resulted in 4.5 ± 1.2 kg weight loss over 7.6 ± 1.3 days, which was a loss $3.0 \pm 0.02\%$ of excess weight. Compliance of the diet was stressed but not monitored; and therefore, some noncompliance was anticipated. Seven (9%) of the patients did not lose weight prior to surgery. After the implementation of the preoperative weight loss program, the average operating time decreased 15.5 ± 6.9 minutes ($p < 0.05$) and the rate of concurrent liver biopsy for fatty liver diseases decreased from 21% to 13% ($p < 0.05$).

Conclusion:

The majority of RYGB patient candidates can lose weight on an 8-day liquid diet, which results in shorter operating times and decreased incidence of macroscopic fatty liver disease.

P42. SIMPLIFIED GASTRIC BYPASS APPROACH TO MORBID OBESITY – 2500 CASES.

Almino Ramos, MD; Manoel Galvao Neto, MD; Manoela Galvao, MD; Andrey Carlo, MD; Edwin Campos, MD; Marcus Lima, MD; Abel Murakami, MD; Marcelo Falcao, MD
Gastro Obeso Center, Sao Paulo, Brazil

Background:

The gastric bypass is considered the golden standard in the treatment of morbid obesity. It is considered one of the most complex procedures in laparoscopy. So, any maneuver, or approaches who can improve its feasibility are welcome. AIM: Evaluate initial results of Simplified Gastric Bypass (SGB) approach

Methods:

From December of 2001 to November of 2005, 2500 SGB patients records were analyzed in a retrospective manner, 1080 of them were vertical banded gastroplasty and 1420 were non-banded gastroplasty; 1633 were female, age range from 13 a 65y (M= 38,5y), weight range from 85 a 240 Kg (M= 137 Kg) and BMI were between 36 a 69 Kg/m² (M= 45,8 Kg/m²). The Simplified technique (to be presented) is based in doing all of the anastomoses in the supra-mesocolic floor with the trocars in similar position of lap Nissen procedure.

Results:

There was no conversion to laparotomy at this series. BMI came from a mean of 45,8 to 27,4 Kg/m² (75,1% EWL) on 2y follow-up. Operative time stays between 39 to 154 min (M= 80 min), Hospital stay within 1,5 to 6d (M= 3d). Complications occurred in 1,2% of ulcers, 5,2% of gastrojejunostomy strictures, 1,3% of leakage (0,7% of fistulas and 0,6% of leaks), 0,5% of digestive bleeding, 0,3% of food impaction and 0,3% bowel obstruction. Re-operation was done in 1,5% and there were 0,5% of deaths (3p with pulmonary embolism. e 2p with sepsis due to gastrojejunostomy leakage). There were also 0,15% of silastic ring migration and ring dislodgment on vertical banded gastroplasty patients

Conclusion:

The Simplified Gastric Bypass proved to be at its initial results; safe, with low operative time and efficient in reducing patients BMI with low complication and death rates.

P43. GASTRIC BYPASS AND ITS EARLY EFFECT ON BLOOD PRESSURE.

Ahmed R Ahmed, MD, FRCS; Gretchen Rickards; Thad Boss, MD, FACS; Joseph Johnson, MD, FACS; William O'Malley, MD, FACS; Katharine Price
University of Rochester Medical Center, Rochester, NY

Background:

Gastric bypass surgery is not only one of the most effective methods for obesity treatment, but it also exerts the most significant effect on obesity related comorbidities such as hypertension, curing it in some (50-70%) whilst improving control in others. The earliest documented reduction in BP has been noted 8 weeks post gastric bypass. However our unit has identified a trend of improved blood pressure soon after surgery, before any significant weight loss has been noted. Furthermore patients are discharged on fewer anti-hypertensive medications.

Methods:

Prospective recording of blood pressure measurements was performed in 100 consecutive patients at:

- Pre-operative stage: measured at the time of initial office visit
- Post-op day one: to minimize diurnal BP variation and inter-observer bias, the mean BP was calculated from the routine daily BP measurements performed by nursing staff (Q 4hrs).
- Post-op day two: as above
- Post-op day three (pre-discharge)
- Post-op week 1 (office visit)

Pre and postoperative usage of anti-hypertensive medication was also noted.

Results:

See Table

Conclusion:

Laparoscopic Roux-en-Y gastric bypass has an early impact on blood pressure reducing systolic BP by 9mmHg and diastolic BP by 7mmHg at post-operative week 1. Furthermore, postoperative usage of anti-hypertensive medication is halved by the time of discharge and is reduced to a third of preoperative use by week 1 postop. This beneficial impact on blood pressure occurs before any significant weight loss is achieved thereby suggesting a hormonal mechanism may be involved for the changes observed.

N=100	Preop	Postop day1	Postop day2	Pre-discharge	Postop week1
BP systolic mean \pm s.d.	134 \pm 9	135 \pm 13	135 \pm 10	133 \pm 12	126 \pm 10 **
BP diastolic mean \pm s.d.	84 \pm 9	74 \pm 8	73 \pm 7	75 \pm 8	77 \pm 6 **
Anti-hypertensive usage	71 meds			37 meds	23 meds

** p < 0.05 (paired t test)

P44. COMPARISON OF REINFORCED STAPLE LINES AND NON-REINFORCED STAPLE LINES IN LAPAROSCOPIC ROUX-EN-Y BYPASS SURGERY.

Charlotte A Williams, MD; Tammy L Fisher, RN; Lisa A Kerich, PA; Joseph A Kuhn, MD
Baylor University Medical Center, Dallas, TX

Background:

Circular stapled gastrojejunostomy anastomosis has become a standard technique in bariatric patients undergoing laparoscopic Roux-en-y gastric bypass surgery (LRYGB). Circular staple line reinforcement with remodelable biomaterial has recently become available with the potential for decreased complications. The purpose of this study is to compare reinforced versus non-reinforced staple lines of the gastrojejunostomy.

Methods:

A retrospective review of all patients undergoing LRYGB was performed to compare circular staple line reinforcement using Peri-Strips Dry® with Veritas® Collagen Matrix (Synovis Surgical Innovations) versus non-reinforced staples. The reinforced strips were placed on both ends of the 25 mm circular stapler. Study endpoints included technical success and postoperative complications including strictures, anastomotic leaks, bowel obstructions, fistulas, and bleeding.

Results:

Five hundred twenty five consecutive patients were identified who had LRYGB and were treated using reinforced staple lines (n=55) or non-reinforced staple lines (n=470). Patients characteristics based on BMI, age, and gender were similar for both groups. The dislodgement of the anvil or cartilage staple reinforcement strip (2/55, 3.6% and 0/55, 0%) prior to stapler firing was infrequent. The complications for patients with reinforced versus non-reinforced staple included: strictures 7.2% (n=4) vs. 6.5% (n=31); anastomotic bleeding 3.6% (n=2) vs. 2.7% (n=13); leaks 0% (n=0) vs. 0.6% (n=3); and, gastrogastic fistulas 0% (n=0) vs. 0.2% (n=1).

Conclusion:

These data suggest that successful placement of the staple reinforcement strip is very high (96%-100%) and associated with a slight but non-significant decrease in leak rates. There was no increase in stricture rates or other complications.

P45. SURGICAL RESIDENT EDUCATION: A COMPREHENSIVE APPROACH CULMINATING PROFICIENCY IN THE LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS.

Jason D Slaikeu, MD; Paul Kemmeter, MD, FACS; James A Foote, MD, FACS
GRMERC/MSU General Surgery Residency, Grand Rapids, MI

Background:

Over the past two decades, there has been a significant increase in both the number and complexity of laparoscopic procedures performed within the United States, as exemplified by the increased numbers of laparoscopic Roux-en-Y gastric bypass surgeries. This increase in demand and widened indication for use requires that surgeons receive adequate training. Therefore, the quality of training has become increasingly important for general surgery residents. There have been multiple studies published on various educational techniques used to train the general surgery resident in advanced laparoscopic procedures. However, it has also been noted that many residents do not receive adequate preparation in advanced laparoscopic techniques.

Methods:

This paper describes a comprehensive system of training residents in advanced laparoscopic procedures at a general surgery residency program. The training strategies, both in and out of the operating room, include, but are not limited to: laparoscopic workshops, portable laparoscopic trainers (for home use), early laparoscopic operative experience during residency, a breakdown of the laparoscopic Roux-en-Y gastric bypass into steps, and a process of combining each step to perform the entire surgery efficiently.

Results:

The outlined training has led to the competent and efficient performance of laparoscopic Roux-en-Y gastric bypass procedure by the surgical resident prior to their chief year of surgical residency.

Conclusion:

Surgical residents can combine several learning strategies in a comprehensive manner leading to proficiency in the performance of the laparoscopic Roux-en-Y gastric bypass.

P46. DETERMINANTS OF THE RESOLUTION OF TYPE 2 DIABETES AFTER BARIATRIC SURGERY.

Kerstyn C Zalesin, MD; Peter A McCullough, MD, MPH

William Beaumont Hospital, Royal Oak, MI

Background:

The positive correlation between body mass index (BMI) and type 2 diabetes (T2DM) is well established. The determinants of the resolution of T2DM after bariatric surgery are not fully understood.

Methods:

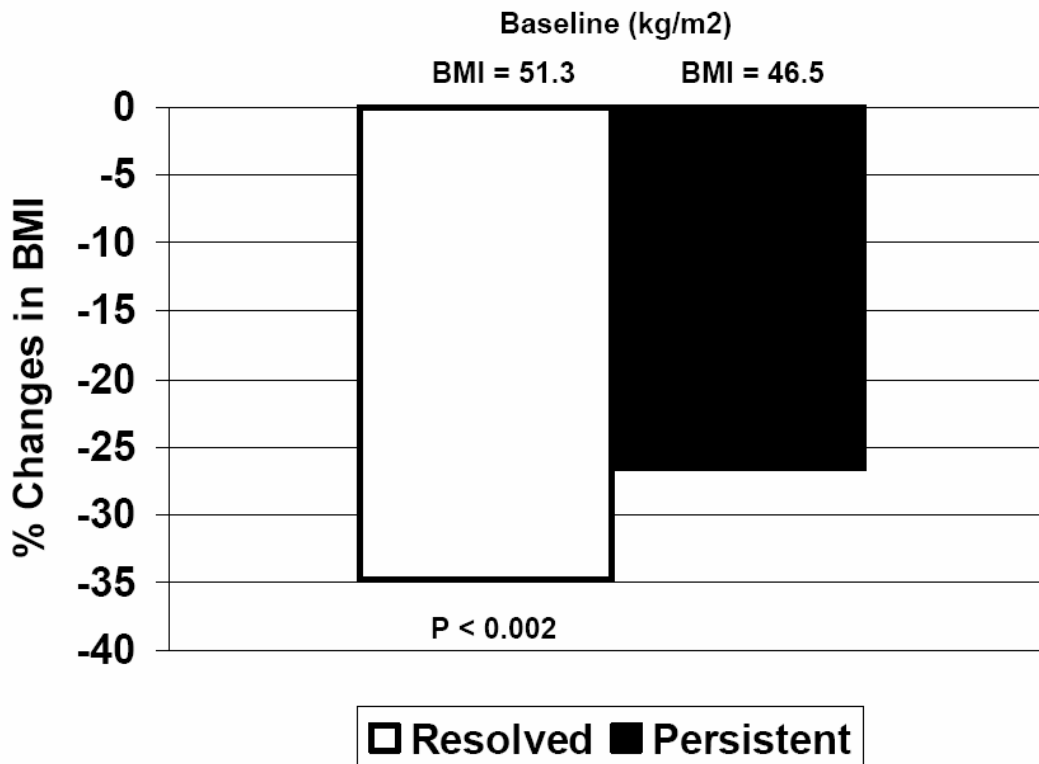
Through a retrospective chart review, 56 morbidly obese, diabetic patients who underwent bariatric surgery were followed for 12 months. Resolution of T2DM was defined as an initial elevated glycohemoglobin (HbA1C) > 6.0% that decreased to < 6.0% with weight loss allowing discontinuation of diabetic medications.

Results:

Of 56 with T2DM, 31 (55.4%) resolved DM. The mean + SD age was 49.0 ± 7.3 and 53.1 ± 7.0 years for resolved and persistent DM, respectively, $p = 0.04$. The baseline BMI was similar for resolved and persistent cases, $51.3 \pm 8.3 \text{ kg/m}^2$ and $46.5 \pm 4.9 \text{ kg/m}^2$, $p = 0.01$. The final BMI was $33.6 \pm 7.6 \text{ kg/m}^2$ and $33.9 \pm 5.2 \text{ kg/m}^2$, $p = 0.87$ for the resolved and persistent cases, respectively. The absolute and relative reductions in BMI were $-17.6 \pm 3.6 \text{ kg/m}^2$ and $-12.6 \pm 6.3 \text{ kg/m}^2$, $p < 0.0001$; and $-34.7 \pm 6.3\%$ and $-26.6 \pm 11.9\%$, $p = 0.002$ for resolved and persistent cases, respectively. Multiple logistic regression found factors such as a higher baseline BMI, $p = 0.006$, lower final BMI, $p = 0.03$, and lower baseline HbA1C, $p = 0.09$, were independent predictors of the resolution of T2DM. There was a spike in HbA1C at 6 weeks in those with resolution of T2DM while there was a curvilinear drop in HbA1C in persistent T2DM with failure to normalize.

Conclusion:

Resolution of T2DM after bariatric surgery is a dynamic process and is associated with substantial weight loss.



P47. IMPACT OF ADDING ROUTINE INTRAOPERATIVE ENDOSCOPY TO LAPAROSCOPIC GASTRIC BYPASS FOR REFRACTORY MORBID OBESITY: MULTICENTER PROSPECTIVE STUDY.

Laura Ludwig, DO; Yannis Raftopoulos, MD; Chris Haughn, MD; Samuel Szomstein, MD; Peter Rovito, MD; Raul Rosenthal, MD; Roberto Bergamaschi, MD
Lehigh Valley Hospital, Allentown, PA

Background:

Laparoscopic Roux-en-Y gastric bypass (LRYGB) for refractory morbid obesity (RMO) may be complicated by a postoperative leak rate at the gastrojejunostomy (GJ) ranging from 0.9% to 5.5%. The aim of the study was to evaluate the impact of adding routine intraoperative endoscopy to LRYGB for RMO.

Methods:

This was an IRB-approved multicenter prospective study. Consecutive adult patients were enrolled from four centers. Primary endpoint was leakage at GJ. Patients underwent intraoperative flexible endoscopy performed by surgeons at completion of surgery. The efferent Roux limb was clamped, the patient was placed in Trendelenburg position, and upper abdomen filled with saline. The scope was advanced through the GJ, and air was insufflated. The required sample size for a 1-year enrollment plus 1-month minimum follow-up with a type I error of 0.05 and a power of 90% was 384 patients.

Results:

Of 385 patients enrolled from July 2005 to August 2006, 1 was withdrawn. Median endoscopy time was 5 min (range 2–20 min). Endoscopy detected an intraoperative leak in 9 (2.3%) of 384 patients; leaks were successfully repaired laparoscopically. Endoscopy avoided conversion to laparotomy in 2 (0.52%) of 384 patients. Conversion rate was 1.6%. Four (1.04%) of 384 patients with normal intraoperative endoscopy developed a postoperative leak at the GJ and underwent reoperation. There were no deaths. There were 15 (3.9%) minor postoperative complications.

Conclusion:

Routine intraoperative endoscopy in LRYGB for RMO identified a 2.3% intraoperative leak rate with successful repair, thus decreasing postoperative morbidity/mortality.

P48. LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS IN HIGH-RISK COUNTRY FOR GASTRIC CANCER.

Kazunori Kasama, MD; Eiji Kanehira, MD; Tetsuaya Kurosaki, MD; Akiko Umezawa, MD; Takashi Oshiro, MD; Yoshimochi Kurokawa, MD
Yotsuya Medical Cube MIS Center, Chiyoda, Tokyo Japan

Background:

Obesity is growing all over the world including Asia. Especially in Asia, growing number of diabetes is one of the biggest problems.

.We have performed three types of bariatric surgery: Laparoscopic Roux-en-Y Gastric Bypass (LRYGB) , Laparoscopic Adjustable Gastric Banding (LAGB) and Laparoscopic Sleeve Gastrectomy (LSG). Our experience with over 100 cases of laparoscopic bariatric surgery shows LRYGB is superior to the others in regarding anti-obesity and anti-diabetic effects. Japan is known as high-risk country for gastric cancer. We have used three procedures for LRYGB and postoperative examination of the remnant stomach.

Methods:

Method1: LRYGB with simultaneous remnant gastrectomy

This procedure was performed for two patients with a multiple family history of gastric cancer.

Method2: Gastric site marker of the surface of remnant stomach.

Recently we put a site marker on the surface of the remnant stomach for the purpose of injection of air in order to perform virtual endoscopy a few years after surgery.

Method3: Double balloon enteroscopy inserted retrograde into the remnant stomach via the jejunostomy. It just 20-30 minutes to enter to the remnant stomach.

Results:

LRYGB with simultaneous remnant gastrectomy is useful for patients at a very high risk of gastric cancer. It only takes 40-50 minutes more than usual LRYGB. But the problem is taking the specimen out from abdominal cavity. A larger incision is required and the rate of infection and incisional hernia will be higher. This procedure should be performed in limited cases. Double balloon enteroscopy is a good method which can only be performed in selected hospitals and the cost is high. Gastric site marker is the easiest way and it takes only 5-8 minutes more and virtual endoscopy is easily performed in Japan. If there is some pathological findings with virtual endoscopy, double balloon enteroscopy should be performed for complete check up and biopsy.

Conclusion:

In high-risk regions for gastric cancer, as in Japan, we suggest three methods for preventing and detecting cancer of the remnant stomach.

P49. PROLONGED WAIT LIST TIMES FOR BARIATRIC GASTRIC BYPASS SURGERY IN CANADA. ARE WE FIGHTING A LOSING BATTLE FOR BARIATRIC SURGERY?

David F Schaeffer, MD/PhD; Chris M Robertson, MD; Anton Rabien, MD¹; Bradley J Amson, MD¹

Department of Medicine, University of British Columbia; ¹Department of Surgery, University of British Columbia

Background:

The prevalence of obesity is increasing globally and has emerged as one of the major health issues in Canada. With the proven cost effectiveness of bariatric surgery, it has become important to treat patients in a timely manner. This study determined the outcome of 224 bariatric patients, with a mean preoperative wait time of 21.2 months.

Methods:

224 consecutive patients who underwent a Roux-en-Y (RY) gastric bypass procedure (1999 to 2005), with a mean postoperatively follow-up of 39 months (12-56 mo) were analyzed in a retrospective fashion. All procedures were performed at a single center, Victoria General Hospital (VGH), by a sole main surgeon (BJA).

Results:

Patient demographics included 192 (86%): 31(14%) [f:m], with a mean BMI of 51 kg/m² (33-92) and a mean surgical wait time of 21.2 months (1-74mo). Throughout the preoperative wait time only three patients were recorded with a 5% decrease in their excess body weight (EBW), despite a rigorous multidisciplinary weight loss approach. Postoperatively patients lost an average of 61% of their EBW, 30% and 72% of patients lost >50% and >75% of their EBW, respectively.

Conclusion:

To the best of our knowledge this paper is the first to describe a long-term follow up study at a single Canadian center with more than 200 patients. It is of interest to note that the patients' weights did not change pre-operatively, despite a careful effort to decrease the BMI. Thus the authors believe, that it is of urgent importance to decrease the preoperative wait time for an effective bariatric procedure.

P50. PATIENT-CENTERED CARE (PCC) AND ITS EFFECT ON GASTRIC BYPASS PATIENT'S LEVEL OF SATISFACTION UPON DISCHARGE.

Debra DW Wolf, MSN, RN and Lisa LL Lehman, BSN, RN

St. Margaret Hospital, University of Pittsburgh Medical Center, Pittsburgh, PA

Background:

Patient-Centered Care (PCC), also known as individualized patient care or negotiated care, focuses on the patient's right to have his/her values and beliefs respected as an individual (Lyon, 1989). This respect is viewed as part of a commitment to build a deep understanding of the patient as a thinking and feeling individual with the ability to change and develop (McCormack, 2003). This adaptation to a patient's personal needs requires the nurse to be flexible, respectful, and reciprocal when providing patient care. If the patient's expectations are not appropriate to the type of care needed or the patient refuses treatment known to influence the quality of care, the nurse must negotiate with the patient. Negotiation incorporates education, which is believed to increase the patient's level of understanding. In addition, negotiation allows the nurse and patient to define a level of treatment that is specific to the patient's needs but still seen as a quality indicator.

The Institute of Medicine (IOM) has listed PCC as one of six national quality aims for improvement (Greiner, A., Ed., & Knebel, F., Ed., 2003). The IOM's vision is that all health professionals will be educated to provide and deliver PCC as part of an interdisciplinary team (Greiner, A., & Knebel, F., editors, 2003). The IOM report recommends a mixture of approaches to achieve their vision (Greiner, A., Ed., & Knebel, F., Ed., 2003). These approaches include an appropriate training environment, research, public reporting and leadership.

In 2006, the Medicare Payment Advisory Commission (MedPAC) began a trial of "Payment for Performance", where healthcare organizations and professionals will be reimbursed for services provided based on the patient's level of satisfaction upon discharge and the level of quality care they received. The goal is to link financial reimbursement to the quality of care and the level of satisfaction of the patient's experience (Report to the Congress, 2005). Institutions and practitioners will be impacted by this method of reimbursement including hospitals, physicians, home health agencies, Medicare Advantage Plans, and dialysis facilities. Four key areas will be measured to assess the level of payment one receives - process, outcomes, structure, and patient experiences. The MedPAC is proposing first a trial and later implement this new type of healthcare reimbursement. Both the IOM and MedPAC seek to improve quality and satisfaction which will then be influenced by the level of reimbursement received.

Although it has been suggested that nurses play a critical role in providing PCC and satisfying patient's needs (McCormack, 2003), there is little evidence to support this assertion. In 1985, Swan, Sawyer, Van Matre and McGee conducted marketing research to determine if one's intent to revisit the same hospital was impacted by patient perceptions of the quality of nursing care or overall level of satisfaction upon discharge.

More recently, Wolf, Miller and Devine (2003) surveyed cardiac patients to determine if perceptions of nursing care directly impacted patient's level of satisfaction. Both studies showed a moderately strong relationship between perceptions of nursing care and patient satisfaction. Findings of these studies provide preliminary support for the assertion that a patient's perception of hospital performance positively impacts expectations and intent to return to the same hospital in the future.

Historically, care of patients both medically and from a nursing perspective has been guided by pathways, or predetermined modules of care which clinicians followed when caring for patients during their acute illness/hospital stay. This research proposal supports a new way of caring for patients that is guided by each patient's individual needs. Potentially using this approach nurses will be able to develop a plan of care that best meets the patient's needs, while improving their level of satisfaction and the quality of their care.

Methods:

This pilot experimental interventional study will use a posttest design to determine the impact of PCC on patient satisfaction, perceptions of nursing care, and quality of care. A sample of 36 participants scheduled for bariatric bypass surgery will be randomly assigned to an experimental or control group. Both groups will complete the Schmidt Perception of Nursing Care Survey (SPNCS) and the Baker & Taylor Overall Satisfaction Scale (BTOSS) prior to hospital discharge. In addition, medical record data will be obtained to determine three measures of quality of care: a) absence of infection (positive culture obtained during hospital stay not present prior to admission); b) absence of falls (any documented fall during hospital stay); and c) hospital length of stay (LOS) < 3 days (average LOS is 2.8 days). The study goal will be to recruit and randomize 36 participants.

Results:

The interventional study began 7-2006. To date (9-25-06) we have 32 of 36 subjects enrolled. We anticipate study completion by 11-2006. After completing the statistical analysis, we will have a summary of results.

Conclusion:

Descriptive statistics using SPSS will be used to describe the sample, their demographics, diagnoses, length of stay, and complications that may have occurred. T-tests will be used to compare differences between responses to the BTOSS and SPNCS in the experimental group and the control group and quality of care measures. Interview data will be analyzed using content analysis and descriptive measures. Results will be used to evaluate/revise the design process, methods, and estimate sample size for a future study. The subject enrollment rate, rate of attrition, national statistics on obesity and demographic statistics of patients undergoing gastric bypass surgery at UPMC St. Margaret will be examined to assist in determining the sample size for the future study

P51. CARPAL TUNNEL SYNDROME ANOTHER REVERSIBLE CO-MORBIDITY OF OBESITY.

Nicholas Jones, MD; Ramsey M Dallal, MD, FACS
Albert Einstein Healthcare Network, Philadelphia, PA

Background:

The overall incidence of females with a diagnosis of Carpal Tunnel Syndrome (CTS) is approximately 3.4%. Obesity is a known risk factor for the development of CTS. The incidence of carpal tunnel syndrome in the morbidly obese is not well described.

Methods:

A retrospective, single institution study of all patients presenting for bariatric surgery evaluation was undertaken to analyze the incidence of CTS and determine clinical predictors of disease

Results:

233 consecutive patients were included in the study. The average BMI was 48 (range 35-70), average age was 42 (16-70), 82% were females. Forty-three patients (18.5%) were previously diagnosed with CTS in one or both hands. Seventeen (40%) had previously undergone carpal tunnel release. Univariate analysis identified CTS to be associated with increasing age ($p=0.0036$), the presence and severity of diabetes ($p=0.014$) and female sex ($p=0.037$) as independent risk factors. Increasing BMI was surprisingly not predictive of the presence of CTS. Fourteen patients had a gastric bypass procedure and did not have a previous carpal tunnel release. The Levine wrist symptom score decreased significantly in these patients $p<0.05$.

Conclusion:

The incidence of CTS is high in the morbidly obese. CTS seems to be another reversible comorbidity of obesity.

P52. OUTCOME OF LAPAROSCOPIC TOTAL VERTICAL GASTRIC PLICATION IN MORBID OBESITY (100 CASES, 3 YEAR FOLLOW UP).

Dr Mohammad Talebpour

Fellowship of Advanced Laparoscopy, Tehran Medical University. Tehran, Iran

Background:

Total vertical gastric plication (TVGP) is a new method of gastric restriction in morbid obesity surgery. The long-term result of TVGP in excessive weight loss (EWL) and its morbidity and mortality is the aim of this study.

Method:

All of cases with BMI over 40 kg/m³ or over 35 kg/m² with comorbidity were included in this study. After resection of the greater curvature, bleeding was controlled by ligature or coagulation and 2-0 nylon continuous suture, 2 cm apart, from the upper part of stomach to 4-5 cm before pylorus. The greater curvature was inverted into the stomach with this suture and the effective remaining volume of the stomach was 50 cc.

Results:

100 cases during 3 years were performed by one surgeon in Laleh Hospital, Tehran, Iran. 90 cases were able to be followed. The mortality rate was zero. Reoperation was required in 3 cases due to leak of suture line, acute gastric perforation and permanent vomiting secondary to adhesions between cardia and liver. Complications occurred in 4 cases and included liver hematoma, jaundice (drug hepatitis, 2 cases), and hypocalcemia. EWL was 25% to 86% (mean=58%, 70 cases) after 6 months, 62% (55 cases) after 1 year, 63% (26 cases) after 2 years and 60% (10 cases) after 3 years.

Conclusion:

TVGP is a safe method with 2% re operation rate due to technique and about 1% related morbidity. EWL in this technique is the same as others.

P53. ACCESSING LAPAROSCOPIC ADJUSTABLE GASTRIC BAND PORTS USING ULTRASONOGRAPHY.

James C Ellsmere, MD; Michael A Edwards, MD¹; Ronit Grinbaum, MD; Benjamin E Schneider, MD; Daniel B Jones, MD
Beth Israel Deaconess Medical Center, Boston, MA; ¹Medical College of Georgia, Augusta, GA

Background:

Accessing the subcutaneous port used to adjust gastric bands is typically performed in an office setting by palpation alone. If the port is not palpable or it is difficult to access with a needle, fluoroscopy can be used to assess the location and orientation of the port and to guide needle access. Other imaging modalities, such as ultrasonography, may be better suited for office based care.

Methods:

We report five cases where ultrasonography was used to image gastric band ports to facilitate needle access.

Results:

A 7.5MHz convex abdominal transducer was used to image the ports. In all five cases we could identify the surface of the port and the base plate. Reverberation artifact was seen in all 5 cases but it could easily be differentiated from the port surface and base plate. We found guiding the needle under direct guidance challenging, particularly for ports that were located <1cm or >4cm below the skin.

Conclusion:

Using ultrasonography to image and access LAGB ports is an alternative to fluoroscopy and it may offer some advantages. It decreases exposure to ionizing radiation and it can be performed readily in the office setting. However, it is not as intuitive to use as fluoroscopy and it is challenging to use to guide needles into ports located < 1cm or > 4cm below the skin.

P54. INITIAL EXPERIENCE WITH BANDED SLEEVE GASTRECTOMY.

JW Alexander, MD, Sc.D; Hope Goodman, MPT

University of Cincinnati Center for Surgical Weight Loss, Cincinnati, OH

Background:

Sleeve gastrectomy is being used more frequently, often as a primary procedure for morbid obesity. The addition of a permanent band might improve results with potentially better sustained weight loss and reduction of long-term complications including malnutrition, hypoglycemia, small bowel obstruction and adhesions.

Methods:

Nine patients underwent banded sleeve gastrectomy (BSG) using Alloderm® (2 x 5-7 cm) as a band over a 38 F bougie 6 cm from the GE junction after sleeve gastrectomy using a 50 F bougie for sizing. Their mean age was 46 years and mean BMI 49.0 kg/m².

Results:

There were no mortalities but one patient had a P.E., felt to be unrelated to the technique. The mean length of stay was 2.4 days for BSG and 3.0 days for controls (median 2 days both groups). All patients had excellent suppression of appetite, control of food intake and resolution of co-morbidities. Mean weight loss and percent decrease in excess BMI compared to 716 recent patients with gastric bypass in our data base were: at 6 weeks 43.2 pounds and 22.3% vs. 42.3 pounds and 23.8%; at 3 months 65.0 pounds and 31.5% vs. 59.8 pounds and 37.1%. Symptoms of esophageal dysfunction or dysphagia were minimal.

Conclusion:

The early short-term experience with BSG shows excellent results, comparable to GBP. Long-term follow-up with more patients is necessary.

P55. WEIGHT LOSS OUTCOMES USING THE SWEDISH AJUSTABLE GASTRIC BAND IN THE MORBIDLY OBESE: SINGLE SURGEON EXPERIENCE IN 774 PATIENTS.

Roy R Brancatisano, MB BS; Sara S Wahlroos, B Med Sc, Tony T Brancatisano, B Appl Sc
Institute of Weight Control, Sydney, NSW Australia

Background:

Numerous studies have reported weight loss outcomes using the Lap-Band System (Inamed Health). We report safety and efficacy data following gastric banding using the Swedish Adjustable Gastric Band (SAGB) (Ethicon, Obtech) in all patients who underwent SAGB since January 2001.

Methods:

Data was collected in 774 consecutive morbidly obese patients who underwent laparoscopic placement of a SAGB (619 females, 155 males) via the '*pars flaccida*' approach by a single surgeon. The preoperative mean age, weight and body mass index (BMI) were 44 years (range: 19-76), 122kg (range: 86-240) and 44 kg/m² (range: 35 to 86), respectively. Patients were followed by a multidisciplinary team consisting of a surgeon, physician, dietician, and exercise consultant, all involved in the evaluation of clinical outcomes. Data are reported as mean \pm SD.

Results:

Average %EWL was 30 \pm 19%, 44 \pm 11%, 53 \pm 9% and 52 \pm 8% at 6, 12, 24 and 36 months, respectively. This represents a fall in BMI of 7, 8, 11 and 9 kg/m² respectively. Only 12% and 10% of patients had matured at 24 and 36 months, respectively. There were 79 super obese patients (BMI of \geq 50 kg/m²) with a preoperative median BMI of 55 \pm 8 kg/m². Following a median follow up of 18 months, BMI decreased to 41 \pm 7 kg/m² and this was associated with a %EWL of 42 \pm 19%. There were no conversions to laparotomy, any peri-operative deaths or deaths during follow up in the entire group. There were 15 (2%) band slips, 14 (1.8%) port revisions, one tube disconnection, 3 (0.4%) pouch dilatations, 3 (0.4%) erosions, and 2 (0.4%) balloon leaks. Two port infections requiring removal. Two patients had a pulmonary embolus. Complication rates were 4.1% and 8.6% for morbidly obese and super-obese patients, respectively. The rate of revisional surgery was 4.8%.

Conclusion:

Laparoscopic gastric banding using the SAGB is a safe and effective treatment for weight loss in morbidly and super-obese patients.

P56. LAPAROSCOPIC BANDING IN EXTREMES OF BMI AND AGE.

Rishi Singhal, MRCS; Alison Guy, MRCS; Mark Kitchen, MBChB; Sandra Nidrika, MBChB; Kathryn Hunt, MBChB; Paul Super, FRCS

Heart of England NHS Foundation Trust, Birmingham, West Midlands United Kingdom

Background:

Laparoscopic Adjustable Gastric Banding is an accepted procedure in the management of morbid obesity. Its application in superobese is questioned. Similarly bariatric surgery in the over 50 age group is questioned by some.

Methods:

Between April 2003 and March 2006, 750 consecutive patients, mean weight 117.8 Kg (range 79 -268 Kg), mean BMI 43.5 kg/m² (range 35 – 88) underwent LAGB. 15.9% of the patients had a BMI ≥ 50 kg/m² and 24% of the patients had age ≥ 50. Excess weight loss was compared between the superobese and obese BMI groups and between the older (≥50 years) and younger patients in the study period. An identical operative technique (single surgeon) and post-operative care were used in all cases. All bands were adjusted fluoroscopically at 3 and 6 months.

Results:

There was significant earlier excess weight loss at 3 months in the higher BMI patients (21% vs. 16%); this difference disappeared subsequently with both groups having similar mean excess weight loss at 18 months of about 40%. There was no significant difference in mean excess weight loss at time intervals following surgery between the ages but the values measured were consistently lower in the older age group. Complications requiring re-operation were seen in 2.4% but were distributed equally among BMI and age range groups.

Conclusion:

These results demonstrate that this procedure is successful in producing effective weight loss and at the same time has a very low complication rate when compared to more invasive bariatric procedures, regardless of BMI and age.

	No.	Preop BMI kg/m²	Preop Weight kg	Excess weight kg	% Excess wt loss@ 3 months	% Excess wt loss@ 6months	% Excess wt loss@ 12months	% Excess wt loss@ 18months
BMI < 50	631	42 ± 4.2	106 ± 15.7	52 ± 12.9	16 ± 10	18 ± 10	25 ± 8.4	35 ± 23.9
BMI ≥ 50	119	56 ± 1.4	150 ± 15.2	93 ± 10.8	21 ± 11.2	30 ± 11	44 ± 2.5	39 ± 8.2
Chi Square	NA	NA	NA	NA	0.005	NS	NS	NS
Age < 50	567	44 ± 6.5	113 ± 22.4	56 ± 19.4	21 ± 11.5	25 ± 12	28 ± 19.8	42 ± 21.7
Age ≥ 50	183	41 ± 4.6	110 ± 13	53 ± 12.6	15 ± 5.4	17 ± 6	25 ± 14.5	23 ± 23
Chi Square	NA	NS	0.003	0.035	NS	0.046	0.009	NS

NS: Not significant

P57. NON-FASCIAL FIXATION TECHNIQUE FOR LAP BAND PORT MAY REDUCE COMPLICATIONS.

Ikram Kureshi, MD; Cesar E Escareno, MD; Ashley H Vernon, MD; Kerri A Clancy, RN; *David B Lautz, MD*
Brigham and Women's Hospital, Boston, MA

Background:

Port site complications are seen in 2-8% of patients undergoing laparoscopic adjustable gastric band (LAGB). Fascial fixation to prevent port rotation may be responsible for some of these complications. We sought to determine if patients with non-fascial fixation of the LAGB port had higher complication rates, in an unblinded, controlled study.

Methods:

264 consecutive patients underwent LAGB with either port fascial fixation or non-fascial fixation. Group 1 patients underwent standard fascial fixation with development of a deep subcutaneous pocket and four corner fascial fixation. Group 2 patients had a superficial subcutaneous pocket created at Scarpa's fascia and four corner non-fascial port fixation. All patients were followed for post-operative port-related complications prospectively.

Results:

Group 1 (n=127) had 7 port related complications, including two patients who needed fluoroscopic guidance for access, three who needed seroma drainage that delayed access, one who needed operative port repositioning, and one who required port removal for recurrent infection. Group 2 (n=137) patients had only one port related complication, which was a port erosion through skin, where the port incision overlapped a previous cholecystectomy incision. This port was re-sited operatively, without subsequent event. All patients in Group 2 were able to undergo port access in the clinic without difficulty. No patients needed fluoroscopic guidance or port repositioning for rotation secondary to non-fascial fixation.

Conclusion:

This study suggests that fascial fixation of the LAGB port may not be necessary and fixation at Scarpa's fascia may provide adequate port fixation, while allowing for potentially easier access, smaller incisions, and fewer complications.

P58. LAPAROSCOPIC GASTRIC BANDING FOR 1800 PATIENTS: 12 YEAR RESULTS TOTAL MORTALITY IN MORBID OBESE PATIENTS TREATED WITH LAP BAND IN A CASE-CONTROL STUDY.

Maurizio De Luca, MD; Gianni Segato, MD; Luca Busetto, MD; Franco Favretti, MD
Universitu of Padova, Padova, Italy

Background:

Outcomes measured over 12 years included mortality, complications, weight loss and resolution/improvement of comorbidities. Life expectancy was evaluated in an adjunct study of LAP-BAND vs. medical therapy

The purpose of this study was to examine 1.800 consecutive laparoscopic adjustable gastric banding (LAGB) procedures with up to 12 years of follow up. LAGB is widely accepted but its efficacy in the long run is questioned since long term results with an high follow up rate are not common.

Methods:

Between September 1993 and December 2005, 1,800 consecutive patients (75.1% women, mean age 38.7 years, mean body weight (BW) 127,7+-24 kg, mean body mass index (BMI) 46.2+-7.7 kg/m²) underwent LAGB by the same surgical team. Perigastric dissection was used in 77.8 % of the patients while *pars flaccida* was used in 21.5% and a mixed approach in 0.8%. Patient's data were analyzed according to co-morbidities, conversion, short and long-term complications and weight loss. Fluoroscopy-guided adjustments were performed and patients received intensive follow-up.

The effects of gastric banding surgery on life expectancy were measured in a case/control study of 821 patients from our LapBand series and 821 patients treated by medical therapy in other Italian medical centers included in the Multi-site Cohort of the Italian Study Group on Morbid Obesity

Results:

Most common baseline co-morbidities (%) were hypertension (35.6), osteoarthritis (57.8), diabetes (22), dyslipidemia (27.1), OSAS (31.4), depression (21.2), sweet eating (22.5) and binge eating (18.5). Conversion to open was 1.7 % due to technical difficulties (1.2) and to intraoperative complications (0.5). Together with the positioning of the band, additional surgery was performed in 11.9% of the patients: hiatal hernia repair (2.4), cholecystectomy (7.8) and other procedures (1.7). The mortality rate was 0. The follow up rate is 91%. Band related complications, not all requiring reoperation, occurred in 230 pts. (12.8%): pouch dilation 132 (11.7%), slippage 77 (4.3%), erosion 20 (1.1%), infection 1 (0,1). 123 pts. (6.8%) required re-operation: band removal 69 (3.9%), band repositioning 54 (3.0%). Port-related complications occurred in 200 pts (11.2%).

The BW (kg) was 103.7+-21.6, 102.5 +-22.5, 105.0+-23.6, 106.8+-24.3, 103.3+-26.2 and 101.4+-27.1 at 1, 3, 5, 7, 9, 11 years after surgery. The BMI, at the same intervals, was 37.7+-7.1, 37.2+-7.2, 38.1+-7.6, 38.5+-7.9, 37.5+-8.5 and 37.7+-9.1 kg/m².

The results of the case/control study on the life expectancy after LapBand with a Kaplan-Meier survival curves were calculated at 6 months and at 1, 2, 3 and 5 years and differences in survival between groups evaluated by log-rank test. The survival rate was significantly higher in the LapBand group (p<0.0007). Relative risk of death after adjustment for sex, age and BMI in the surgical group was 0.38 (95 % CI: 0.17 – 0.85).

Conclusion:

LAGB can achieve effective, safe and stable in time weight loss. In experienced hands the complications rate is low. The follow up is of paramount importance. LAGB is our first choice operation. The results of the case/control study showed increased life expectancy after LapBand, as compared with medical treatment alone.

P59. EARLY AND INTERMEDIATE RESULTS OF LAPAROSCOPIC BANDING IN 750 PATIENTS FROM A BARIATRIC CENTER IN THE UK.

Rishi Singhal, MRCS; Alison Guy, MRCS; Mark Kitchen, MBChB; Sandra Nidrika, MBChB; Kathryn Hunt, MBChB; Paul Super, FRCS

Heart of England NHS Foundation Trust, Birmingham, West Midlands United Kingdom

Background:

Laparoscopic Adjustable Gastric Banding is an accepted procedure in the management of morbid obesity. We present results of the first 750 Laparoscopic Bands performed in our unit.

Methods:

Between April 2003 and March 2006, 750 consecutive patients, mean weight 117.8 Kg (range 79 -268 Kg), mean BMI 43.5 kg/m² (range 35 – 88) underwent LAGB. An identical surgical technique was used in all cases. Fluoroscopy-guided adjustments were performed at 3 and 6 months.

Results:

The mean stay was 1.02 days (range 0-7 days). Excess weight loss at 3, 6, 12 and 18 months was 21 +/- 11%, 27.3 +/- 15.4%, 31 +/- 17.8% and 40.5 +/- 21.9%. Overall operative complication rate was 2.4%. These complications were: 2 lap band slippages (1 operated on urgently with band re-positioning and the other electively re-positioned after band deflation), 6 pouch dilatations observed between 10 and 24 months in separate patients (in all cases dealt with by band deflation and then partial inflation), 1 port-site infection (port exchanged), 3 true band infections (all bands removed, 2 replaced subsequently), 1 tube disconnection from port and one rotated port. There have been 3 band punctures, all replaced, and 2 larger band replacements for immediate post-op dysphagia.

Conclusion:

These results demonstrate that this procedure is successful in producing weight loss and at the same time has a very low complication rate when compared to more invasive bariatric procedures. Most of these complications, albeit low in numbers, remain avoidable. Laparoscopic band slippage is extremely rare in this series.

P60. STITCHLESS TECHNIQUE WITH SWEDISH ADJUSTABLE GASTRIC BAND.

Almino Ramos, MD; Manoel Galvao Neto, MD; Manoela Galvao, MD; Andrey Carlo, MD; Edwin Campos, MD; Marcus Lima, MD; Abel Murakami, MD; Marcelo Falcao, MD
Gastro Obeso Center, Sao Paulo, Brazil

Background:

The SAGB is one of the bands that is more stable in terms of slippage as we could demonstrate when presenting a paper on plenary session of ASBS congress-2005 called "2 year comparative results in 100 consecutive cases of 3 types of adjustable gastric bands implanted after the learning curve in a single center". With 998 SAGB procedures in 6y period and a overall slippage rate of 0,5% it seems rational to jump over one of the probable cause of another band complication; erosion/migration that is the continuous pressure and tension of the fundoplication over the band. This seems to collaborate on erosions, so a stitchless (without the fundoplication) technique is being applied in a prospective trial in witch the initial results will be presented

Methods:

From may of 2005 to June of 2006, 186 patients were enrolled in prospective trial and submitted to an Adjustable Gastric Band (AGB) pars flacida procedure with stitchless technique using the new SAGB-Quick-Close® and are being followed. After inform consent signed, data is being collected in terms of operative technique, weight loss, co-morbidities and complications targeting in slippage and erosion/migration. The control group is a 70 patient from a 1 year cohort of patient with the old SAGB pars flacida standard technique (with fundoplication).

Results:

Differences were find in terms of operative technique with an mean operative with 5min less ($p < 0,05$) in favor of the stitchless group ($m = 37\text{min}$)when compared with the cohort (42min), hospital discharge were similar and no intra-operative complication were registered. No slippage and erosion/migration happened in both groups and the weight loss is similar when adjusted to the follow-up (52%EWL on the 1 year cohort group).

Conclusion:

The stitchless technique with the Quick-Close SAGB seems at least safe as the standard SAGB pars flacida technique in a short term. Continuing the follow-up is necessary to clarify what will happens with slippage and erosion/migration rates with this approach in future.

P61. LAPAROSCOPIC SLEEVE GASTRECTOMY WITH BANDING: A FOUR YEAR FOLLOW-UP.

Oscar Chan, MD; *Elariny Hazem, MD*
ALAGSA, Vienna, VA

Background:

The vertical banded gastroplasty (VBG), first described by Mason in 1982, is the most common variety of gastroplasty and formerly the most commonly performed bariatric procedure in the United States. In the last ten years, the VBG has lost popularity. This is due mainly to a reported higher incidence of failure and 30% reoperation rate for reflux complications when compared to Roux-en-Y gastric bypass. Sleeve gastrectomy was first reported in 2002 as a primary bariatric procedure with good results. Laparoscopic VBG typically involves the performance of a partial fundectomy for ease of placement of the band. In this series, we formalized this gastric resection to a complete sleeve gastrectomy and we describe a series of patients who underwent sleeve gastrectomy with VBG-type banding.

Methods:

From 06/07/2002 to 09/11/2006, 314 patients (73 males, 241 females) underwent sleeve gastrectomy with banding. Highly motivated, non-sweet addicted patients were selected. Data was collected retrospectively using a predetermined data form. The surgical procedure involves placement of three 5 mm ports and one 12 mm port. The greater curvature of the stomach is devascularized using the harmonic scalpel. Sequential application of a linear stapler is then used to create a lesser curvature thin gastric tube fashioned tightly over a 60 French bougie. The antral staples are 4.8 mm thick while the body and fundic staples range from 3.8 to 2.5 mm thick. Only areas of bleeding or serosal weakness are locally oversewn. A banding is performed 7 cm below the EG junction along the lesser curvature tightly over a 40 French bougie (1.2 cm outlet diameter). Marlex mesh was the band used in 90% of patients and a flat silastic band was used only during a 6 month period. Nasogastric suction and drainage were not used routinely.

Results:

The patients' average age was 43 (range 16-68). The average BMI was 48.9 (range 35-90) kg/m². Preoperative co-morbidities included: Hyperlipidemia, GERD, Asthma, Depression, Osteoarthritis, Venous stasis, Sleep apnea, Hypertension, and Diabetes. Operative time ranged from 58 minutes to 180 minutes and averaged 80 minutes. 80% of patients were discharged within a 23-hour observation period. Percent excess body weight loss averaged 18%, 34%, 47%, 58% at 1, 3, 6 and 9 months post operatively and 65%, 66%, 62%, 65% at 1, 2, 3, and 4 years post operatively. We experienced no staple line leaks, no hernias, no wound infections, no erosions and no deaths. One patient was taken back for bleeding at the liver biopsy site. One patient developed a hematoma that required transfusion but resolved with observation. Sixteen patients (5%) required laparoscopic release or removal of their band due to "intolerance" without endoscopic evidence of stricture. Eleven of these were in patients with silastic bands. The most common complication was Nausea and Vomiting in 8.3% of patients and usually resolved with dietary counseling and time. There was no increase in GERD symptoms on a percentage basis for the whole group. Patients did not experience dumping syndrome or B₁₂ or iron malabsorption.

Conclusion:

Laparoscopic sleeve gastrectomy with banding can be safely and rapidly performed for the treatment of morbid obesity. Candidates for this surgery must be highly motivated and compliant. Results at four years are comparable to Roux-en-Y gastric bypass, but avoids dumping syndrome, as well as B₁₂ and iron malabsorption. Further follow-up and review is necessary to assess the long-term outcome of these patients.

P62. ULTRASOUND GUIDANCE FOR THE DIFFICULT LAP BAND ADJUSTMENT.

Beth A Schrope, MD, PhD; *Janice Blok, RPA-C*¹

Columbia University, New York, NY; ¹ New York Presbyterian Hospital, New York, NY

Background:

As experience with the LapBand system increases, it is apparent that many practitioners perform postoperative adjustments in the office setting using simple palpation to access the port. In most cases this is adequate and saves much time and effort in scheduling for radiographic assistance and time, etc.. There are certain instances, however, where the port is difficult to palpate or access due to an inordinately thick abdominal wall, thick fibrous capsule formation, or in cases of suspected port migration or rotation. It is for these cases that we present here a technique for visualizing the port using transabdominal ultrasound.

Methods:

A B-K Medical 2102 Falcon with a 8811 5-12 MHz probe was used for all examinations. A limited or directed ultrasound was performed, directing the probe over the area of the implanted port. Measurements were obtained using the electronic calipers. Port access was obtained either by ultrasound localization followed by needle puncture, or under direct ultrasound visualization.

Results:

Several ultrasound images will be presented, including normal anatomy, diagnosis of a tilted port, and localization of a non-palpable port in an extremely thick abdominal wall.

Conclusion:

The subcutaneous port component was easily visualized in all cases. The sonographically "visible" most anterior portion of the port can be measured to help diagnose the flipped port or the port that has migrated to a tilted or oblique position. In addition, pathologic postoperative fluid collections can be assessed and drained under direct ultrasonic visualization to avoid contamination of the port.

P63. LAPAROSCOPIC GASTRIC BANDING, THE GREEK EXPERIENCE: CHANGES IN BODY COMPOSITION IN RELATION TO %FAT LOSS AND THE IMPACT OF PSYCHO- EDUCATION.

Konstantinos M Konstantinidis, MD- FACS; Chatzidimitriou N Anna, BA- MSc; *Marina G Chaida, Msc- MMedS*
Athens Medical Centre, Athens, Greece

Background:

Obesity rates in Greece are among the highest in Western Europe with epidemiological indices reporting prevalence rates for obesity as high as 22.5%, and for being overweight as high as 35.2% (Kapantais, 2006). Bariatric surgery (especially lap-band) is a popular procedure in Greece because of its minimal invasion. The Laparoendoscopic Clinic of the Athens Medical Center has been using this procedure since 1994. Patients are seen both pre- and post- surgery by a multidisciplinary team of medical doctors, psychologists and nutritionists, so as to achieve and maintain a "healthy" weight- loss. The aims of this ongoing 10 month study are a) to assess the % of fat loss and compare it to total weight loss, and b) to examine the presence of other mechanisms (e.g. dehydration, BMR) that may contribute to a slower progression of weight loss or to an indicated weight gain.

Methods:

The study protocol involves a total of 60 patients undergoing laparoscopic surgery for morbid obesity (with lap-band) at the center. Patients are entered into a repeated measures design, followed for 10 months after surgery, and have their body composition routinely examined once preoperatively, and every 3 months post- operatively using the bioimpedance analyzer "Biodynamics BIA 310e".

Results:

Preliminary results indicate that although body loss is observed as expected, the % of fat loss is not ideal and the presence of mechanisms such as dehydration and BMR is substantial, most likely due to lack of education and compliance to medical and nutritional advice.

Conclusion:

The above findings are discussed in the context of the multidisciplinary assessments conducted at the center and the way they may inform about the antecedents of the above observations as well as about potential interventions for improved future outcomes.

P64. COMPARATIVE RESULTS OF THREE ADJUSTABLE GASTRIC BANDS FOR THE TREATMENT OF MORBID OBESITY.

Dimitrios Stefanidis, MD, PhD; Ioannis Ioannou, MD
Carolinas Medical Center, Charlotte, NC

Background:

Laparoscopic adjustable gastric banding is effective in inducing weight loss and is a less morbid procedure compared to gastric bypass. Consequently, a number of devices have been introduced into the market. The aim of this study was to compare outcomes and device related complications of three different adjustable bands placed for the treatment of morbid obesity.

Methods:

Retrospective review of a prospectively maintained database of all patients (n=306) undergoing laparoscopic adjustable gastric banding between June 2000 and June 2006 by one private practice bariatric surgeon. During the study period, three different adjustable gastric bands (Swedish Band n=201, LapBand n=55, AMI Soft Gastric Band n=50) were placed in a nonrandomized fashion using the *pars flaccida* technique. All patients underwent psychological and nutritional evaluation preoperatively. Patient demographics, % excess weight loss (%EWL) at follow up, morbidity and mortality as well as band related complications were prospectively recorded and compared. ANOVA and chi square test were used for statistical analysis; p<0.05 was considered significant.

Results:

81% of patients were women; mean age was 35 ± 10 years and preoperative BMI 43 ± 6 kg/m². No mortalities occurred. Comparative results for the three bands used are shown in the table.

Conclusion:

The three gastric bands used in this study appear to have different effectiveness in inducing weight loss and a different set of complications associated with their use. Bariatric surgeons need to be aware of such differences as they may affect the choice of device for weight loss. Further confirmatory study is needed.

	Swedish band	Lap band	AMI band	p-value
N	201	55	50	
Patient age (yrs)	35 ± 10	34 ± 11	37 ± 10	n.s.
Comorbidities (%)	27	32	25	n.s.
BMI (kg/m ²)	44 ± 7	43 ± 6	42 ± 6	n.s.
OR time (min)	107 ± 34	73 ± 24	94 ± 28	<0.001
% EWL 1 yr	62 ± 21	54 ± 21	50 ± 19	<0.01
% EWL 2 yrs	77 ± 18	Few data	65 ± 18	n.s.
Complications	21%	15%	18%	n.s.
Erosions	12%	0%	0%	<0.01
Slippages	1%	7%	2%	<0.03
Device failures	1.5%	1.8%	12%	<0.01
Other	5%	5%	4%	n.s.

P65. QUALITY OF LIFE BEFORE AND AFTER GASTRIC BANDING IN A MULTIDISCIPLINARY INSTITUTION.

Tony Brancatisano, B Appl Sc; Sara Wahlroos, B Med Sc; Roy Brancatisano, MB BS
Institute of Weight Control, Sydney, NSW Australia

Background:

Quality of life (QOL) is an independent outcome measure for obesity surgery in addition to weight loss and improvement in co morbid illnesses. The aim of this study was to examine the impact of weight loss on QOL following gastric banding using the Swedish Adjustable Gastric Band (SAGB).

Methods:

QOL was evaluated using the Short Form 36 Health Survey (SF 36) and Beck Depression Inventory II (BDI-II) questionnaires. Forms were administered to 84 consecutive patients preoperatively undergoing laparoscopic gastric banding using the SAGB, and again 1 year postoperatively. Each patient was followed up by the multidisciplinary team which consisted of a surgeon, physician, dietician, psychologist and exercise consultant. The results of each category were compared to their individual pre and post score, and a paired t-test was used to calculate p values.

Results:

There were 71 females and 13 males. Following a median follow up of 13 months, mean (\pm SD) body mass index (BMI) decreased from $44.5 \pm 9 \text{ kg/m}^2$ to $36.7 \pm 9 \text{ kg/m}^2$ ($p < 0.0001$), with excess weight loss of $37.2 \pm 19\%$. This was associated with significant differences between the pre and post operative scores in all SF 36 subscales (Table 1). Also, the mean (\pm SD) BDI-II score preoperatively was 16.9 ± 12 , and decreased significantly to 7.6 ± 10 postoperatively ($p < 0.0001$).

Conclusion:

Preoperative SF-36 and BDI-II scores indicate severe disability with the presence of mild to moderate depression in morbidly obese patients. Furthermore, modest weight loss following SAGB significantly improves QOL as well as depression to almost normal population values.

P66. ABDOMINAL PAIN IS INDICATIVE OF GASTRIC NECROSIS WHEN TREATING GASTRIC PROLAPSE ASSOCIATED WITH LAPAROSCOPIC ADJUSTABLE GASTRIC BAND.

Jeff W Allen, MD

University of Louisville, Louisville, KY

Background:

Gastric prolapse is the most common intra-abdominal complication following laparoscopic adjustable gastric band (LAGB). It is due to a migration of the fundus of the stomach up through the device. Symptoms include heartburn, dysphagia, and vomiting. Usually gastric prolapse is treated with elective or "semi-elective" repair. Three cases are presented where more urgent treatment was warranted.

Methods:

Of the initial 464 LAGBs placed by one surgeon practicing in an academic center there were 29 (6.3%) cases of gastric prolapse requiring re-operation. Two patients "slipped" twice and one patient had three gastric prolapses. All were repaired laparoscopically.

Results:

Three patients (0.6%) had presentations that were atypical. Although each had heartburn and vomiting, they also complained of intense abdominal pain. Exam was significant for pain out of proportion to physical findings. All had laparoscopic exploration converted to laparotomy due to necrosis and/or perforation of the herniated stomach. A resection followed.

Conclusion:

Ischemic necrosis of the prolapsed fundus is rare following LAGB. Patients complaining of abdominal pain especially out of proportion to physical findings should be suspected of having ischemia of the stomach and warrant more urgent repair of their prolapse.

P67. NORMALIZATION OF EATING BEHAVIOR AS A RESULT OF LAPAROSCOPIC BANDING SURGERY.

Adam Smith, DO; Susan Franks, PhD; Joan Carroll, PhD¹

Laproscopy, Bariatrics, and Surgery (LBS), Fort Worth, TX; ¹University of North Texas Health Science Center, Fort Worth, TX

Background:

Virtually all individuals who present to bariatric clinics as candidates for bariatric surgery are life-long dieters and have experienced the perpetual weight gain-weight loss cycle associated with maladaptive eating patterns. Further, it is thought that there is a positive relationship between weight-cycling and binge eating which is common among bariatric patients. Although it is intuitive that eating behavior is a critical part in the puzzle of bariatric surgical outcome, it is not clear how eating behaviors may vary according to surgical intervention. Thus, the purpose of this study was to examine the effect of laparoscopic banding surgery (LBS) on patterns of eating behavior in morbidly obese patients.

Methods:

Subjects included 28 morbidly obese patients (MO) and 30 age-matched normal weight controls (NW). Prior to (T1) and 6-months after placement of a laparoscopic adjustable gastric band (LAGB), (T2), MO were assessed for eating behavior patterns using The Eating Inventory.

Results:

At T1, MO and NW significantly differed in Cognitive Restraint (7.6 ± 4.3 vs. 11.5 ± 5.0 , $p = .0001$ respectively), Disinhibition (11.2 ± 3.1 vs. 4.0 ± 3.0 , $p = 0.0001$, and Hunger 8.7 ± 3.2 vs. 4.1 ± 3.1 , $p = 0.0001$. LAGB resulted in significant changes in eating behaviors from T1 to T2: Cognitive Restraint (7.6 ± 4.3 vs. 14.1 ± 3.6 , $p = .0001$ respectively), Disinhibition (11.2 ± 3.1 vs. 6.2 ± 3.4 , $p = 0.0001$, and Hunger 8.7 ± 3.2 vs. 3.7 ± 2.9 , $p = 0.0001$. The pattern of eating behaviors at T2 was not significantly different from NW.

Conclusion:

Thus, LAGB appears to normalize eating patterns and consequently provide patients with an effective mechanism for sustained weight loss.

P68. LAPAROSCOPIC ADJUSTABLE GASTRIC BANDING (LAGB) IN OBESE ADOLESCENTS: SHORT-TERM RESULTS.

Mary Ann Witt, DNSc(c); Ilene Fennoy, MD, MPH; Amy M Jean, MD; Jeffrey L Zitsman, MD
Morgan Stanley Children's Hosp of NY Presbyterian, New York, NY

Background:

Obesity among US adolescents has reached epidemic proportions; 15.5% are > 95th %tile for body mass index (BMI). A small number of studies show LAGB is safe and effective in treating morbidly obese (MO) adolescents. We received FDA approval to test the safety and efficacy of LAGB within a multidisciplinary weight management program for 15 MO adolescents (ages 14-17) as a pilot study.

Methods:

We reviewed our prospectively collected database for adolescents who underwent LAGB at our Center. Preoperative data included age, gender, ethnicity, BMI, comorbidities, physical fitness level and prior activity level. Post-operatively data included percent excess weight loss (% EWL) and BMI, length of stay, operative morbidity, post-operative complications, and status of pre-operative comorbidities.

Results:

Fifty-six adolescents have been screened. Five patients (1 male, 4 females) aged 14-17 (mean= 16.5) have undergone LAGB. Baseline comorbidities include HTN (n= 2); impaired fasting glucose (n=2); PCOS (n=1); irregular periods (n=2); hypertriglyceremia (n=2); depression/anxiety disorder (n=4). There were no operative complications. Patients were discharged within 24 hours. One patient complained of diarrhea for 5 days that resolved without treatment. Baseline HTN and impaired fasting glucose resolved 1 week after surgery (n=1). Change in physical activity/fitness level has not yet been analyzed.

Conclusion:

Short-term results suggest LAGB is safe and effective in treating MO adolescents.

N	weeks post-op	Wt loss(kg)	BMI kg/m ²	↓BMI
1	2	4.6	42.6	↓1.6
3	8	13.1*	38.2*	↓5.2*
1	10	34.3	38.9	↓8.9

* expressed as means

P69. SLEEVE GASTRECTOMY AS A REVISION PROCEDURE FOR FAILED BARIATRIC OPERATIONS: EXPERIENCE WITH 21 CASES.

Leon D Cohen

Mercy Bariatrics, Perth, WA Australia

Background:

Sleeve Gastrectomy is now recognized as a valid revision option for failed bariatric surgery. From October 2003 to October 2006 we have revised 21 patients from prior bariatric operations using this technique.

Methods:

Cases included ,18 laparoscopic adjustable bands, 2 fixed bands and 1 VBG. Nineteen of these operations were performed laparoscopically and 2 open, where facilities for advanced laparoscopic surgery were not available. Three of the lap bands had been previously removed. Two of the eroded bands where revised at the time of band removal.

Reasons for revision include band intolerance 7, chronic slippage 6 , pseudoachalasia 3 , band erosion 2, explantation of port 2, staple line disruption 1. There were 18 F: 3M. Average BMI at time of surgery 40 (31-49) kg/m².

Results:

Percent EWL at 3,6,12,18,and 24 months was 25%, 32%, 35%,44%,56%. Major complications included gastric fistula in 2 patients managed with a covered wall stent, and one laparotomy for post operative hemorrhage

Conclusion:

The sleeve gastrectomy is a useful revision operation. It can usually be performed laparoscopically and produces significant weight loss. Like most revisional surgery, complications are higher but manageable. Overall the patients report a better quality of eating after revision. Video of the revisional technique will be shown.

P70. LAPAROSCOPIC ASSISTED TRANSJEJUNAL ENDOSCOPY OF THE EXCLUDED DUODENUM IN BPD-DS: DESCRIPTION OF TECHNIQUE AND CASE REPORTS.

Brian Lane, MD; Douglass W Hess, MD; Douglass S Hess, MD; Amy M Biedenbach, PA-C
Wood County Hospital, Bowling Green, OH

Background:

An estimated 160,000 bariatric operations are currently performed in the United States with a projected 5% annual growth rate. The majority of patients undergo Roux-en-Y Gastric Bypass,(RYGB) where the difficulty of endoscopic access to the excluded stomach and biliary tree has been well documented. Recent reports have described laparoscopic assisted transgastric approaches and CT-guided percutaneous approaches to aid endoscopic access to the proximal duodenum in the RYGB patient. A growing number of surgeons perform BPD-DS as a primary or revisional bariatric operation. The efficacy of BPD-DS compared to RYGB in the super obese patient has been shown. Transoral endoscopic exam of the proximal duodenum in the BPD-DS patient is not possible with current technology.

Methods:

We present two cases of successful laparoscopic assisted transjejunal endoscopic exam of the excluded proximal duodenum in BPD-DS patients. One of these also involved therapeutic endoscopy.

Results:

The clinical scenarios, laparoscopic operative technical details, endoscopic technical details and clinical follow up are reported. No intraoperative or postoperative complications were encountered.

Conclusion:

Lap-assisted transjejunal endoscopy of the excluded proximal duodenum in the BPD-DS patient is a feasible technique.

P71. GREATER WEIGHT LOSS MAKES LIFE EASIER AFTER BARIATRIC SURGERY.

Simon Marceau, MD; Normand Teasdale, PhD; Olivier Hue, PhD; Simon Biron, Surgeon; Picard Marceau, Surgeon
Laval University, Quebec, Canada

Background:

It is difficult to obtain objective data regarding improved daily living after major weight loss. Recently our team has shown that, after bariatric surgery, the greater the weight loss the better the postural stability. We see it as another factor, which explains the relation between the amount of weight loss and patient's degree of satisfaction.

Methods:

Postural stability was measured using a "force platform." This apparatus measures, in standing position, the continuous body oscillations necessary for preserving balance. Extent (or range of oscillations), frequency and speed (CP speed (cm/s)) of oscillations give posturographic measurement of stability (for instance, smaller speed indicates better stability). The study was done before, 3 and 12 months after bariatric surgery, on patients with a mean initial BMI of 50.5 kg/m² whose weight loss reached almost 50%. Lean and obese subjects were also tested.

Results:

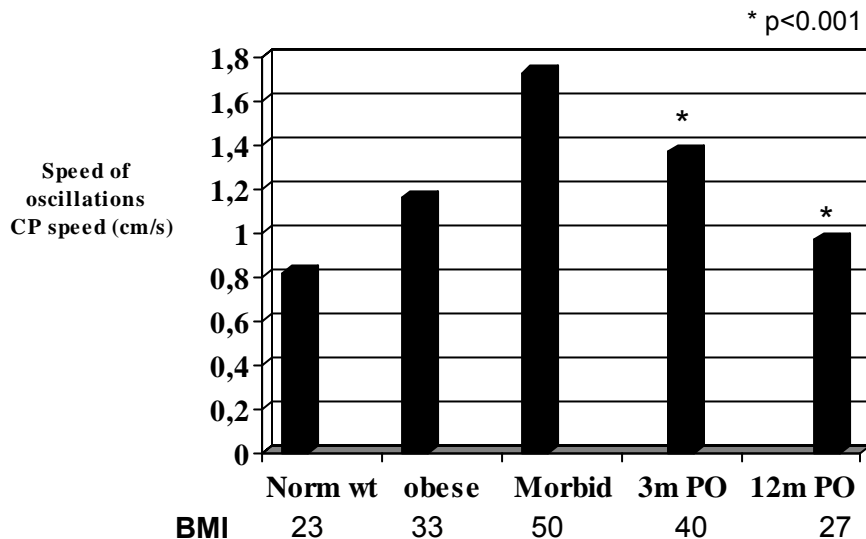
The heavier the patient was, the greater the instability ($r = 0.53$; $p < 0.001$). The improved stability was linearly related to the magnitude of the weight loss ($r = 0.65$; $p < 0.001$).

Conclusion:

Proper balance control is a key factor to ease all daily activities. Better stability requires less effort to maintain balance. Improved stability following surgery is another factor explaining why the degree of patient's satisfaction is directly related to the amount of weight loss ($r = 0.36$; $p < 0.0001$). Conclusion: Surgical weight loss improves patient stability, facilitates physical activity and decreases the risk of falling.

Postural stability (Speed of oscillations)
In normal, obese and morbid obese individuals.

Effect of weight loss



P72. VITAMIN SUPPLEMENTATION AFTER BILIOPANCREATIC DIVERSION WITH DUODENAL SWITCH MAINTAINS NORMAL BIOLOGICAL STATUS IN THE LONG TERM.

Philippe A Topart, MD¹; Guillaume Becouarn, MD²; Patrick Ritz, MD³

¹CHU Brest and Societe de Chirurgie Viscerale, Clinique de l'Anjou, Angers, France; ²Societe de Chirurgie Viscerale, Clinique de l'Anjou, Angers, France; ³Medecine B, CHU Angers, France

Background:

Biliopancreatic diversion is known to be a very effective bariatric operation but with multiple vitamin deficiencies as a consequence.

Methods:

Between February 2002 and October 2006, 85 patients had a biliopancreatic diversion with duodenal switch (DS). Patients were seen every 3 months during the 1st year after surgery and every 6 months to 1 year thereafter. Hemoglobin (Hgb), serum albumin, cholesterol, triglycerides, vitamins A, B₁, B₉, B₁₂ and D, parathormone (PTH) as well as 18 other items were recorded at each visit along with clinical data.

Results:

79 patients were available for follow up of at least 3 months (1 postop death). Daily oral vitamin intake was started 3 months after the surgery including a standard regimen of vitamin A (50,000 units, one qod), calcium and vitamin D (1,000mg of calcium with 800 units of vitamin D/day) and multivitamins. Iron, Folic acid, vitamin B₁₂ and other micronutrients were given according to the clinical status and biological findings. At 2 years biological data were available for 44 patients and for 23 at 3 years. As shown in the table the main biological parameters remained stable over time despite a slight increase of PTH and decrease of vitamin B₁₂.

Conclusion:

Despite a major weight loss after DS, daily vitamin supplementation helped to maintain normal values for the most important vitamins and micronutrients. However scheduled blood sample check up should be mandatory to avoid chronic deficiencies.

	Pre DS	3mo	6mo	1yr	2yrs	3yrs
BMI (kg/m ²)	48.9±7.2	40.2±5.5	36.0±5.2	31.0±5.3	30.9±5.0	31.0±4.8
Vit A (µg/l)	527±183	415±190	452±179	497±187	485±166	488±176
Vit B ₉ (nmol/l)	9.9±3.2	8.1±3.8	13.6±11	16.1±13	17.0±15.7	15.9±8.7
Vit B ₁₂ (pg/ml)	291±118	351±155	328±133	307±175	343±310	271±148
Alb (g/l)	39.2±4.8	38.4±4.0	38.0±5.2	39.2±4.3	39.7±3.7	39.3±4.1
PTH (pg/l)	41.9±20	54.6±33	52.9±31	53.1±29	57.4±27	63.7±29
Hgb (g/dl)	13.6±0.9	13.2±1.2	13.2±1.3	13.1±1.2	12.6±1.2	12.9±1.1

P73. PROPHYLACTIC SURGISIS MESH DOES NOT REDUCE THE INCIDENCE OF VENTRAL HERNIA FOLLOWING OPEN GASTRIC BYPASS.

Joseph M Vitello, MD

University of Illinois, Chicago, IL

Background:

The incidence of ventral hernia following open gastric bypass remains the Achilles heel of the procedure and has an incidence reported as high as 25%. Prophylactic placement of synthetic, permanent mesh at the conclusion of the operation has been touted, but adds the risk of infection in a clean contaminated field. Alternatively, a biologic mesh may be a more attractive and safer option.

Methods:

Seventy-eight prospective, non-randomized patients undergoing open Roux-en-Y gastric bypass by a single surgeon had Surgisis mesh placed at the conclusion of their operation. The mesh was placed as in underlay within the abdomen below the fascia to buttress the vertical midline incision. Wound closure techniques were identical in all 78 patients. The 78 patients were then compared to an age and BMI matched historic control of 78 patients who underwent the identical operation by the same single surgeon with the same wound closure technique without Surgisis mesh. Co-morbidities were similar in each group.

Results:

The incidence of ventral hernias in the historic control was 20% at 2 years post procedure. In the Surgisis cohort the incidence of ventral hernias at 1 year was 10%, a 10% reduction. However, at 18 months the incidence was 20% and equaled the non-mesh group.

Conclusion:

Prophylactic placement of Surgisis mesh at the conclusion of open gastric bypass surgery does not decrease the incidence of ventral hernias.

P74. TREATMENT OF GASTROJEJUNAL ANASTOMOTIC LEAK AFTER ROUX-EN-Y GASTRIC BYPASS WITH SELF EXPANDING POLYESTER STENTS: A RETROSPECTIVE REVIEW.

Christopher A Edwards, MD; Steve Scott, MD; Roger De La Torre, MD; Archana Ramaswamy, MD; Nicole Fearing, MD; Bruce Ramshaw; Klaus Thaler, MD
University of Missouri, Columbia, MO

Background:

Anastomotic leaks after gastric bypass range from 1 to 4.5%. Covered polyester (Polyflex) stents have demonstrated good results in the management of thoracic esophageal anastomotic leaks, but no studies have reported results in treating gastrojejunal(GJ)anastomotic leaks with these stents after Roux-en-Y (RNY) gastric bypass. The purpose of this study is to present the first series of endoscopically placed polyester stents for the management of GJ anastomotic leaks after RNY gastric bypass.

Methods:

A retrospective chart review of all consecutive patients with GJ anastomotic leaks after RNY gastric bypass treated with Polyflex stents was performed from Jan 2006 to Nov 2006. All leaks were treated with external drainage and endoscopic stenting.

Results:

Six patients with GJ leaks were treated with Polyflex stents: 4 for acute postoperative leaks and 2 for chronic fistulas. Mean OR time was 22 minutes. All experienced immediate symptomatic improvement. Five patients had no radiographic evidence of leak after stent placement and 4 were able to start oral feeds immediately. Three of four patients treated for longer than 1 month had complete healing of their leaks at a mean of 42 days. Four stents migrated and were easily replaced. One patient with a 6 year history of gastrocolic fistula closed in 45 days with stent treatment.

Conclusion:

These stents allow rapid healing of GJ anastomotic leaks while simultaneously allowing for oral intake. Stent migration does appear to be a problem but was less so when longer 15cm stents were used. Overall, the treatment of GJ leaks with endoscopically placed Polyflex stents is safe and effective.

P75. STRICTURE RATE AFTER LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS WITH 21-MM CIRCULAR STAPLER – THE CLEVELAND CLINIC EXPERIENCE.

Fahad S Alasfar, MD; Adheesh A Sabnis, MD¹, Rockson C Liu, MD², Bipan Chand, MD³
Adan Hospital, Kuwait; ¹George Washington University, Dept of Surgery, Washington, DC; ²Kaiser Permanente, Walnut Creek, CA; ³Department of Surgery, Cleveland Clinic Foundation, Weston, FL

Background:

Gastrojejunal anastomotic strictures occur in laparoscopic Roux-en-Y gastric bypass (LRYGB) surgery. This study reports the incidence of strictures at a single institution. We also aim to determine the time-course of presentation, associated peri-operative factors, and response to balloon dilation.

Methods:

All 126 patients who underwent LRYGB at The Cleveland Clinic Foundation between July 2003 and Feb 2005 were included. We utilized a trans-oral 21-mm circular stapler for the gastrojejunostomy. Patients with symptoms of anastomotic strictures underwent EGD by one of two surgeons. A stricture was defined by the inability to pass a 10 mm gastroscope through the anastomosis. Balloon dilation was performed to 12 mm. Records were analyzed retrospectively and statistical analysis including Pearson and Fisher's exact test and Students t-test were used when appropriate.

Results:

Anastomotic strictures occurred in 29 patients (23%). All patients presented with nausea, vomiting and dysphagia. The median time to diagnosis was 52 days (25 to 309 days). Symptom resolved after one dilation in 78% of patients. Two and three dilations were required in 3.5% and 10.5% of patients, respectively. No patients had complications or required more than 3 dilations. Age, pre-operative BMI, and intra-operative blood loss did not correlate with stricture formation. Although non-steroidal anti-inflammatory drugs were used by 41% of patients after surgery, there was no correlation with stricture formation

Conclusion:

Anastomotic strictures develop in nearly a quarter of patients undergoing LRYGB with 21-mm circular stapler. A single endoscopic balloon dilation is usually adequate treatment. Strictures were not predicted by peri-operative factors.

P76. ROUTINE INTENSIVE CARE MONITORING IS UNNECESSARY FOR POSTOP BARIATRIC PATIENTS WITH KNOWN OR SUSPECTED SLEEP APNEA.

Joseph M Vitello, MD

University of Illinois, Chicago, IL

Background:

Morbidly obese patients have a high incidence of obstructive sleep apnea (OSA). There is concern this population may be at risk of respiratory complications following gastric bypass especially when administered narcotics for pain relief and therefore should be routinely observed in an ICU.

Methods:

This is a retrospective analysis of 500 consecutive patients who underwent an open Roux-en-Y gastric bypass from 1999-2004 by a single surgeon. The average BMI was 56 (range 40-99) kg/m². Thirty-seven percent of the patients had a previous diagnosis of OSA confirmed by sleep study. Based upon classical symptoms another 41% had suspected OSA. Routine sleep studies were not performed in this later group. All patients had a narcotic-based PCA postoperatively with Ketoralac supplementation. Postop BIPAP/CPAP was utilized only in patients who became hypoxic. The incidence of postop respiratory complications was examined.

Results:

The in-hospital mortality rate was 0.2%. Eight patients were admitted directly to the ICU. Four for insulin drips due to hyperglycemia, four to manage airway issues. Two of the later 4 were left on ventilators overnight. There were no respiratory deaths. No patient required re-intubation. Seven patients were transferred from the floor to the ICU; 3 who were re-explored for leaks, 2 for postop bleeding and two for cardiac issues and low urine output. Average hospital LOS was 3 days.

Conclusion:

Routine ICU monitoring is not warranted following gastric bypass even in the group of patients with known or suspected OSA. Judicious PCA administration and selective use of BIPAP/CPAP for those patients who experienced hypoxia was overwhelmingly successful.

P77. CHARACTERIZATION OF INTENSIVE CARE UNIT UTILIZATION WITH LAPAROSCOPIC BARIATRIC SURGERY.

Jay C Jan, MD; Muhammad F Afzal, MD; Dennis Hong, MD; Emma J Patterson, MD
Legacy Health System, Portland, OR

Background:

Bariatric surgery may require utilization of critical care services for postoperative monitoring, surgical complications, or medical events.

Methods:

All patients who underwent laparoscopic adjustable gastric banding (LAGB) and laparoscopic Roux-en-Y gastric bypass (LRYGB) by the study surgeons at Legacy Health System from October 2000 to March 2006 were identified from a prospectively-maintained database. There were no scheduled admissions to the intensive care unit (ICU). Age, sex, preoperative BMI, operative time, blood loss, type of procedure and complications were analyzed.

Results:

During the study period, 1,005 patients underwent laparoscopic bariatric surgery. 559 (56%) underwent LRYGB; 447 (44%) underwent LAGB. 32 patients (3.2%) were admitted to the ICU in the postoperative period (26 LRYGB; 6 LAGB). Patients admitted to the ICU had a significantly ($P < 0.05$) higher preoperative BMI (53.7 vs. 50.1 kg/m²), higher percentage of male patients (41 vs. 16%), longer operative time (138 vs. 103 minutes), more blood loss (46 vs. 25 mL), and longer hospital stay (9.1 vs. 1.6 days). LRYGB patients were more likely to be admitted to the ICU than LAGB patients (4.7 vs. 1.3%; $P < 0.05$).

Conclusion:

Overall ICU utilization in laparoscopic bariatric surgery is low. Male patients and patients with higher preoperative BMI are more likely to be admitted to the ICU. LAGB is associated with less ICU utilization

P78. INTERNATIONAL BARIATRIC SURGERY REGISTRY (IBSR) COMPARISON OF OPEN ROUX-EN-Y GASTRIC BYPASS (RYGB) AND VERTICAL BANDED GASTROPLASTY (VBG) OUTCOMES.

Mohammad K Jamal, MD; Edward E Mason, MD, PhD; Kathleen E Renquist, BS; Diqiong Xie, BS; Bridget M Zimmerman, PhD; Isaac Samuel, MD, FRCS
Univ of Iowa, Iowa City, IA

Background:

In view of dramatic increases in bariatric operations performed in recent years, we compared open RYGB and VBG outcomes within a large database.

Methods:

Data contributed by 37 IBSR sites between 2000-2005, using standardized data collection, were analyzed for 30-day complications and one year clinical outcomes.

Results:

Compared to VBG patients (n=835), RYGB patients (n=9,029) were older (mean 41.6 vs. 37.1 yrs), heavier (mean BMI 49.8 vs. 42.7), and more likely to be male (14.8% vs. 9.3%). Reported 30-day complication rate was 12% for RYGB's and 8% for VBG's; however, multiple regression analysis adjusting for differences in age and gender showed no significant difference ($p = 0.0856$). Interestingly, BMI was not a predictor. The most frequent major 30-day gastrointestinal complications for RYGB were bleeding (0.7%), leak (0.5%), bowel obstruction (0.3%), and stomal stenosis (0.3%), while for VBG they were bleeding (0.2%), leak (0.2%) and abdominal abscess (0.2%). Minor complications were significantly higher for RYGB ($p = 0.011$). There were 18 deaths (0.2%) for RYGB but no deaths for VBG at 30 days. One-year mean percentage weight loss (34 vs. 26) and percent excess weight loss (67 vs. 59) were greater for RYGB. At one year, major comorbidities resolved for RYGB and VBG, respectively, at 34% and 30% for diabetes, 36% and 35% for hypertension, and 95% and 84% for heartburn.

Conclusion:

Analysis of recent data from a large database supports previous observations that RYGB, versus VBG, has better weight loss and resolution of comorbidities but with higher risk. Long-term effects on nutritional deficiencies remain to be evaluated.

P79. SURGICAL MANAGEMENT OF POSTOPERATIVE BLEEDING AFTER BARIATRIC SURGERY.

Tomas Escalante-Tattersfield, MD; Olga Tucker, MD; Patricio Fajnwaks, MD; Samuel Szomstein, MD; Raul J Rosenthal, MD
Cleveland Clinic Florida, Weston, FL

Background:

Postoperative hemorrhage can be a serious complication. The reported incidence of bleeding after bariatric surgery is approximately 3%. We present our experience with postoperative bleeding after bariatric surgery.

Methods:

We conducted a retrospective review of prospectively collected data on 1,763 patients who underwent a Roux-en-Y gastric bypass from January 2001 to October 2006. All patients had two 19-Fr closed suction drains placed at surgery. Bleeding was assessed by the patient's heart-rate, urine output, melena, hematocrit, and drain output.

Results:

Of the 1,763 patients, 47 presented with acute postoperative bleeding (2.6%), 14 (29%) of whom required a surgical intervention. The majority of procedures (93%) were performed laparoscopically, although 46% were converted to an open procedure. An active bleeding site was identified in 71% of the patients, most commonly in either the gastric (21%) or the jejunum-jejunostomy (JJ) (21%) staple lines, as well as within the gastric remnant (14%). Massive intraluminal bleeding caused dehiscence of the JJ in one patient. The remaining 33 patients were managed conservatively. Thirty-six of the 47 patients required transfusion of at least one unit of blood (78%). There were no mortalities among the patients with acute postoperative bleeding.

Conclusion:

Most patients who present with postoperative bleeding can be managed conservatively. Drains can help in the decision for either conservative or surgical management. However, those who need surgical intervention have a higher rate of conversion to an open procedure. Although the site of hemorrhage is not always identified, most bleeding occurs along staple lines.

P80. BILIOPANCREATIC LIMB OBSTRUCTION AFTER LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS FOR MORBID OBESITY.

Tomas Escalante-Tattersfield, MD; Olga Tucker, MD; Patricio Fajnwaks, MD; Samuel Szomstein, MD; Raul J Rosenthal, MD

University Medical Center of Princeton, Princeton, NJ

Background:

The etiology of small bowel obstruction (SBO) after Roux-en-Y Gastric Bypass (RYGB) is largely determined by approach; internal hernia is the most common cause after laparoscopic RYGB vs. adhesions following open RYGB. Obstruction of the biliopancreatic limb (BPO) is uncommon after either approach

Methods:

Records of 587 consecutive patients who had laparoscopic RYGB performed antecolic, antegastric between 2002 and 2005 were reviewed. Minimum follow up was 12 months.

Results:

Nineteen patients (3.2%) were readmitted with SBO including 4 patients with BPO. All 19 patients required operation; 13 performed at our center (68%). Volvulus was found in 12 patients (63%) including 3 of 4 of the patients with BPO. Resection for ischemia was required in 9 cases (47%). No patient with BPO required resection. Symptoms of BPO included abdominal pain (100%), nausea (100%) and intermittent diarrhea (75%). Vomiting was sporadic. Three of 4 BPO patients were able to eat/drink despite symptoms. Mean time between onset of symptoms and operation was 744 hours/31 days in patients with BPO vs. 51 hours/2.1 days in the remaining patients ($p<0.01$). CT scan was diagnostic for BPO in all four cases.

Conclusion:

BPO was the second most common cause of obstruction in this series. The progression and course of BPO is slower and more subtle than other causes of SBO after laparoscopic RYGB. Symptoms suggestive of SBO after laparoscopic RYGB should be urgently evaluated by CT scan due to the high probability of volvulus and need for operation

P81. LAPAROSCOPIC STRICTUROPLASTY FOR REFRACTORY, CRITICAL STRICTURES OF THE GASTRO-JEJUNAL ANASTOMOSIS IN POST LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS PATIENTS.

Philippe J Quilici, MD; Alexander S Tovar, MD; Carie McVay, MD
Cedars Sinai Medical Center, Los Angeles, CA

Background:

With the dramatic rise in the number of laparoscopic bariatric procedures performed over the past few years, a significant rate of critical, refractory strictures post Laparoscopic Roux-en-Y Gastric Bypass [LRYGB] has been reported.

Methods:

Three female patients presented with late, critical strictures of the gastrojejunal anastomosis respectively diagnosed at 21, 26 and 29 months post LGBRY. All strictures were refractory to intra-luminal endoscopic dilatation and were classified as critical for a persistent inability to maintain a proper nutritional intake.

Results:

All three patients underwent a laparoscopic stricturoplasty of the gastrojejunal anastomosis. The average operating time was 57 minutes with a mean hospital stay was 2.1 days. No surgical morbidity was recorded. All three patients were respectively followed for 22, 14 and 7 months post-operatively and maintained normal, post gastric bypass eating habits and nutrition with no recurrence of their symptoms.

Conclusion:

Refractory, critical strictures of the gastrojejunal anastomosis post LRYGB can be safely managed with a laparoscopic stricturoplasty.

P82. DOES DEVELOPMENT OF ANASTOMOTIC STRICTURE POST-RYGB PREDICT GREATER WEIGHT LOSS? A REVIEW OF 3,376 PATIENTS.

Aviv Ben-Meir, MD; Dawn M Miller, MA; John B Marshall, MD; Helmut Schreiber, MD; IM Sonpal, MD; Karen Schulz, RN, MSN

St. Vincent Charity Hospital, Cleveland, OH

Background:

Anastomotic strictures are a known complication following Roux-en-Y gastric bypass (RYGB) and are easily treated with outpatient endoscopic balloon dilatation. A review of the literature on strictures, however, demonstrates wide discrepancies in both the incidence and recurrence rates following treatment. We hypothesized that % EWL would be significantly greater at both 6 and 12 months ($p < 0.05$) in patients who developed strictures.

Methods:

All open and laparoscopic RYGB patients (Jun 1, 2002 through Jun 30, 2006) were included in this retrospective study. We evaluated initial BMI, stricture rates, time to diagnosis, and % EWL at 6 and 12 months.

Results:

Of 3,376 bariatric patients, 3.3% (95 females, 15 males), were diagnosed with strictures (ICD-9 537.0 pyloric stenosis, confirmed by endoscopy). Mean time to diagnosis (weeks) was 7.9 ± 3.8 . All patients were treated successfully with a single endoscopic 18 mm balloon dilatation. There were no perforations and no recurrent strictures. There were no statistically significant differences in pre-surgery BMI or % EWL at 6 and 12 months for either lap or open RYGB patients who developed strictures compared to those who did not (Table 1).

Conclusion:

Development of an anastomotic stricture post-RYGB does not result in significantly greater weight loss at the 6 or 12 month time points.

P83. MEDIUM TERM FOLLOW-UP OF WOUND COMPLICATIONS AFTER LAPAROSCOPIC AND OPEN RYGB IN OVER 1000 PATIENTS.

Ryan Hardy, MD; Murali Basker, MD; Stephanie E Dunkle-Blatter, MD; Christopher Still, DO; William E Strodel, MD; Peter N Benotti, MD; Anthony T Petrick, MD
Geisinger Medical Center, Danville, PA

Background:

Wound problems can be significant after bariatric surgery. While laparoscopic surgery seems to have a lower risk for wound complications, objective data is needed to confirm this. The aim of this study was to identify the prevalence of short and medium-term wound complications after Roux-en-Y gastric bypass (RYGB) in over 1000 patients.

Methods:

We retrospectively reviewed 1,012 patients who underwent laparoscopic or open RYGB between 3/2001–11/2005. Outcomes recorded were length of stay (LOS), wound infection, seroma and postoperative ventral hernia (POVH). Data were analyzed using Student's t-test.

Results:

Results are summarized in the table below. 95% of patients in our database were available for follow up at a mean of 16.1 months. There was one post operative wound dehiscence in the open group. LOS was significantly longer for those patients with wound infections ($p=0.016$). LOS was not significantly increased for patients with wound seromas. POVH developed in 24% and 25% of patients respectively with seromas and wound infections. Similar patients after LRYGB had no POVH's.

Conclusion:

Wound problems are an underappreciated complication of open surgery. Our large series with intensive follow-up confirms that laparoscopic bariatric surgery is associated with a significantly lower incidence of wound complications. Wound seromas and infection were associated with POVH in 1/4 of patients

P84. DIAGNOSIS AND MANAGEMENT OF JEJUNO-JEJUNOSTOMY COMPLICATIONS FOLLOWING LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS FOR MORBID OBESITY.

Jayaraj Salimath, DO; Olga Tucker, MD; Samuel Szomstein, MD; Raul J Rosenthal, MD
Cleveland Clinic Florida, Weston, FL

Background:

Complications related to gastric bypass could occur at either the gastrojejunostomy (GJ), the gastric remnant (GR), or at the jejunojejunostomy (JJ). The aim of this study was to specifically examine the causes and management of complications at the level of the JJ.

Methods:

A retrospective review of a prospective collected database of patients who have undergone gastric bypass surgery and revision of the JJ at our institution. We analyzed the data of 1752 patients that were prospectively collected from January 2001 to November 2006. Complications at the level of the JJ were categorized into early and late.

Results:

We identified 41 (2.3%) patients with complications at the JJ site; 2 of these patients had gastric bypass surgery in a different institution. Early complications included bleeding in 1 (2.4%) patient, hematoma in 4 (9.7%), leak in 1 (2.4%), stenosis in 9 (21%) and dehiscence of the JJ anastomosis due to an incarcerated trocar site hernia in 1 (2.4%). Late complications included obstruction related to adhesions in 6 (14.6%) patients, volvulus in 1 (2.4%), intussusception in 1 (2.4%), kinking of JJ in 6 (14.6%) and internal hernia in 12 (29.3%). Early use of diagnostic modalities such as plain abdominal x-ray, upper GI series, and abdominal CT scan were used to make the diagnosis. In all cases, the laparoscopic approach was successfully utilized to explore and treat these unusual complications.

Conclusion:

Complications of JJ anastomoses after gastric bypass surgery are unusual but challenging and require prompt recognition and surgical intervention. The laparoscopic method has proven to be a safe and efficient treatment option.

P85. EVALUATION OF COMORBIDITIES AND 30 DAY POSTOPERATIVE COMPLICATIONS IN A VA BARIATRIC PROGRAM.

Michelle K Savu, MD; Ann Bryant, BSN; Teresa Hilleary, RD; Gina Woods, MD; Vanita Aroda, MD
VAHCS-San Diego, San Diego, CA

Background:

Studies have demonstrated that older (>50 y/o) morbidly obese males have a higher risk of complications after bariatric surgery. The VA population is predominately older males and has a higher incidence of obesity.

We evaluated the preoperative comorbidity prevalence and 30 day complication rate in a VA bariatric surgery program.

Methods:

Retrospective analysis was performed on patients receiving bariatric surgery performed by three different surgeons between December 1, 1999 and October 17, 2006, at a VAHCS . BMI was measured. Patients were evaluated for preoperative comorbid conditions and 30 day postoperative complications including intraoperative injuries, postoperative infections, prolonged intubation >48 hrs, respiratory distress, post- or intraoperative bleeding, renal failure, PE, leak and death. Data were analyzed in a retrospective fashion.

Results:

Results: 64 patients' data were evaluated. 61 patients had a gastric bypass and 3 received a gastric band procedure. 51 patients were male (80%) Average age: 51y/o (range 33-66), average BMI :46 (range 36-74) . Comorbidities included: Type 2 diabetes 28 (44%); HTN 47(73%);OSA 44(69%);CAD 11(17%). Overall, 20 patients (31%) had 30 day complications:: wound infection 6(9%); readmit for dehydration 3 (4%); abscess 1(1.6%); PTX 1(1.6%) postop bleed: 2(3%); delayed opening 1 (1.6%); leak 4 (6%) – 2 requiring reoperation; PE 1 (16%); death 1 (1.6%)

Conclusion:

The VA bariatric surgery population comprises a high risk population with greater than average rates of Type 2 Diabetes, HTN, OSA and CAD. However bariatric surgery can be performed with acceptable complication rates.

P86. CAN ADVANCED LAPAROSCOPIC FELLOWSHIP PROGRAMS BE ESTABLISHED WITHOUT COMPROMISING THE CENTER'S OUTCOMES?

Shanu N Kothari, MD; William C Boyd, MD; Pamela J Lambert, RN; Michelle A Mathiason, MS
Gundersen Lutheran Medical Center, La Crosse, WI

Background:

Advanced laparoscopic fellowships have been touted as ideal formats for laparoscopic gastric bypass (LGB) training. Impact of such fellowships on center outcomes remains unknown. We assess here our fellowship program's impact on LGB outcomes.

Methods:

Fellowship-trained surgeon SNK established a multidisciplinary, minimally invasive bariatric surgery program. Initially, all LGBs were performed and assisted by the same surgeon and assistant and outcomes entered into a prospective database. Two years later, a fellowship was established. Pre- and post-fellowship LGB outcomes were compared. Data were analyzed using chi-square. A p-value < 0.05 was considered statistically significant.

Results:

Pre- and post-fellowship group demographics were similar, as were their mean length of stay and percent excess weight loss. Mean operative time was significantly higher in the post-fellowship group.

Conclusion:

An operative time increase was the only training-related difference between the groups. An advanced laparoscopic fellowship program with LGB emphasis can be established without compromising center outcomes.

Measure Compared	Pre-Fellowship n=175	Post-Fellowship n=175	p-value
Demographics			
Mean Age, years	41.9	43.7	0.069
%Female	84	82	0.668
Initial BMI	49.2	47.8	0.050
Mean Operative Time, minutes	123 ± 22	154 ± 28	0.001
Mean Length of Stay, days	2.17	2.35	0.143
%Excess Weight Loss	72.0	72.1	0.990

Complications	Pre-Fellowship n=175	Post-Fellowship n=175	p-value
<i>Major</i>			
Anastomotic leak	1	1	0.999
DVT/PE	0/0	0/0	-
Transfusion	9	5	0.275
Intestinal Obstruction	6	6	0.999
Mortality	0	0	-
<i>Minor</i>			
Stomal Stenosis	1	1	0.999
Marginal Ulcer	3	4	0.999
Wound Infection	2	4	0.685
Incisional Hernia	2	1	0.999

P87. REVISIONAL BARIATRIC SURGERY.

Olga N Tucker, MD; Iswanto Sucandy, MD; Tomas Escalante-Tattersfield, MD; Samuel Szomstein, MD; Raul J Rosenthal, MD
Cleveland Clinic Florida, Weston, FL

Background:

Bariatric surgery is the fastest growing field in medicine. In parallel, the number of reoperations for complications and failure of previous weight loss surgery are increasing.

Methods:

A retrospective review of a prospectively maintained database of patients undergoing primary and revisional bariatric surgery was performed from January 2001 to October 2006.

Results:

2,467 bariatric procedures were performed. Primary n=2,122; Roux-en-Y gastric bypass (RYGB) n=1,763, laparoscopic adjustable gastric banding (LAGB) n=244, and sleeve gastrectomy (SG) n=105. 345 revisions (excluding cholecystectomy) were performed in 266 patients; RYGB n=159, LAGB n=51, SG n=15, vertical banded gastroplasty (VBG) n=33, jejunioileal bypass (JIB) n=6, and distal RYGB n=1. In the RYGB group, 206 revisions were performed in 159 patients; 21 (13.2%) had initial RYGB elsewhere. 58 procedures were performed in 53 patients for acute complications: bleeding n=15, jejunojejunostomy-related n=19 (stenosis n=5, leak n=3, internal hernia n=2, bleed n=4, kinking n=5), gastrojejunostomy-related n=4 (stenosis n=2, leak n=2). 148 procedures were performed in 122 patients for chronic complications: intestinal obstruction n=41 in 37, gastrogastic fistula n=25, pouch dilation n=21, gastrojejunal anastomotic complications n=14. 7 revisions were performed in 6 patients after JIB, and 73 in 51 patients after LAGB (band removal n=46, conversion to RYGB n=9, conversion to SG n=11); 21.6% had LAGB elsewhere. 14 patients had SG after failed LAGB n=11, failed RYGB n=1, previous JIB n=2. 43 procedures were performed in 33 patients after VBG including LRYGB conversion in 31.

Conclusion:

Revisional bariatric surgery is increasing. These complex patients should be managed in specialist bariatric centers for optimal outcome.

P88. LAPAROSCOPIC RE-OPERATIVE BARIATRIC SURGERY: A SINGLE-INSTITUTION EXPERIENCE.

Paolo Gentileschi, MD; Giuseppe S Sica, MD; Francesca Liroso, MD; Domenico Benavoli, MD; Pierpaolo Sileri, MD; Emanuela Bianciardi, MD; Achille L Gaspari, MD
Department of Surgery, University of Rome Tor Vergata, Rome, Italy

Background:

The aim of the study was to evaluate the laparoscopic approach to re-operative bariatric surgery.

Methods:

From January 2003 to July 2006, 21 obesity surgery patients were referred to our Institution for revision. Fifteen patients previously had a laparoscopic gastric banding (LGB), 3 a laparoscopic vertical banded gastroplasty (LVBG), 2 an open jejuno-ileal bypass (JIB) and 1 a laparoscopic gastric by-pass (LRYGB). Indications for re-operation were insufficient weight loss in 8 patients, band slippage in 7, band erosion in 3, severe malabsorption syndrome in 2 and gastric fistula with sepsis in 1 patient. Mean pre-operative BMI was 44.12 kg/m².

Results:

Twenty-one re-operative procedures were performed. Four patients required a third operation. Eight LGB patients underwent band removal (6 by laparoscopy and 2 by open surgery), 6 LGB patients were converted to a RYGB (5 by laparoscopy and 1 by open surgery), 1 band was laparoscopically removed and simultaneously re-placed, 2 JIB patients underwent an open intestinal restoration, 2 LVBG patients were converted to a LRYGB, 1 LRYGB patient was converted to a laparoscopic long-limb gastric bypass and 1 LVBG patient with sepsis was drained by open surgery. Further procedures included 1 LGB, 1 LRYGB, 1 open RYGB and 1 laparoscopic biliopancreatic diversion. Laparotomy was needed in 7 patients (7/25, 28%). Early complications include 1 case of pneumothorax and 5 cases of wound infection. Mortality was zero. Mean follow-up was 22.1 months. Mean post-operative BMI was 32.6 kg/m².

Conclusion:

laparoscopic re-operative bariatric surgery is feasible, safe and effective.

P89. REVISIONAL SURGERY FOR GASTROGASTRIC FISTULA FOLLOWING ROUX-EN-Y GASTRIC BYPASS.

Ikrum Kureshi, MD; Cesar E Escareno, MD; Kerri A Clancy, RN; David B Lutz, MD

Brigham and Women's Hospital, Boston, MA

Background:

A consequence of the ongoing popularity of the Roux-en-Y gastric bypass (RYGB) is patients presenting for revisional procedures. A frequent indication for these procedures is clinically relevant gastro-gastric fistulas (GGF). We reviewed our results of revisional bariatric surgical procedures for GGF post-RYGB.

Methods:

We retrospectively reviewed the records of all patients who underwent revisional bariatric surgical procedures for symptomatic GGF at our center. Patient demographics, time from original bariatric surgical procedure, presenting symptomatology, intra- and postoperative morbidity, and outcome were determined.

Results:

Thirteen patients underwent revisional surgery for GGF. Seven were performed open and six laparoscopically. Average age was 43 and all were female. All original procedures were open RYGB. 11/13 patients had epigastric pain as their primary presenting symptom. Median time from original procedure was 36 months. Average operative time was 226 minutes for open and 236 min for the laparoscopic group. Average EBL was 350cc in the open and 236cc in the laparoscopic group. The average length of stay was 2.3 days in the laparoscopic group and 10 days in the open group ($P=0.003$). There were no intraoperative complications in either group. There were 3 postoperative complications in the open, one of which was a leak, and none in the laparoscopic group. Of those with epigastric pain, all had complete resolution of their pain post-operatively.

Conclusion:

This limited series suggests revisional procedures are effective in treating GGF associated pain. It also suggests that operative repair of GGF can be performed laparoscopically with benefits similar to those seen with primary procedures.

P90. A REVIEW OF LAPAROSCOPIC REVISIONAL BARIATRIC SURGERY WITHIN A MINIMALLY INVASIVE SURGERY UNIT: DOES EXPERIENCE IMPROVE OUTCOMES?

Stanley Zagorski, MD; Brent C White, MD; Louis O Jeansonne, MD; C Daniel Smith, MD; S Scott Davis, MD; Leena Khaitan, MD; Edward Lin, DO

Department of Surgery, Emory University, Atlanta, GA

Background:

Revisional surgery continues to be a significant part of contemporary bariatric practice. In our early experience, half of revisional cases attempted laparoscopically were converted to open procedures and were associated with significant morbidity. The aim of this study was to determine whether, with more experience, the conversion or complication rates have changed.

Methods:

Consecutive laparoscopic and attempted laparoscopic revisional cases performed between 1999 and 2006 were identified using a prospective database. These cases were divided into two groups: early (1999-2003) and recent (2004-2006). Data regarding the operative procedures and perioperative complications were obtained through chart review.

Results:

Of a total of 71 patients undergoing revisional surgery during this time period, 42 patients (59%) underwent a laparoscopic or attempted laparoscopic surgery to convert prior bariatric surgery to Roux-en-Y gastric bypass. There were 21 patients within the early cohort and 21 in the more recent. Age, sex, preop BMI, and comorbidities were not significantly different between groups. There was no significant difference in prior bariatric surgical history between groups, with vertical banded gastroplasty in 74% of cases, gastric bypass in 17%, and jejunoileal bypass in 9% of cases. The conversion rate was 53% in the early cohort and 67% in the recent one ($p=0.35$). The perioperative complication rate was 48% in the early cohort, 10% in the recent ($p<.006$).

Conclusion:

In doubling our experience with laparoscopic revisional surgery, the rate of complications has significantly decreased. At the same time, the rate of conversion to an open procedure has remained the same.

P91. VITAMIN D DEFICIENCY: NOW WHAT?

Shannon M. Jansma, PAC, RD

Life Without Limits, Muskegon, MI

Background: The increased incidence of Vitamin D deficiency after bariatric surgery is becoming well known. Vitamin D deficiency in the bariatric population has been linked to pre-op deficiency, malabsorption, insufficient intake, and non-compliance with vitamins. In addition, patients living farther from the equator get inadequate sunlight to activate Vitamin D conversion.

Vitamin D deficiency can cause osteoporosis, muscle weakness, and arthritis. Patients can be asymptomatic or complain of generalized body aches and pains. If deficiency occurs too long, patients can start developing multiple fractures and/or very painful arthritis. Vitamin D deficiency has also been linked to multiple sclerosis, insulin resistance, autoimmune disorders, gum disease and cancer. Bariatric patients are at increased risk for Vitamin D deficiency the rest of their life depending on intake, absorption, and exposure to sun.

Methods: What form of Vitamin D to monitor, what form to prescribe, length of treatment, and follow up suggestions in the bariatric population have not been defined. To address this recurring trend, a protocol was developed to diagnose, treat, and monitor Vitamin D deficiency in our office. Incidence of deficiency and effectiveness of the treatment protocol implementation in reaching and maintaining normal levels will be evaluated.

Results: If successful, this will give other clinicians (PCPs and Bariatric) guidance how to address Vitamin D deficiency in their everyday practice.

Conclusion: Implementing a Vitamin D protocol, deficiency can be quickly diagnosed, treated and normal levels maintained after malabsorptive and/or restrictive bariatric surgery. Aggressive diagnosis and replacement is crucial for symptomatic relief and prevention of multiple disease states and conditions.

P92. THE SERIAL CHANGES OF SERUM CALCIUM, VITAMIN D, AND IPTH AFTER GASTRIC BYPASS.

Joo-Ho Lee, MD; Jan Dix, PA-C; Michael S Miller, BS; C Joe Northup, MD; Mary Simmons, RD; Anna D Miller, RN; Hongkun Wang, MD; Bruce D Schirmer, MD
University of Virginia, Charlottesville, VA

Background:

The effect of gastric bypass (GB) on serum calcium and vitamin D metabolism is controversial. We evaluated the trends of postoperative serial changes of serum calcium, vitamin D, and iPTH levels.

Methods:

Laboratory data of serum calcium, vitamin D, alkaline phosphatase, and iPTH were determined before and at 1, 3, 6, and 12 months after GB for 289 patients. Postoperative serial changes of parameters was analyzed by comparing mean values. Serial changes of percentages of abnormal patients were also evaluated. All patients were advised to take multivitamins and calcium daily postoperatively. We advised patients with abnormal vitamin D to take vitamin D and increase sunlight exposure. Patients with abnormal iPTH were advised to take calcium citrate and vitamin D.

Results:

The mean age of patients was 41.6 years, and 82% were women. Mean values of calcium and vitamin D showed a tendency to increase significantly after surgery ($p=0.018$, $p<0.001$ respectively) but the decrease in mean value of iPTH did not reach significance ($p=0.873$). The percentage of patients with abnormal calcium and vitamin D also had a tendency to decrease significantly after surgery ($p=0.0587$, $p=0.0281$, respectively), but the percentage of patients with abnormal iPTH had no significant change ($p=0.1154$).

Conclusion:

Vitamin D deficiencies are common both preoperatively and postoperatively in GB patients. Vitamin D and calcium levels increase after GB during one year follow-up, likely due to supplementation. This supplementation was less effective in decreasing the incidence of secondary hyperparathyroidism. Long-term follow-up for these patients is indicated.

P93. DUODENAL SWITCH: ADDRESSING CURRENT CONTROVERSIES.

Barbara N Metcalf, RN; Robert A Rabkin, MD; John D Husted, MD; John M Rabkin, MD; Myra Lazo, PA; Jennifer Smith, PA
Pacific Laparoscopy, San Francisco, CA

Background:

Duodenal Switch (DS) is an increasing popular and accepted treatment for morbid obesity. Managing patients undergoing DS entails an understanding of the procedure and how patients react to the operation. Advantages of DS are massive and sustained weight loss, with fairly free eating. Disadvantages may include steatorrhea and malabsorption of fat-soluble vitamins A, D, E, K and calcium.

Methods:

Literature on DS and the experience of select DS surgeons is reviewed.

Results:

This presentation is a review.

Conclusion:

There are some management issues that are unique to the DS, but many are applicable to the greater bariatric surgical population as well as the general population.

P94. VITAMIN A DEFICIENCY WITH PREGNANCY, POST-OP DUODENAL SWITCH, A CASE STUDY.

Barbara N Metcalf, RN; Robert A Rabkin, MD; John M Rabkin, MD; John D Husted, MD
Pacific Laparoscopy, San Francisco, CA

Background:

Some patient's undergoing Duodenal Switch (DS) procedure for morbid obesity may experience deficiencies of the fat-soluble vitamins, A, D, E and K. These vitamins are included in annual labs and deficiencies can be easily improved with a "dry" form of supplementation. Obstetrician's are not familiar with dosing and call the bariatric surgeon's office for recommendations.

Methods:

Case Report

Results:

38 year old female, 3.5 years post-op Lap DS, not current with follow-up calls from the bariatric surgeon's office when at 9 weeks of gestation, her Vitamin A level was 13. The obstetrician was not comfortable with routine dosing of Vitamin A for her deficiency. The perinatologist and endocrinologist were called consulted. It was decided that: 5,000 IUs of Vitamin A be given IM and the Vitamin A level remeasured. A daily probiotic was added for micronutrient absorption. 5,000 IUs of Vitamin A was then given daily SQ until normal levels of Vitamin A were achieved. At 16 weeks gestation Vitamin A was rising every week by one point.

Conclusion:

Vitamin A can be safely raised quickly even during early gestation. The baby has normal vision at one year. The mother reports that her previous son, born post-op DS-2.5 years with her Vitamin A level 9 at the time of birth. This child also has normal vision. It is important for the bariatric team and medical team to work together for the best outcomes for the patient.

P95. VITAMIN D DEFICIENCY IN PRE-OPERATIVE BARIATRIC SURGERY PATIENTS.

Kelly Gemmel, RD CNSD; Vivek N Prachand, MD; John C Alverdy, MD; Tricia L Skowron, MPH RD; Judith M Starkey, BSN; Chrisy Stavros, RD
University of Chicago Hospital, Chicago, IL

Background:

Obese patients are at risk for hypovitaminosis D. This is particularly of concern for obese patients considering bariatric surgery due to the well-documented incidence of nutritional deficiency that can occur post-operatively.

Methods:

A retrospective chart review and analysis of available pre-operative laboratory values was conducted for 316 consecutive patients (274 females, 42 males) who underwent bariatric surgery between January 2004 and October 2006.

Results:

Of the 316 patients evaluated, 186 (58.9%) were deficient in vitamin D pre-operatively (25-hydroxyvitamin D \leq 20 ng/mL). Average BMI was 52.3 kg/m² and average age was 42.5 years. Of the 140 African-American patients evaluated, 111 (79.3%) were vitamin D deficient; of 158 Caucasian patients, 62 (39.2%) were vitamin D deficient; of 14 Hispanic patients, 11 (78.6%) were vitamin D deficient. We also evaluated serum RBC folate, vitamin B₁₂ and free retinol (vitamin A) levels pre-operatively: 39 patients (12.3%) were vitamin A deficient, 11 patients (3.5%) B₁₂ deficient and no patients were RBC folate deficient. Patients with hypovitaminosis D were also checked for secondary hyperparathyroidism; 42 patients (22.6%) fit the criteria (PTH levels >75pg/mL). Six female patients were being treated for osteoporosis pre-operatively, two of which are included in those deficient in vitamin D. Of note, many patients with low vitamin D levels were being considered for the duodenal switch procedure.

Conclusion:

Obese patients being considered for bariatric surgery, particularly for procedures that are highly malabsorptive, should be screened for hypovitaminosis D pre-operatively. Those patients who are of African American or Hispanic decent are particularly at risk for deficiency.

P96. RYGB PATIENTS ≥ 60 VERSUS < 60 YEARS OF AGE: HOW DIFFERENT ARE THE OUTCOMES FOR OLDER PATIENTS?

Aviv Ben-Meir, MD; Dawn M Miller, MA; Helmut Schreiber, MD; IM Sonpal, MD; Karen Schulz, RN, MSN; John B Marshall, MD
 St. Vincent Charity Hospital, Cleveland, OH

Background:

Although bariatric surgery volumes have increased annually, a review of recent literature indicates that typically less than 5% of these patients are ≥ 60 years of age. Consequently, there are limited published outcomes on which to base clinical/policymaking decisions related to this age group. This abstract reports outcomes for bariatric patients ≥ 60 years of age versus < 60 in our program.

Methods:

All open and laparoscopic RYGB patients (Jun 1, 1999 through Jun 30, 2006) were included in this retrospective study. We hypothesized that % EWL would be similar between groups and that complication rates would not be significantly higher for older patients (p<0.05).

Results:

Of 4,767 bariatric operations, 80 patients (1.7%) were ≥ 60 years of age (54 open RYGB, 26 laparoscopic RYGB). There were no significant differences in initial BMI, LOS, or % EWL during the first year post-op (Table 1, patients analyzed by age group and procedure). Additionally, comorbidities improved/resolved at comparable rates between the groups. One of the 54 open RYGB patients in the ≥ 60 group developed a leak and subsequently died within 30 days, however, there were no statistically significant differences between age groups (Chi-square & Fisher’s exact tests) for mortality, leaks, or venous thromboembolism (VTE).

Conclusion:

Efficacy and safety outcomes in patients ≥ 60 years of age were comparable to those for patients < 60.

Table 1

	Open RYGB		Lap RYGB	
	< 60 yrs, n=3544	≥ 60 yrs, n=54	< 60 yrs, n=1143	≥ 60 yrs, n=26
Age (yrs)	43.0 ± 9.2	61.6 ± 1.7	42.0 ± 9.4	62.2 ± 1.9
Initial BMI (kg/m ²)	51.3 ± 7.7	49.3 ± 7.0	45.7 ± 4.2	44.6 ± 5.4
LOS (days)	3.4 ± 1.5	3.7 ± 1.5	2.3 ± 0.7	2.3 ± 0.6
% EWL, 1 mo	15.5 ± 6.0	16.5 ± 6.5	16.4 ± 6.7	18.7 ± 6.4
% EWL, 6 mos	49.2 ± 12.1	44.8 ± 11.8	54.4 ± 11.1	52.4 ± 13.3
% EWL, 12 mos	65.2 ± 16.0	59.9 ± 17.4	71.7 ± 15.3	68.3 ± 15.8

P97. TRIGLYCERIDE/HDL RATIO: A SINGLE SERUM MARKER FOR METABOLIC SYNDROME IN THE MORBIDLY OBESE?

James Lau, MD; Tracey McLaughlin, MD; Teresa LaMasters, MD; John M Morton, MD, MPH
Stanford School of Medicine, Stanford, CA

Background:

Metabolic syndrome is a constellation of risk factors associated with a greatly increased risk of cardiovascular disease. Complete criteria for metabolic syndrome were set by the NCEP Adult Treatment Panel III (ATPIII). Elevated triglycerides and low levels of HDL in the general population have been shown to correlate well with metabolic syndrome criteria. Simple identification of metabolic syndrome may facilitate assessment of cardiac risk both pre and post bariatric surgery. The study aim was to correlate the triglyceride/HDL ratio to the ATP III criteria in a morbidly obese population undergoing gastric bypass surgery.

Methods:

Serologies, blood pressure levels and waist circumferences of 21 patients prior to gastric bypass surgery were reviewed. The NCEP ATPIII criteria were used to define the metabolic syndrome: elevated blood pressure (or the treatment with medication), fasting blood glucose >110, triglycerides >150, high-density lipoprotein cholesterol <40, and waist circumference >102cm male, 88cm female. The triglyceride/HDL ratio was compared to the NCEP ATPIII criteria in morbidly obese patients undergoing gastric bypass surgery.

Results:

The study population was 90 % female with a mean BMI of 47. In this population, 43% (9/21) met the NCEP ATPIII criteria (>3 criteria) for metabolic syndrome. All patients with triglyceride/HDL ratios above 4.0 also met criteria for metabolic syndrome. Analysis of those with the ratio >3.4 identified 7 of those 9 with metabolic syndrome (78%). In the two patients who had metabolic syndrome with a triglyceride/HDL ratio <3.4, their high-sensitivity C-Reactive Protein was elevated.

Conclusion:

Metabolic syndrome is common in patients undergoing bariatric surgery (43% in our series). All patients with a triglyceride/HDL ratio above 4.0 met the NCEP ATP III guidelines for metabolic syndrome. Further study will fully identify the appropriate triglyceride/HDL ratio threshold for identification of metabolic syndrome. This simple, standard ratio can be useful as a single marker to identify metabolic syndrome in gastric bypass patients before and after surgery.

P98. AGE AND BMI GREATER THAN 50 PREDICTS IMMOBILITY IN THE MORBIDLY OBESE PATIENT.

Kelly Nettles; Mindy Goldstein, PT; Lauren Guenther, RD; Frank Sergi, PhD; Linda Bailey, PA-C; Ramsey M Dallal, MD, FACS

Albert Einstein Healthcare Network, Philadelphia, PA

Background:

Poor mobility is a primary reason why many patients seek weight loss surgery. The 6-minute walk test is a simple study that assesses the capacity to undertake daily activities. We attempted to quantify mobility using the 6-minute walk test and identify patient characteristics that predicts significantly impair mobility

Methods:

Patients were prospectively assessed using 6-minutes walk test by a trained physical therapist or exercise physiologist.

Results:

151 averaged a distance of 1362±433 ft (106-2251ft). Variables that negatively impacted performance were age above 50 ($p=0.0001$), pannus size ($p=0.0001$), and BMI greater than 50 kg/m^2 ($p=0.0003$). On multivariate analysis, only age and BMI predicted distance. Variables that were not significantly associated with walking distance were sex, race, waist-to-hip ratio, and measured range of motion at the knee and hip. There were no associations between BMI and lower extremity range of motion. BMI and age over 50 equally contributed to immobility equally and the combination of age and BMI greater than 50 severely impacted mobility (average distance 947 ft), compared to age greater than 50 alone (average 1260ft) and BMI greater than 50 kg/m^2 alone (1176ft); $p<0.001$.

Conclusion:

With regards to daily functional mobility, obese individuals can generally compensate until their age exceeds 50 years or BMI is greater than 50 kg/m^2 .

P99. BAROS RESULTS IN 500 PATIENTS FOLLOWING LAPAROSCOPIC GASTRIC BYPASS WITH SUBSET ANALYSIS OF AGE AND SEX.

Christopher J Larson, PA-C, RD; Pamela J Lambert, RN; Michelle A Mathiason, MS; Shanu N Kothari, MD
Gundersen Lutheran Medical Center, La Crosse, WI

Background:

The Bariatric Analysis and Reporting System (BAROS) uses a point scale (maximum score of 9) to evaluate weight loss, complications, improvement in medical conditions and quality of life among postoperative bariatric patients. The BAROS was originally developed to address the need for a standardized method of reporting open gastric bypass outcomes and has been shown to be both valid and reliable. We present the largest series to date on laparoscopic gastric bypass (LGB) outcome analysis using BAROS scores. In addition we examined the effect of age and sex on the BAROS score.

Methods:

500 LGB patients were asked to complete the BAROS questionnaire at their postoperative visits. BAROS scores were recorded in a prospective database. Age was stratified into 10-year increments.

Results:

The mean BAROS score peaked at 7.3 at the 24-month appointment. BAROS scores in the 7-9 range are considered excellent results. Age stratification showed that the oldest (60+) and youngest (20-29) age groups had the lowest mean BAROS scores at 3 and 6 months. BAROS scores were not statistically different at the three-week, nine-month or subsequent visits. There was no statistical difference between men and women through the 18-month revisit.

Conclusion:

Age stratification showed that the oldest and youngest age groups may take slightly longer to show improvement in their BAROS scores but catch up to other age groups quickly. These results show the effectiveness of LGB in improving the overall health and quality of life of our patients irrespective of age and sex.

P100. USE OF H. PYLORI STOOL ANTIGEN IN THE EVALUATION OF GASTRIC BYPASS PATIENTS.

Albert Y Chen, MD; William L Newcomb, MD; Keith S Gersin, MD; B Tod Heniford, MD; Timothy S Kuwada, MD
Carolinas Medical Center, Charlotte, NC

Background:

Esophagogastroduodenoscopy (EGD) is commonly performed on patients prior to bariatric surgery to rule out large hiatal hernias and mucosal lesions. EGD directed biopsies can also diagnose active H.pylori infection, which has been implicated in ulcer and/or strictures after gastric bypass. The urease breath test and H.pylori stool antigen test (HpSA) are alternate methods for diagnosing active H.pylori infection. This study examines the utility of HpSA to confirm eradication after treatment for H.pylori prior to gastric bypass surgery.

Methods:

Eighty-nine patients undergoing Roux-en-Y gastric bypass (RYGB) at a single institution from December 2004 to September 2006 were evaluated with preoperative upper endoscopy and routine antral biopsy for H.pylori. Patients with positive biopsies were medically treated and then reevaluated with the HpSA test to assess clearance of infection.

Results:

Thirteen patients were found to harbor H.pylori on preoperative endoscopy and were medically treated. Twelve patients tested with HpSA after medical treatment were cleared of infection. One patient required additional antibiotics for eradication. No patients treated for H.pylori have developed postoperative ulcers or strictures. On endoscopy, one patient had a pre-pyloric ulcer while another had severe gastritis. Both had active H.pylori infections which were successfully treated.

Conclusion:

In comparison to EGD, HpSA is a noninvasive, less costly method for documenting eradication of H.pylori. Furthermore, disruption of esophago-gastro-duodenal continuity after gastric bypass renders EGD and the urease breath test ineffective for diagnosing active H.pylori infection. The HpSA test represents a sensitive, noninvasive means of surveillance for active infection and response to treatment that is well suited for gastric bypass patients.

P101. INSURANCE COVERAGE FOR BARIATRIC SURGERY: WHO GETS DENIED AND WHY?

Vijaya L Nirujogi, MD; Ballem Naveen, MD; Silas Chikunguwo, MD; Bipan Chand, MD; Philip Schauer, MD
Cleveland Clinic, Cleveland, OH

Background:

The aim of this study is to illustrate the frequency and reasons for insurance denials and ultimately aid the patient and physician navigate through the appeal process .

Methods:

This is a retrospective analysis of all patients evaluated at our institution for weight loss surgery from January 2005 to June 2006 that met the NIH criteria for surgery. All patients were evaluated by the bariatric team and fulfilled the criteria for surgery. Data was collected for variables including age, sex, BMI, co-morbidities, Insurance carrier and the reason for denial.

Results:

Results: 615 patients who met the criteria for weight loss surgery were submitted for pre approval and 120 were denied (19.5%). Of these 94(78.3%) were women, 26(21.7%) were men, mean age was 44yrs, mean BMI=51 (range=35-89) kg/m², mean number of comorbidities = 3 (range=0-9). . There were 2 deaths among the 120 patients waiting the appeal process, a mortality rate of 1.7%. Twenty one (17.5%) patients appealed the denials and of these 12(57%) were ultimately approved .

Conclusion:

We found that the insurance companies cited lack of adequate documentation of supervised diet as the primary cause of denial. Contrary to this we noted extensive documentation to multiple failed diets . There were 2 deaths among the 120 patients waiting the appeal process, a mortality rate of 1.7%, almost double the national average of mortality rate for Roux-En-Y gastric bypass. Almost 20% of the eligible patients were denied access to surgery for reasons that have no proven benefit on patient selection or the outcome of surgery.

P102. BARIATRIC SURGERY...WHY NOT?

Joanne Rogers, CNS; Stephanie F Yeager, RD; Diane Daddario, RN; Christina Hartman; John Gerdes, PhD; Peter N Benotti, MD, FACS; Anthony Petrick, MD, FACS; William E Strodel, III, MD, FACS; Christopher D Still, DO, FACN
Geisinger Medical Center, Danville, PA

Background:

Many qualified patients interested in bariatric surgery will not complete requirements needed to have surgery or ultimately decide not to have surgery. Current literature points to psychiatric issues, especially depression, as the major reason for drop-out in these types of programs.

With the health risk of staying at a morbid obese state usually higher than those risks of surgery, we investigated reasons why patients who started our 6 month pre-surgical education program did not have their surgeries 1 year after starting.

Methods:

Twenty-eight patients of 61 total new patients were placed in the pre-surgery program, 3 of these patients had surgery within 1 year of the initial visit. The remaining 25 patients (18 females; 7 males) were interviewed by telephone. The question asked was "What factors contributed to why you initiated a program for bariatric surgery but did not continue treatment?". Total responses were collected; a respondent could have multiple answers.

Results:

Summary of responses: insurance issues-8 (32%); concern of surgical risk-6 (24%); fear of lifetime change-4 (16%); other medical conditions-3; life issues-3; reason unknown-3; distance-2 (8%); depression-2; unable to pay the program fee 1; work-1; prison-1; felt lost in the system-1; surgery elsewhere-1.

Conclusion:

These results suggest that insurance issues, concerns of surgical risk and fear of lifetime change are major barriers for patients undergoing bariatric surgery in our population and not psychiatric illness or depression as the current literature suggests. We may need to change the method of education to increase completion of the program.

P103. THE ACCURACY OF SELF REPORTED WEIGHT AND HEIGHT IN THE BARIATRIC SURGERY PATIENT.

Lauren Guenther, RD; Linda Bailoey, PA-C; Coleen Curley, RD; Ramsey M Dallal, MD, FACS

Albert Einstein Healthcare Network, Philadelphia, PA

Background:

BMI is a critical value in the evaluation of patients for bariatric surgery. We examined the accuracy of patient reported height and weight in patients presenting for bariatric surgery.

Methods:

Patient weight and height were measured in our office and compared to weight and height that was self-reported on pre-registration materials.

Results:

110 patients that were candidates for bariatric surgery were examined. Thirty-seven people (36%) were incorrect by an inch or more. Patients were equally likely to underestimate as overestimate their height. Average deviation from measured height was 0.03 ± 0.96 inches. Patients either under- or overestimated their weight by an average of $2.2 \pm 2.4\%$. Fifty-eight patients (53%) deviated more than five pounds from their actual weight. Increasing weight predicted increased inaccuracy of self reported weight as a percentage of actual weight. Those patients < 300 pounds were inaccurate by $1.6 \pm 0.01\%$, those patients > 300 pounds were inaccurate by $3.1 \pm 0.3\%$, $p < 0.05$. Patients were 1.7 times as likely to underestimate their weight than overestimate it. On average, reported and actual BMI were not statistically different. In four patients (3.6%) the BMI was affected by more than 5 points. BMI was accurate to 0.045 ± 2.5 points comparing actual and reported values.

Conclusion:

Patients under-evaluation for bariatric surgery were surprisingly accurate with reporting their weight and height. Deviations in reported and actual BMI were clinically insignificant.

P104. SUICIDE RISK IN LAGB PATIENTS.

Eric H Prenskey, PhD; Margaret Primeau, PhD; Mara Stankiewicz; Vafa Shayani, MD
Loyola University Medical Center, Maywood, IL

Background:

Depression is common among morbidly obese patients according to both epidemiologic studies and the bariatric surgical literature. This comorbidity is not simple, though: symptoms of depression may improve, fail to change, or actually worsen following successful weight-loss surgery (e.g., Ryden et al., 1989; Waters et al., 1991; Dixon et al., 2003). We were prompted to investigate the prevalence of depression and suicidal ideation among our bariatric surgical patients when one was emergently admitted for intentional medication overdose 23 months after laparoscopic adjustable gastric banding (LAGB). Prior to surgery, this patient had denied acute depression. At 23 months, the patient had lost 51% of excess weight (%EWL).

Methods:

Preoperative data from psychological evaluations of 92 consecutive LAGB patients were tabulated. Frequencies represent patient responses to standard interview probes. Partial correlations were calculated for preoperative depression scores (MMPI-D) and later %EWL in 62 patients with at least six months follow-up.

Results:

A history of depression (53%) and current depression (28.4%) were common preoperatively. In addition, 14% acknowledged past suicidal ideation, and 3.5% reported a past suicide attempt. One patient disclosed current suicidal ideation, and 14% indicated a family history of a suicide attempt. Eventual weight loss was negatively but modestly correlated with elevations in preoperative depression ($r = -.28, p < .05$).

Conclusion:

While histories of depression and suicidal ideation are far more common in the preoperative patients than in the normal-weight population, and clearly warrant clinical attention, the relevance for 'successful' outcomes in LAGB is unclear. Postoperative depression and its complications are also difficult to predict.

P105. IS IT COST-EFFECTIVE TO SCREEN FOR HELICOBACTER PYLORI INFECTION IN BARIATRIC PATIENTS PRIOR TO GASTRIC BYPASS SURGERY?

Tatiana Figueredo, MD; Stephanie F Yeager, RD; Christina Hartman; Peter N Benotti, MD, FACS; Anthony Petrick, MD, FACS; Mary Jane Reed, MD, FACS; William E Strodel III, MD, FACS; Christopher D Still, DO, FACN
Geisinger Medical Center, Danville, PA

Background:

Gastrointestinal bleeding (GIB) following bariatric surgery is an uncommon occurrence, but not without potential morbidity, mortality and cost. The preoperative screening for *Helicobacter pylori* (*H. pylori*), a common link to GIB, remains controversial.

We hypothesized that although the prevalence of *H. pylori* positive patients in the bariatric population remains low; the cost of screening prior to surgery significantly outweighs the potential risk and cost of GIB after gastric bypass surgery.

Methods:

A chart review of 443 (90 males; 353 females) patients undergoing gastric bypass patients was conducted. Each patient underwent stool antigen testing for detection of *H. pylori* infection prior to surgery. Prevalence was obtained in total bariatric population. Cost data was also collected from our system for both testing and hospitalization for GIB.

Results:

H. pylori were detected in 26 study patients (6%). Of the *H. pylori* positive patients 4.4% were male and 6.2% were female. The cost of stool *H. pylori* testing \$25.00 per test or \$11,075.00 for all study patients screened. The approximate cost for a patient to be hospitalized for a GIB is \$7,000.00. When comparing the cost of screening preoperatively with the cost of the hospitalization of one patient with a GIB, the benefits of screening prevail.

Conclusion:

Our preliminary data suggests that although prevalence of *H. pylori* in our bariatric surgery population is low, the costs of screening patients preoperatively significantly outweighs the potential morbidity, mortality and cost of not screening given the increased lifetime risk of GIB secondary to *H. pylori* infectivity.

P106. MUSCULO-SKELETAL QUALITY OF LIFE: WHAT IS THE INTERACTION BETWEEN OBESITY, DEPRESSION, AND GI RELATED QUALITY OF LIFE?

Elise Lawson, BS; Betsy Encarnacion, BS; Eric Ketchum, BS; John M Morton, MD, MPH
Stanford School of Medicine, Stanford, CA

Background:

Two leading public health concerns in the US include morbid obesity and joint disease. Clearly, obesity affects musculo-skeletal quality of life (MS QoL) but little is known about the interaction between obesity, depression and gastro-intestinal related quality of life (GIQoL.). The study aim was to determine the impact of obesity upon musculo-skeletal quality of life as well as determine the interaction between MS QoL, depression and GIQoL.

Methods:

The Short Form for Musculo-Skeletal Function Assessment (SMFA), Beck Depression Index (BDI), and Gastro-Intestinal Related Quality of Life (GIRQoL) surveys were administered prospectively for 86 gastric bypass patients. Patient demographics included average age 43, 82% female, and average pre-op BMI 49.

Results:

The morbidly obese patients had greatly reduced SMFA scores for every category and over-all total in comparison with US norms. The results are summarized in the table below. In addition, the SMFA was positively correlated with the BDI (Spearman coefficient, .47397, p value <.0001) and negatively correlated with the GIRQoL, (Spearman coefficient,-0.57493, p value <.0001).

Conclusion:

Morbid Obesity greatly affects MS QoL as measured by SMFA. In turn, there is great correlation between a new constellation of musculo-skeletal quality of life, depression, and GI-related Quality of life. These interactions may be useful in predicting weight loss in future investigations as each may play a role in weight maintenance.

P107. THE EFFECT OF PREOPERATIVE WEIGHT LOSS ON POSTOPERATIVE WEIGHT LOSS AND MAINTENANCE.

Gregory A Broderick-Villa, MD; Jason Rasmussen, MD; Colleen Baucom-Pro, RD; Abigail Weston, BSN; Jennifer Campbell, RD; Judy Yamasaki, BSN; William D Fuller, MD; Mohamed R Ali, MD
UC Davis, Sacramento, CA

Background:

Preoperative weight loss in the setting of Roux-en-Y gastric bypass (RYGB) remains incompletely studied and controversial. We hypothesize that preoperative weight loss is feasible, does not detract from expected weight loss after surgery, and may enhance overall weight loss and maintenance.

Methods:

The study population consisted of 351 consecutive patients who underwent RYGB and was divided into 4 groups (Group 1=none or gain; Group 2, <5%; Group 3, 5-10%; Group 4, >10%) depending on percentage of preoperative weight loss achieved. Data were collected regarding demographics, BMI change, and excess weight loss (EWL) and analyzed by ANOVA and Fisher's exact test at the $\alpha=0.05$ level.

Results:

All groups were demographically similar in age and were predominantly female. Maximum follow-up was 36 months. Groups 3 and 4 had significantly higher initial excess weight and BMI ($p<0.05$) but became similar after preoperative weight loss. Most patients (74%) were able to lose weight prior to surgery, with 36% losing > 5% body weight. Preoperative weight loss did not decrease the magnitude of expected postoperative weight loss. Patients who lost weight preoperatively demonstrated more EWL and BMI change (from initial weight) that was sustained far into the postoperative period and reached statistical significance at several time points ($p<0.05$).

Conclusion:

This study demonstrates that obese patients are capable of losing weight prior to RYGB and that this weight loss does not negatively impact the expected postoperative weight loss. Furthermore, preoperative weight loss combined with RYGB may result in better long-term EWL and BMI change than surgery alone.

P108. VOLUME TARGETED VENTILATION VERSUS AIRWAY PRESSURE RELEASE VENTILATION IN THE MORBIDLY OBESE PATIENT.

Omid Jazaeri, MD; Kenneth Miller, MEd, RRT-N; Michael Pasquale, MD, FACS; Mark Cipolle, PhD, MD, FACS
 Lehigh Valley Hospital and Health Networks, Allentown, PA

Background:

Approximately 65% of American adults are either overweight (BMI > 25 - 29.9 kg/m²) or obese (BMI > 30 kg/m²) according to the Centers for Disease Control and Prevention. A study spanning more than 7 years of ICU data (1995-2002) estimated the incidence of morbidly obese patients requiring ICU treatment as 14 cases per 1,000 admissions per year. Our aim was to evaluate the feasibility of airway pressure release ventilation (APRV) in providing support to morbidly obese patients with acute lung injury/acute respiratory distress syndrome (ALI/ARDS).

Methods:

Retrospective analysis of ICU stay in 24 morbidly obese patients requiring ventilatory support. Patients were divided into groups supported on either conventional volume-targeted ventilation (VT) or APRV. Admission body mass index (BMI), ventilator days and serial ratio of arterial oxygenation to inspired oxygen fraction (PF ratio) were measured.

Results:

Whereas no significant differences were noted in BMI or ventilator days between patients supported with VT ventilation or APRV, all serial PF ratios, except the initial measurement, were significantly higher in the APRV group versus the VT ventilation (P < 0.05). Alveolar ventilation was augmented by APRV strategy compared to conventional ventilation. There were three deaths in the VT group and one in the APRV group.

Conclusion:

APRV is a feasible alternative to conventional volume targeted mechanical ventilation for augmentation of alveolar ventilation in morbidly obese patients with acute lung injury. Whether APRV reduces mortality, ICU stay or ventilator free days remains to be studied in a prospective fashion. Clinical interventions can then be adjusted to this population and potential complications guarded against.

Age years	BMI kg/m ²	Mode	Ventilator Days	P/F 1	P/F 2*	P/F 3*	P/F 4*	P/F 5*
52	49	VT	11	200	278	195	278	240
46	48	VT	21	154	109	148	22	152
55	61	VT	42	122	154	148	170	170
61	43	VT	33	167	79	70	88	175
34	40	VT	42	190	220	146	165	218
60	40	VT	30	148	138	130	126	144
47	40	VT	8	173	141	366	270	230
68	36	VT	34	74	330	228	465	460
64	35	VT	9	120	310	220	223	226
74	41	VT	15	284	283	336	332	314
50	40	VT	14	293	224	196	256	194
51	47	VT	19	105	115	258	176	199
Mean	43		23.2	169.1	198.42	203.4	214.3	226.83
62	60	APRV	14	134	261	322	420	323
42	38	APRV	15	173	432	420	425	345
45	40	APRV	33	140	216	274	210	224
48	41	APRV	39	102	342	205	195	293
48	41	APRV	5	160	186	212	242	316
70	36	APRV	24	93	126	145	373	260
41	35	APRV	14	93	343	275	390	353
48	44	APRV	31	212	251	294	305	310
24	37	APRV	13	80	338	168	289	310
67	50	APRV	33	115	252	360	335	325
41	37	APRV	30	200	278	240	224	293
41	37	APRV	16	206	194	210	175	258
Mean	41		22.3	142.3	268.25	260.4	298.6	300.83

* Denotes P < 0.05

P109. OBSTRUCTIVE SLEEP APNEA IN THE PACU FOLLOWING BARIATRIC SURGERY.

Victor Chung, BS; Carolyn D'Ambrosio, MD, MS; Sean O'Reilly, MD; Jana Hudcova, MD; Roman Schumann, MD
Tufts University School of Medicine, Boston, MA

Background:

Patients presenting for bariatric surgery have a high incidence of obstructive sleep apnea (OSA). To examine the effects of surgery and anesthesia on sleep-disordered breathing in the immediate postoperative period, we conducted a prospective observational trial in patients following laparoscopic gastric bypass (LGB).

Methods:

Patients were monitored upon arrival in the PACU by polysomnography (PSG) and transcutaneous CO₂ (tCO₂) for 8 hours. Data collection included patient demographics and standard PSG data. Patients with a PSG positive for OSA before surgery (PSGY) were compared to those who did not have a preoperative PSG (PSGN). Statistical analysis was performed by non-parametric Kruskal-Wallis or Sign test, respectively. A $p < 0.05$ was considered statistically significant.

Results:

43 patients (9m, 34f), with a mean age of 42.8 ± 11 and a mean BMI of $48.3 \pm 7.0 \text{ kg/m}^2$ completed the study. 18 and 25 subjects were in the PSGY and in the PSGN group respectively. No significant difference between groups was found for demographics, the SpO₂ nadir ($p = 0.49$, mean 89 ± 6.6), the tCO₂ max (mean 56, $p=0.5$) and average (mean 41, $p=0.8$) and the respiratory disturbance index (RDI). There was a statistically significant difference when comparing the pre and postoperative RDI, 44.6 ± 26.9 and 24.1 ± 20 respectively, of patients with OSA ($\text{RDI} > 5$) in the PSGY group ($p=0.02$).

Conclusion:

The baseline RDI is reduced, but still elevated above normal, in the PACU in OSA patients following LGB. However significant respiratory events during sleep are still present and confirm the need for close postop observation of these patients.

P110. MAXIMIZING OUTCOMES THROUGH MULTIDISCIPLINARY CASE CONFERENCING.

Judy K Crouch, RN, MSN, A

Mercy General Health Partners, Muskegon, MI

Background:

In spite of a comprehensive, multidisciplinary bariatric surgery program with solid patient education and specific post-operative expectations regarding medical visits, nutrition, exercise, and behavioral health, some patients evade the required program components once the surgery has occurred. A process was devised to capture patients lost to follow-up, including those not reporting for scheduled appointments with any member of the team.

Methods:

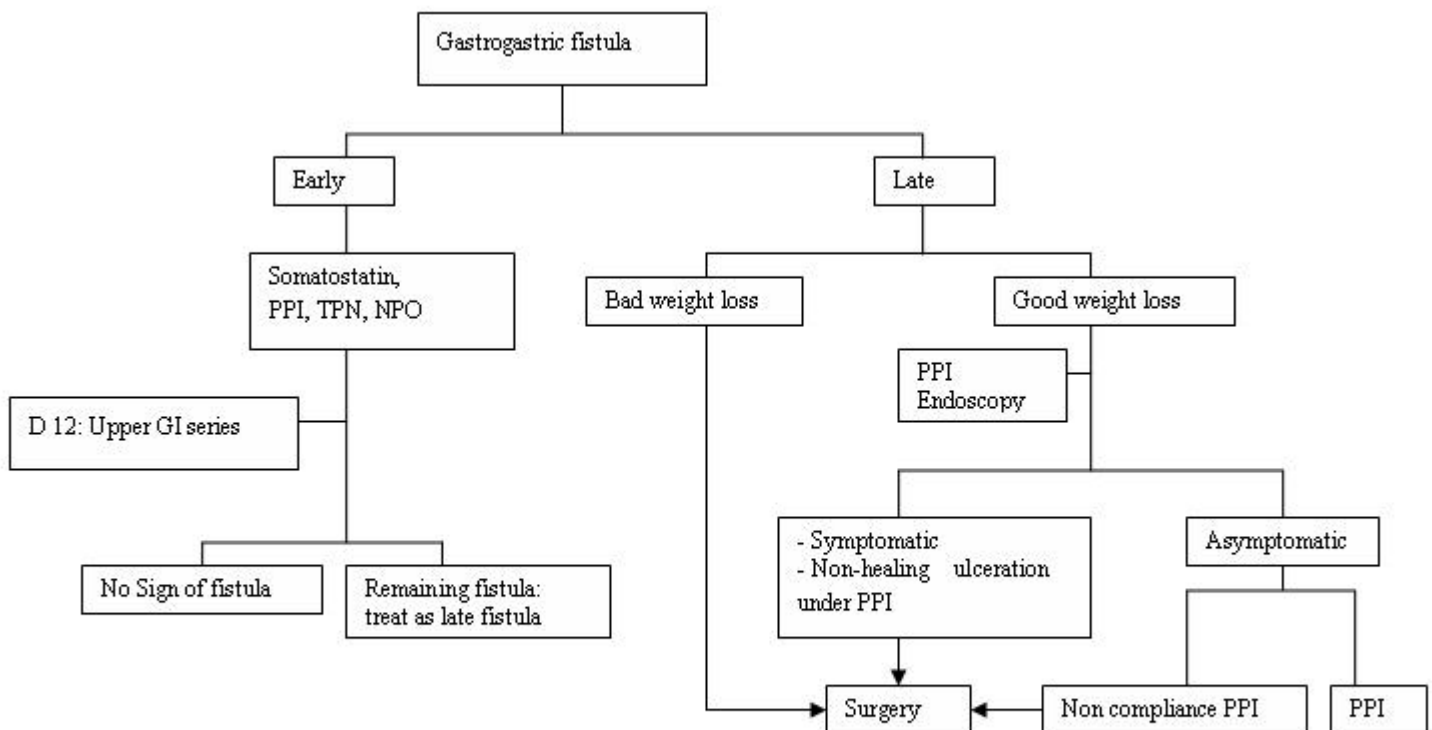
An innovative multidisciplinary case conference was designed as a forum for the entire team to discuss patients by reviewing the medical, nutritional and exercise documentation to evaluate patient compliance, progress, and outcomes. Patients lost to follow-up are contacted to resume the post-operative program requirements or to discuss individualized treatment plans. Referrals to the appropriate team member or support group are made. Case conferences of twenty patients occur bi-weekly. A special form was designed to document case findings and individualized treatment plans.

Results:

Case conferences have proven beneficial in capturing patients lost to follow-up in all disciplines, maintaining patient compliance and ensuring positive outcomes. Discrepancies between patient self-reporting of compliance and actual documentation can be uncovered. The team then has the opportunity to re-establish the patient actively in the program.

Conclusion:

A comprehensive team approach to post-surgical follow-up, continued education, and program compliance is a means to further support the patient in successful long-term weight management. This pro-active process of team case conferencing is another step in the journey toward maximizing successful patient outcomes.



P111. EVALUATION OF TREATMENT REGIMENS FOR CONTROLLING HYPERGLYCEMIA IN POSTOPERATIVE BARIATRIC SURGERY PATIENTS.

Andrew A Wheeler, MD; Suzanne Mitschele, PharmD¹; Sharon L Bachman, MD; Richard K Johnson, MD; Richard W Madsen, PhD; Roger A de la Torre, MD; James S Scott, MD *Andrew A Wheeler, MD; Suzanne Mitschele, PharmD; Sharon L Bachman, MD; Richard K Johnson, MD; Richard W Madsen, PhD; Roger A de la Torre, MD; James S Scott, MD* University of Missouri, Columbia, Columbia, MO; ¹St. Lukes Health System, Kansas City, MO

Background:

As obesity surgery continues to grow in popularity, a large number of patients with diabetes or undiagnosed diabetes must be managed postoperatively. However, the optimal strategy for managing postoperative blood glucose (BG) has yet to be determined. We hypothesize that early insulin infusion is superior to sliding scale insulin (SSI) for BG control.

Methods:

We performed a retrospective chart review of all patients undergoing gastric bypass or laparoscopic band placement between September 2004 and November 2005 at one institution. Glucose control was compared in 6 groups of patients: 1) No medication received (control); 2) SSI beginning POD# 0; 3) Insulin infusion beginning POD# 0; 4) SSI plus oral medications; 5) SSI beginning POD# 0; 6) Insulin drip begun POD# 1. Good BG control was defined as BG between 80-140 mg/dL. Statistical significance was determined using Differences of Least Squares Means.

Results:

These results demonstrate the percentage of time each treatment group remained in target BG range: Group 1: 55%, Group 2: 33%, Group 3: 47%, Group 4: 23%, Group 5: 24%, Group 6: 32%. No significant differences were found between groups except when comparing the control group to the two groups treated only with SSI.

Conclusion:

SSI may not effectively control blood glucose in postoperative bariatric surgery patients. Postoperative glucose control is a difficult but necessary goal in any bariatric surgery practice and further studies are necessary to determine the optimal means of management.

P112. IDENTIFICATION OF APPROPRIATE BARIATRIC SURGERY CANDIDATES USING A PRE-SURGERY TELEPHONIC BEHAVIOR CHANGE PROGRAM.

Steven Bock, MD, FACS; Marie Gahler, BA¹; Debie McSperitt, RD¹, CD; Judith A Malmgren, PhD²
Group Health, Seattle, WA; ¹Free and Clear, Seattle, WA; ²HealthSTAT Consulting, Inc., University of Washington, Seattle, WA

Background:

A pre-surgery telephonic support program was developed to aid patients in demonstrating coaching compliance and achievement of minimal weight loss as preparation and indication of post surgery behavioral outcomes.

Methods:

Patients undergoing bariatric surgery at a staff model HMO are required to participate in a pre-surgery program consisting of 8 weeks of calls with a registered dietician, 20-30 minutes in length, addressing caloric reduction and exercise strategies. Height, weight, diet, food records, meal replacement use and physical activity are recorded. Non-compliance is identified as weight gain during the 8 weeks or missed scheduled calls with personal effort and barriers considered. Upon completion a pre-surgery summary is prepared for the surgeon's evaluation.

Results:

In 2005-2006, 186 patients with median age 48 and 77% female were enrolled. Two patients (1%) were identified as non-compliant because of 1) weight gain and inability to follow a diet plan and 2) missed calls and failure to keep food records. Seven patients (4%) had comorbid conditions arise during the pre surgical period, with two cancelled surgeries and five postponed. The remaining 177 patients had an average of 4 phone calls (range 2-8) during the 8 week program. Body mass index ranged from 35 to 86, averaging 49.86 and weight loss ranged from 0 to 48 pounds with an average of 12.83 pounds lost or 8.37% average excess body weight loss. All 177 qualified for surgery post program completion.

Conclusion:

The call program identified patients with compliance issues and provided documentation of acquired skills needed for desired post bariatric surgery outcomes.

P113. THE EFFECT OF INTERMITTENT PNEUMATIC COMPRESSION ON VENOUS FLOW AUGMENTATION IN THE BARIATRIC SURGERY PATIENT.

Cesar E Escareno, MD; Kerri A Clancy, RN; Maura Griffin, PhD¹; Andrew N Nicolaides, MS, FRCS¹; *David B Lautz, MD* Brigham and Women's Hospital, Boston, MA; ¹Noninvasive Vascular Screening and Diagnostic Centre, London, UK

Background:

Venous thromboembolism (VTE) remains a leading cause of perioperative mortality facing bariatric surgery patients. Despite routine use, the effectiveness of intermittent pneumatic compression devices (IPCs) remains unstudied in the obese population with its associated larger limbs, higher collateral flow, and increased intra-abdominal pressures. This study evaluates the efficacy of sequential IPCs in a bariatric patient population.

Methods:

Prospective bariatric surgery patients with thigh circumferences between 26" and 34", were consented for participation in this unblinded, controlled study, and randomly assigned to one of two groups. Group 1 was tested with the SCD RESPONSE Compression System and Group 2 with the portable SCD EXPRESS System. Peak blood velocity (PV) and total volume flow (TVF) were obtained at baseline and during compression, by duplex ultrasonography at the common femoral vein.

Results:

Mean BMI was 48.6 in Group 1 (n=8) and 52.3 in Group 2 (n=9). In Group 1 mean PV augmentation was 66% over baseline (p=.0081), and mean TVF augmentation was 74% (p=.0013). In Group 2, PV augmentation was 86% (p=0.0025), and TVF augmentation was 72% (p=0.0071). All patients demonstrated augmentation of both PV and TVF with IPC.

Conclusion:

Both IPC systems augmented PV and TVF in this study. Although levels of augmentation were less than in the non-obese patient, these results suggest that IPC significantly augments lower extremity venous flow in this population. Further studies on the effectiveness of such devices on DVT prevention, in the bariatric population are needed.

P114. THE EFFECT OF A BARIATRIC SPECIFIC PNEUMATIC COMPRESSION SYSTEM ON VENOUS FLOW IN THE SUPEROBESE PATIENT.

Cesar E Escareno, MD; Kerri A Clancy, RN; Maura Griffin, PhD¹; Andrew N Nicolaides, MS, FRCS¹; *David B Lautz, MD*
Brigham and Women's Hospital, Boston, MA; ¹Noninvasive Vascular Screening and Diagnostic Centre, London, UK

Background:

Bariatric surgical patients with large leg circumferences are difficult to mechanically prophylax for venous thromboembolism with currently available technology. These patients are prone to problems with sizing, fit, and posterior crushing of intermittent pneumatic compression (IPC) sleeves. This study evaluated the effectiveness of a novel IPC sleeve designed specifically for the super-obese patient with very large leg circumference.

Methods:

Prospective bariatric surgical patients with a calf circumference larger than 23" were considered for participation in this unblinded, controlled study. Twelve patients were selected for the study and assigned into 2 groups. All patients were studied using the knee-length bariatric IPC sleeve in combination with the SCD EXPRESS Compression System. Venous duplex ultrasonography was performed at the common femoral vein in Group 1 and at the popliteal vein in Group 2. Peak blood velocity (PV) and total volume flow (TVF) were obtained at baseline and during compression in both groups.

Results:

Average BMI of the groups was 58.6 and 63 kg/m² respectively. Mean calf circumference was 23.6" and 24.2" respectively. Group 1 (n=6) achieved a mean PV augmentation of 32% (p=0.49), and a mean TVF augmentation of 58% (p=0.34). Group 2 (n=6) achieved mean PV augmentation of 132% (p=0.0096), and mean TVF augmentation of 156% (p=0.023).

Conclusion:

This system produced significant augmentation of TVF and PV measured at the popliteal vein. Non-significant augmentation at the femoral vein may reflect the larger thigh venous volumes in this population. Further studies evaluating mechanical prophylaxis in bariatric patients with very large limbs are warranted.

P115. HAIL! HAIL! THE GANG'S ALL HERE! THE INTEGRATED MODEL OF SUPPORT GROUP MANAGEMENT.

Julie M Janeway, BBA, MSA; *Karen J Sparks, BBA, MBEEd*

Little Victories, Onondaga, MI

Background:

Traditional support groups tend to segregate members by weight loss method. Most programs operate with these types of groups – Lap-Band™, RNYGB/DS/BPD, medically managed, all in separate groups. Often pre- and post ops are segregated as well. Patient support personnel may be segregated in addition. The Segregated Model is the prevailing view of preferred support group structure. This presentation offers for consideration an alternative model called the Integrated Support Group Model. This model contemplates the inclusion of all bariatric patients, regardless of weight management method. It also embraces the active inclusion of the members of the bariatric patients' personal support circle. It concentrates on creating affiliation, education, motivation, and lived experience as the common binders to create group cohesion and goal achievement. It focuses on the goal of weight management, not on the method of weight management.

Methods:

Data and qualitative research/information will be presented from successful Integrated Support Group Model groups. Experiences and comparisons with segregated groups will be explored.

Results:

The Integrated Model has shown to be highly effective. Patient compliance is good, patient self-advocacy is increased, patient social skills improve, support group attendance is improved, and other beneficial attributes emerge. The Integrated Model is a viable means of support group management if the key concepts are understood and properly applied.

Conclusion:

The Integrated Model works. It can be implemented in any bariatric support group environment. It is not a suggested replacement for the Segregated Model, but rather an additional option for practices that may have limited support group resources.

P116. MEDICATION THERAPY MODIFICATIONS IN POST-SURGICAL BARIATRIC PATIENTS.

Nabila Ahmed, PharmD.; Julie M Janeway, BBA, MSA¹; Karen J Sparks, BBA, MBE^d

Ferris State University/Michigan State University, East Lansing, MI; ¹Little Victories, Onondaga, MI

Background:

Unfortunately, medication absorption and dosing information in post-surgical gastric bypass patients consists of virtually nothing. This presentation discusses absorption sites, medications as they are absorbed into the body, and the implications of bariatric surgery on this process. Factors affecting bioavailability, fat solubility, dosage formulations (i.e. sustained release, delayed release etc), and first pass metabolism are addressed. Specific drug class properties such as cardiac and allergy medications, mood stabilizers, anti-depressants, thyroid supplements, asthma medications, and others are discussed to highlight possible clinical implications on medication efficacy following bariatric surgery. Emotional and compliance effects on patients dealing with this information, sensitivity issues required to educate them in a non-intimidating way, and appropriate educational techniques are addressed.

Methods:

Research of existing information and literature; analysis of secondary data pertaining to specific medication information materials and the medication formulations themselves; current knowledge and information about absorption rates and processes and medical research about the way the gastrointestinal and related systems work after gastric bypass and other weight loss surgeries; patient reports and records. Pilot studies were formulated and are underway to test the theories.

Results:

The existing evidence has been developed into a compelling presentation, and a set of guidelines have been created that cover many of the most popular types of medications taken by bariatric patients.

Conclusion:

Due to the general infancy of bariatrics as a medical field, as well as its exponential growth and increasing popularity, the research is lagging behind. This is significant research that affects millions of patients world wide.

P117. WE HAVE A PROBLEM! CRISIS COMMUNICATION AND MANAGEMENT TO MINIMIZE RISK.

Julie M Janeway, BBA, MSA; Karen J Sparks, BBA, MBEEd
Little Victories, Onondaga, MI

Background:

Whether it be in a court of law or the court of public opinion, crisis management means minimizing risk, maintaining credibility, and managing public perception. All of bariatrics suffers when one crisis is handled poorly. This presentation will explore advance crisis communications plans, and teach practice professionals how to create one for their practice so if the dreaded words “we have a problem” are ever uttered, a plan will be in place. The presentation will cover identifying a crisis, identifying the stakeholders in a crisis, types of crises, who should handle the crisis management, identifying and preparing appropriate crises responses in advance, and turning a crisis around. The presentation covers crises both big and small, common and extraordinary. Unfortunately the issue is not IF you'll have a crisis, it's WHEN you'll have one. This presentation will help practice personnel to be prepared, and know what to do when the crisis presents itself.

Methods:

Experience as a crisis communication planner and manager, corporate counsel, and university professor; overview of law, communications theory, and practical application of the concepts; skills, tips, and resources provided.

Results:

Very few bariatric practices have any sort of crisis management team or plan. They operate in reactive mode, not proactive mode. Advance crisis management is entirely overlooked.

Conclusion:

Bariatric practices and programs need to examine the unique nature of their practices and their patient populations as they relate to the potential for crises. Advance crisis communication plans, and appropriate crisis management can significantly reduce liability and litigation exposure.

P118. LEGAL LIABILITY AND SUPPORT GROUP LEADERS.

Julie M Janeway, BBA, MSA; *Karen J Sparks, BBA, MBE*

Little Victories, Onondaga, MI

Background:

Support group leaders offer numerous liability exposures for bariatric programs and surgeons ranging from general negligence and malpractice to unauthorized practice of law or medicine and defamation, and from HIPAA and the ADA to intellectual property and premise liability issues. Support group leaders may hold allied health or professional licenses, or may be lay persons with no training in medicine or any other related field that is encompassed in support group leadership. The nature of support groups necessarily includes discussions that may venture into areas that are outside of the licensure, scope of responsibility, or competency of the support group leader. Unauthorized practice, negligence, and malpractice, and the potential for them to lead to litigation or licensing issues are rampant.

Methods:

Review of existing law standard to all states and common law countries. Basic overview of the law of agency, negligence, malpractice, unauthorized practice, and other relevant torts. Discussion and application of the doctrines of Respondeat Superior and vicarious liability. Exploration of standard of care issues and other concepts as they apply to the support group leader.

Results:

Support group leader potential for liability is significant and exists in almost every support group being held in the United States today. It is completely ignored by almost all practices and hospitals. Liability containment and risk management strategies are explored.

Conclusion:

Advanced support group leader training by appropriately credentialed individuals and organizations, appropriate remediations, and well designed support group programs can limit liability and the significant amount of exposure that exists.

P119. SLEEVE GASTRECTOMY WITH ENTERAL BYPASS.

Munir Alamo; Cristian Sepulveda¹

Hospital Dipreca, Santiago, RM Chile; ¹Sepulveda Cristian Universidad Diego Portales, Santiago RM, Chile

Background:

We present a new restrictive and malabsorptive operation for treatment of morbid obesity, called Sleeve Gastrectomy with Enteral Bypass (SGBP)

Methods:

From February 2004 to November 2006, 80 patients with BMI $>40 \text{ kg/m}^2$ or $>35 \text{ kg/m}^2$ with co-morbidities underwent SGBP via laparoscopy or laparotomy. The technique consisted in creation of gastric tube preserving pylorus, and a Roux-en-Y limb of 300 cm of the proximal small bowel starting 30 or 40 cm from the ligament of Treitz.

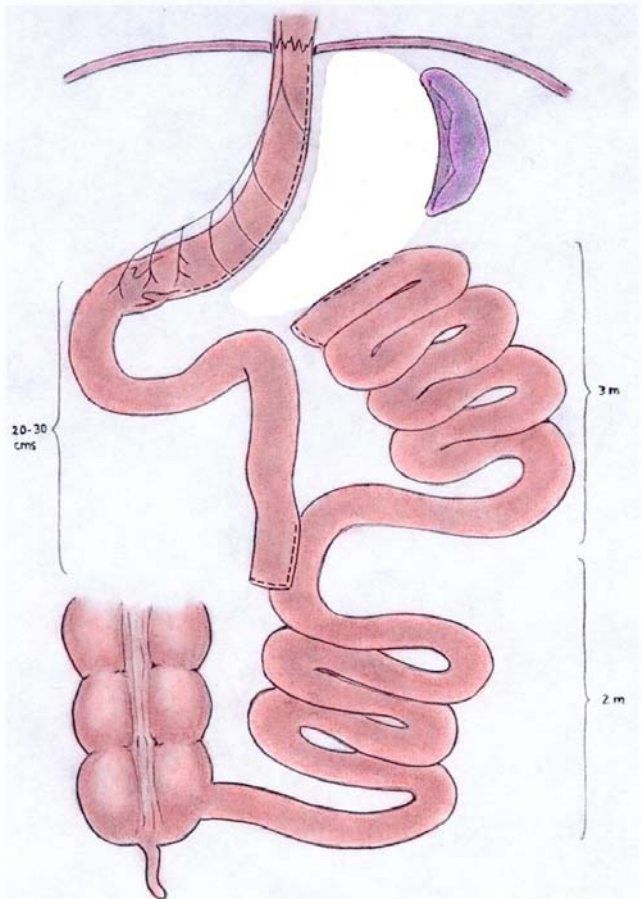
In the first 40 cases the Roux-en-Y limb was anastomosed to the bypassed stomach and in the next 40 cases the left stomach was removed, as a vertical sleeve gastrectomy, and the Roux-en-Y limb was left as a blind limb. Excess weight loss (EWL), BMI, complications and co-morbidities were assessed.

Results:

BMI and average preoperative weight were 43.7 kg/m^2 and 117.6 kg respectively. At 24 months postoperatively, BMI and average weight were 24.4 kg/m^2 and 65.7 kg respectively, with EWL 87%. None of the patients presented dumping. Improvement in co-morbidities was over 90%. The major complication was ulcer in the gastroenterostomy anastomosis in the first group. No mayor complication was reported in the second group (SGBP). There was no mortality.

Conclusion:

SGBP has thus far been safe and effective, with at least the same results as other bariatric operations, but with many advantages, such as lack of dumping. Because a duodenal bypass is not performed, it allows physiologic absorption of iron and diagnostic and/or therapeutic access to the ampulla of Vater.



P120. A NEW ABDOMINOPLASTY APPROACH FOR PATIENTS FOLLOWING MASSIVE WEIGHT LOSS SURGERY.

Titus D Duncan, MD; Antonio E Mangubat, MD

Morehouse School of Medicine, Atlanta, GA

Background:

Patients undergoing weight loss surgery for morbid obesity have been documented to have improvement and or complete resolution of several comorbid conditions. Although many comorbid conditions are improved in these patients, a significant number of patients will have problems associated with excess residual skin as a result of this massive weight loss. The complication rate of traditional abdominoplasty is well known and may reflect loss of blood supply and lymphatic drainage after undermining during the traditional approach. To decrease the complication rate a relatively new technique of abdominoplasty without panniculus undermining and resection is described.

Methods:

We retrospectively reviewed the charts of 75 consecutive patients that underwent a hybrid abdominoplasty liposuction technique without panniculus undermining (Avelar) technique over a two year period from November 2004 until October 2006.

Results:

This hybrid technique of combining abdominal liposuction and abdominoplasty without panniculus undermining provided excellent cosmetic results. There were no post-operative seromas. There was one patient with a small skin necrosis (< 1 cm) that healed spontaneously. Patients reported minimal post-operative pain and were able to return to work within approximately one week.

Conclusion:

The combined liposuction and abdominoplasty technique that preserves the abdominal vasculature provides excellent cosmetic results and few postoperative complications. The rapid recovery, minimal pain, elimination of drains, and increased speed makes this procedure a significant contribution to body contouring following massive weight loss surgery.

P121. HOSPITAL COLLECTIONS VERSUS SURGEON COLLECTIONS FOR LAPAROSCOPIC BARIATRIC SURGERY.

Atul K Madan, MD; David S Tichansky, MD; Barry Lenke¹; Bruce Steinhauer, MD¹

University of Tennessee Health Science Center, Memphis, TN; ¹Regional Medical Center, Memphis, TN

Background:

Bariatric surgery has been thought as a profitable program for the hospital and the surgeon. Unfortunately, collections vary depending on insurer and contracts for the hospital and surgical group. The study investigated the hypothesis that there was a correlation between hospital collections and surgeon collections.

Methods:

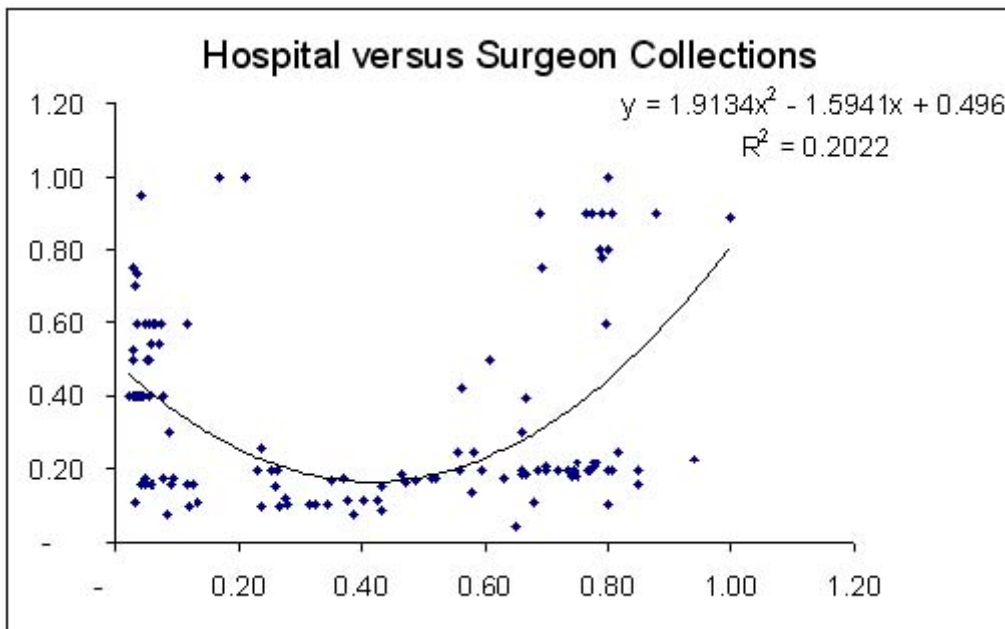
Percentage of collections was obtained from our hospital as well as our surgeons for patients who underwent laparoscopic bariatric surgery. Only percentage of collections for the primary surgery was calculated for the surgeon group. The total reimbursement versus total hospital charges was utilized to calculate percentage of hospital collections.

Results:

We had 131 patients in this study. The graph demonstrates a bimodal correlation. The data were divided by "good payers" and "bad payers" for the hospital (>50% collections versus <50% collections). For each group, there was a statistically significant correlation ("bad payers": $r=-0.51$; $p<0.0001$ and "good payers": $r=0.37$; $p<0.008$).

Conclusion:

"Good payers" for the hospital had a positive correlation between hospital collections and surgeon collections. "Bad payers" for the hospital had a negative correlation between hospital collections and surgeon collections. Surgeons and hospitals need to be wary that payers may attempt to position surgeons against hospitals in regards to reimbursement.



P122. PERICARDIAL FAT PREDICTS DIABETES MELLITUS IN PATIENTS WITH SEVERE OBESITY.

Howard J Willens, MD; Patricia M Byers, MD, FACS; *Amutha A Sornaraj, MD*; Pablo A Bejarano, MD; Carl I Schulman, MD, MSPH; Kellie N Henderson, PharmD; Rafael E Garcia, MSPA-C; Carmen M Lee, MS, RD, CN; Sherri King, RD, LD/N

University of Miami, Miami, FL

Background:

Visceral adipose tissue predicts metabolic and cardiac risk independent of total body fat but may be challenging or expensive to evaluate, especially in patient with severe obesity. Measuring cardiac adiposity, a visceral fat sub-compartment, with echocardiography may be a practical way to measure visceral fat and assess metabolic risk. This study explores the interrelationships of epicardial and pericardial fat with body mass index (BMI), diabetes mellitus, hypertension, and obstructive sleep apnea (OSA) in patients with severe obesity.

Methods:

We retrospectively reviewed clinical data and echocardiograms of 27 patients with severe obesity undergoing cardiac evaluation before bariatric surgery. Epicardial fat was measured as the hypoechoic area between the epicardium and visceral pericardium. Pericardial fat thickness was measured between the visceral and parietal pericardium. We evaluated the interrelationships between epicardial and pericardial fat thickness, BMI, OSA, diabetes mellitus, fasting blood sugar (FBS), and hypertension with Pearson's correlation coefficient.

Results:

The patient group consisted of 5 male and 22 female, mean age 45. Epicardial and pericardial fat could be measured in all subjects. Table 1 shows the relationships between epicardial and pericardial fat with diabetes mellitus, FBS, OSA, hypertension and BMI. Pericardial fat was positively correlated with diabetes mellitus ($r = 0.434$, $p=0.049$) and FBS ($r=0.507$, $p=0.008$).

Conclusion:

Pericardial fat measured by echocardiography correlates with diabetes mellitus and FBS. Measuring pericardial fat with echocardiography may be a simple and practical way of evaluating metabolic risk.

P123. EFFECT OF MINI-GASTRIC BYPASS ON THE INSULIN RESISTANCE SYNDROME AND DIABETES MELLITUS.

Robert Rutledge, MD

Centers for Laparoscopic Obesity Surgery, Henderson, NV

Background:

The successful treatment of morbid obesity leads to a dramatic improvement in the insulin resistance of most patients. This study was designed to assess the postoperative changes in symptomatic insulin resistance and diabetes in the morbidly obese patients that undergo the Mini-Gastric Bypass.

Methods:

We evaluated pre- and postoperative demographics, insulin resistance, diabetes, and clinical outcomes, in all patients undergoing MGB from September 1997 to October 2006.

Results:

During this 9-year period, 3,743 patients underwent MGB and 749 (20%) reported that they had frank DM. Follow up was completed in 1,631 of patients (68%). There were 85% females with a mean preoperative age of 39 years (range, 12-81 years). After surgery, weight and body mass index decreased from 134 kg and 49.1 kg/m² to 78 kg and 28.5 kg/m² for a mean weight loss of 56 kg, an ideal body weight of 64 kg and mean excess weight loss of 81%. The mortality rate in diabetics was zero, the mean operative time was 37 minutes ± 10 and the median hospital stay was 1 day. Insulin resistance and frank DM were present in 20% of preoperative patients. This resolved in 83%. Of the 4% of patients treated with insulin preoperatively 76% no longer required insulin therapy postoperatively.

Conclusion:

The MGB has been shown to be a short, simple, low risk and successful weight loss operation. It results in excellent weight loss and very high rates of resolution of insulin resistance (82%).

P124. MODERATED DISCUSSIONS: A METHOD TO ENHANCE SERVICE TO BARIATRIC SURGERY PATIENTS.

Gayle A Baird, MS, RN, CN; Anna M Halvorson, MS, RN; Beverly A Kaehler, BSN, RN; Gail C Kinsey, MS, RN, CN; Sandra E Koenigs, BSN, RN; Kristen M LaVoi, BSN, RN; *LaDonna D McGohan, MS, RN*
Mayo Clinic, Rochester, MN

Background:

An informal nursing workgroup from patient care units providing bariatric post-surgical care at Saint Mary's Hospital, Mayo Clinic Rochester, began meeting in spring 2005 to discuss opportunities to improve nursing care. The workgroup selected moderated discussion as a method to obtain patient feedback.

Methods:

Patients participating in the Mayo Behavioral Medicine-led Bariatric Surgery Support Group were contacted through the support group facilitator to determine willingness to provide feedback and use a portion of their meeting time for these discussions. Twenty-three patients, both pre- and post-surgical, participated in three moderated discussions. Questions were developed with guidance from Mayo Marketing Division.

Results:

Feedback from these discussions has facilitated improvements to bariatric surgery post-operative patient care, including:

- increased collaboration with dietetics to improve food choices, labeling and appearance
- support for institutional initiative to buy new bariatric equipment/furniture
- the development of a bariatric surgery nursing curriculum for nursing staff
- pharmacist support with patient education on medication management

Conclusion:

Moderated discussions are a unique and effective way to get feedback from patients regarding their post-surgical care.

P125. SLEEVE GASTRECTOMY IMPROVING QUALITY OF LIFE OF CLASS I OBESE PATIENTS.

Jose S Pinheiro, MD; Ricardo V Cohen, MD; Jose L Correa, MD; Carlos A Schiavon, MD
Hospital Sao Camilo, Sao Paulo, Brazil

Background:

Class I obese patients (BMI between 30 and 34.9 kg/m²) have moderate risk for developing comorbidities and suffer low self-esteem affecting their quality of life. Laparoscopic sleeve gastrectomy is associated with extremely low morbidity and mortality. A low risk surgical procedure might improve quality of life and prevent the development of comorbidities in class I obese patients.

Methods:

Thirteen patients with BMI between 30 and 34.9 kg/m² with low quality of life results (Moorehead-Ardelt Questionnaire) due to low self-esteem and who had no serious comorbidity were submitted to a laparoscopic sleeve gastrectomy procedure. Written informed consent was obtained from all patients and this clinical study had IRB approval.

Results:

OR time ranged from 20 to 30 minutes. There were no intra or postoperative complications. Mean hospital stay was 20 hours. Follow-up ranges from 3 to 24 months. Excess weight loss is 30% at 6 months, 45% at 12 months (4 patients), and 65% at 24 months (3 patients). BMI is under 27 kg/m² in all patients. At 12 months, patients presented with higher scores in labor and self-esteem results when compared to their previous questionnaires, significantly improving quality of life. Two previous hypertensive patients now have normal blood pressure.

Conclusion:

Our initial results suggest that sleeve gastrectomy might be an option for improving quality of life in class I obese patients.

P126. THE EFFECT OF ROUX-EN-Y GASTRIC BYPASS ON SERUM C-REACTIVE PROTEIN LEVELS.

Thomas M Schmelzer, MD; Chen Albert, MD; William L Newcomb, MD; William W Hope, MD; H Jam Norton, PhD; Amy E Lincourt, PhD; Keith S Gersin, MD; B Tod Heniford, MD; Timothy S Kuwada, MD
Carolinas Medical Center, Charlotte, NC

Background:

Serum levels of C-Reactive Protein (CRP) greater than 1mg/L are indicative of systemic inflammation and are associated with an increased risk of cardiovascular disease. Morbid obesity has been associated with elevated CRP levels. This study evaluates the impact of gastric bypass surgery on CRP levels in the morbidly obese.

Methods:

Patients undergoing laparoscopic Roux-en-Y gastric bypass had serum CRP levels checked prior to and 1 year after surgery. Statistical analysis was done using paired t-test, McNemar's test and Pearson's test of correlation with $p < 0.05$ considered significant.

Results:

Data from 28 patients was collected. There was a significant decrease in BMI from $44.5 \pm 3.5 \text{ kg/m}^2$ to $30.71 \pm 3.83 \text{ kg/m}^2$, $p < 0.0001$. CRP was significantly lowered from $1.11 \pm 0.87 \text{ mg/L}$ to $0.40 \pm 0.45 \text{ mg/L}$, $p = 0.001$. Prior to surgery, 12 patients (43%) had elevated CRP levels ($> 1 \text{ mg/L}$) compared to only 1 patient (4%) having an elevated CRP level 1 year following surgery, $p = 0.002$. Despite the similarity in overall mean percentage decrease in BMI and CRP (-30.9% and -31.0% respectively), there was no significant correlation between individuals' percentage decrease in BMI and CRP level ($r = 0.01$, $p = 0.94$).

Conclusion:

Elevated CRP levels are common in morbidly obese patients. Weight loss after gastric bypass surgery yields a significant decrease in CRP levels, which may reduce the risk of cardiovascular disease. Further studies are needed to evaluate the physiologic relationship between morbid obesity and the chronic inflammatory state associated with elevated CRP levels.

P127. INDIVIDUAL VS. GROUP PRE-BARIATRIC SURGERY EDUCATION...WHICH IS BETTER?

Stephanie F. Yeager, RD; Joanne Rogers, CNS; John Gerdes, PhD; William Strodel III, MD, FACS; Mary Jane Reed, MD, FACS; Peter N Benotti, MD, FACS; Christopher D Still, DO, FACN
Geisinger Medical Center, Danville, PA

Background:

Individual and group approaches to delivering patient education have differing potential advantages. Most evidence is inconclusive on which educational process is more effective. The purpose of our study was to determine the effectiveness of delivering patient education on presurgery lifestyle changes in a pilot group setting (GS) in comparison to the individual setting (IS).

Methods:

Patients are evaluated by both a psychologist and dietitian (RD) for progress towards preparation for surgery prior to referral to bariatric surgeon. Areas of assessment include progress towards presurgical weight loss, improvements in eating behaviors and knowledge of post surgery lifestyle changes. A "light system" is used to indicate readiness for surgery; patients are assigned a green, yellow or red, green being most ready. A chart review of 150 (71 IS; 79 GS) random patients was conducted.

Results:

Fifty four GS (42 Female) remained for evaluation; 14 received yellow by the RD; 15 yellow by the psychologist. Mean initial vs. follow up weights (314 lbs; BMI 52.3 kg/m² vs. 300 lbs; BMI 50 kg/m²) respectively.

Forty eight IS (34 Female) remained for evaluation; 19 received yellow by the RD; 18 yellow by the psychologist. Mean initial vs. follow up weights (320 lbs; BMI 50 kg/m² vs. 308 lbs; BMI 48 kg/m²) respectively.

Conclusion:

Preliminary results of our ongoing study suggest no significant differences between individual and group delivery of education for behavioral change in our program. However a trend was noted that a group setting may be more beneficial when teaching behavior change for bariatric surgery.

P128. THE IMPACT OF CENTER OF EXCELLENCE REQUIREMENT BY THE CENTER FOR MEDICARE AND MEDICAID SERVICES ON PRACTICE TRENDS.

Jessica L Keto, MD; Paul R Kemmeter, MD FACS; James A Foote, MD FACS; Randal S Baker, MD FACS
Michigan Medical PC, Michigan Weight Loss Specialists/Spectrum Health Hospitals, Grand Rapids, MI

Background:

As of February 2006, Medicare patients who are eligible for weight-loss surgery can only be treated through American Society of Bariatric Surgery or American College of Surgeons designated Centers of Excellence (COE).

Methods:

All patients at our institution who underwent laparoscopic RYGB from June 1 through Oct 12, 2004- 2006, were stratified based upon private third-party (non-Medicare) versus Medicare insurance. Demographic data, BMI, number of medications and comorbidities, operative time, and length of stay were analyzed. Significance was assessed at $p < 0.05$.

Results:

From June 1 through Oct 12 in years 2004 through 2006, 89, 89, and 92 patients underwent laparoscopic RYGB, respectively, with 13 (14.6%), 9 (10.1%), and 28 (30.4%) patients having Medicare insurance, respectively. For non-Medicare compared to Medicare insurance, there was a significant difference in age (44.0 ± 10.5 vs. 56 ± 9.1 yrs, respectively; mean \pm SD), but not gender or BMI. Patients with Medicare insurance were on significantly more medications (10.3 ± 4.4 vs. 5.6 ± 3.8 medications), had more comorbidities (5.1 ± 1.6 vs. 3.5 ± 1.7), and required longer operative times (148 ± 75.8 vs. 121.3 ± 44.4 minutes) than non-Medicare patients. Length of stay did not differ significantly between the two groups.

Conclusion:

CMS requirements for COE designation resulted in an significant increase in Medicare case load within our institution. This population tends to be older and more complex, with longer operative times. Hopefully, as more centers obtain COE designation, a concurrent decrease in the proportion of complex Medicare patients at any one center will follow.

P129. ANTI-OBESITY ATTITUDES AMONG HEALTHCARE PROVIDERS AND OBESE PATIENTS.

Carolyn Raasch, RN BSN MA; Deborah Andris, MSN APNP¹; Mark Rusch, PhD¹; James Wallace, MD PhD¹
Froedtert Memorial Lutheran Hospital, Milwaukee, WI; ¹Medical College of Wisconsin, Milwaukee, WI

Background:

Obesity is epidemic and is associated with negative attitudes. Healthcare providers' attitudes may be a barrier to patients seeking care and contribute to treatment failure.

Methods:

A convenience sample of staff members was designated as either Obesity Staff (OBS; N=52) or Non-obesity Staff (Non-OBS; N=52) according to their unit assignment and the percentage of time they spent working with obese patients. A third group composed of obese patients was recruited from the medical and bariatric surgery weight loss clinics (N=52). All groups completed two anti-fat questionnaires. The Attitude Toward Obese Persons Scale (ATOP); a multiple item inventory distinguishing differences between groups for obesity attitudes and the Anti-fat Attitudes Test (AFAT) which provides a composite score and scores on three subscales (social/character disparagement, physical/romantic unattractiveness, and weight control/blame) of anti-obesity attitudes. Healthcare providers answered four additional questions pertaining to personal experience with weight.

Results:

ATOP scores for all groups fell mid-range and positive AFAT scores suggest neutral anti-obesity attitudes. The mean composite AFAT scores between Non-OBS and patients showed a statistical difference suggesting staff had a more negative attitude ($p < 0.03$). Differences between group means (Non-OBS and patients) for the weight/blame subscale were statistically significant with Non-OBS placing more blame for excess weight on the individual ($p < 0.01$).

Conclusion:

- 1) All groups fell within a neutral to positive range for anti-obesity attitudes.
- 2) Neither group exhibited strong group bias.
- 3) A more positive attitude may result from greater exposure to obese persons.

P130. ALCOHOL CONSUMPTION AFTER GASTIC BYPASS SURGERY.

Kristina M Cooper, PhD

Banner Good Samaritan Bariatric Center, Phoenix, AZ

Background:

There has been an increased awareness as to the risk of substitute addiction, specifically alcoholism, in the post bariatric surgery patient (Wall Street Journal, July 18, 2006; Bariatric Times, October, 2006). In our bariatric center we recommend abstinence from alcohol after surgery. Despite this, patient reports of excessive drinking after surgery led us to collect more systematic data.

Methods:

We are surveying patients in all of our post-operative settings, asking them about their use of alcohol post-surgically. We give them a modified CAGE (a four item assessment of alcohol abuse), changed only by limiting the time span of the questions to "since surgery". We also ask what is the most alcohol, and the average amount of alcohol, consumed since surgery. We are giving the questionnaire anonymously to ensure the greatest degree of honesty in their self-report. To date we have collected 41 questionnaires.

Results:

Fourteen (34%) of the patients surveyed reported at least some alcohol consumption after surgery. The range of alcoholic beverages consumed went from one drink per year to nine drinks per day. The most common frequency reported was 2 drinks per month. Of the 14 patients who reported consuming alcohol, four had at least one "yes" on the CAGE. Three of them had a score of 3 on the CAGE. A score of 2 or more is considered indicative of likely alcohol abuse.

Conclusion:

Despite the recommendation of alcohol abstinence after gastric bypass surgery, 34% of patients surveyed reported some alcohol use, and 21% of these at a problem level.

P131. INTRA-OPERATIVE ASSESSMENT OF TISSUE VIABILITY.

*Albert Wetter, MD, FACS; Pamela Foster, MD, FACS; Barry Sanchez, MD, FACS; Maria Guzman, PA
Mills-Peninsula Hospital, Burlingame, CA*

Background:

Assessment of gut perfusion is vital to prevent anastomotic disruption or strictures following bowel resection. Accurate measurements of tissue perfusion by a direct method in real time would reduce the risk of potential problems due to ischemia. We used a spectrophotometer to measure superficial tissue oxygenation in patients undergoing gastric bypass to assess the effectiveness of this technology.

Methods:

A prospective non-randomized feasibility study to detect anastomotic oxygenation perfusion on twenty two gastric bypass surgery patients was performed. The T-Stat® system (Spectros, Portola Valley, CA) system consists of a continuous, noninvasive localized visible light spectrophotometer with a sterile disposable laparoscopic probe. Staged operative measurements of tissue oxygen saturation were made. All patients were followed post-operatively 1, 6 weeks, three month post-surgery for the frequency of anastomotic leaks and strictures resulting from early and/or late bowel ischemia.

Results:

There were no intraoperative complications from using the device. There were no leaks or strictures at three months. One case of jejunal ischemia due to stapling too close to the bowel was successfully detected by the system. Resection of this segment's prior reanastomosis was performed with an uneventful outcome. All other cases had an oxygen saturation greater than 40%.

Conclusion:

Superficial tissue oxygenation measurement is an effective tool in helping the surgeon assess tissue viability and ensure successful healing of intestinal anastomoses. Visible light spectrophotometry, with its limited optical penetration, measures surface tissue oxygenation which may offer an advantage to other spectrophotometry methods in assessing tissue viability to ensure adequate healing and perfusion following gastro-intestinal surgery.

P132. COMPARISON OF PREDICTED CREATININE CLEARANCE LEVELS WITH MEASURED (ACTUAL) CREATININE CLEARANCE LEVELS IN MORBIDLY OBESE PATIENTS UNDERGOING LAPAROSCOPIC GASTRIC BYPASS SURGERY.

Vanessa L Freitag, RPH; Martha L Ruhl, PharmD; Michelle A Mathiason, MS; Shanu N Kothari, MD
Gundersen Lutheran Medical Center, La Crosse, WI

Background:

Creatinine clearance levels are used to determine dosing of renally excreted medications. Because obtaining a patient's actual creatinine clearance level is impractical, several equations have been developed to estimate it. Few studies have evaluated the accuracy of these equations in the obese population. Our objective was to determine whether any of four common equations is superior to the others in estimating creatinine clearance values in morbidly obese individuals undergoing laparoscopic gastric bypass (LGB) surgery.

Methods:

Patients undergoing LGB surgery (BMI range, 39.2 to 65.3 kg/m²) were enrolled. Patients with baseline serum creatinine > 2.5 mg/dL were excluded. Serum and 24-hour urinary creatinine clearance levels were obtained in all patients. These levels were compared with levels calculated using the Salazar-Corcoran equation and the three variations of the Cockcroft-Gault equation. Data were analyzed using paired t-test.

Results:

A significant difference was found between measured creatinine clearance levels and levels calculated by Salzer-Corcoran and by Cockcroft-Gault using both actual body weight (ABW) and ideal body weight (IBW). No difference was found between the measured level and the level calculated by Cockcroft-Gault using adjusted dosing weight (ADW).

Conclusion:

Data suggest that the Cockcroft-Gault equation with an adjusted dosing weight best predicts creatinine clearance levels in morbidly obese individuals undergoing LGB surgery.

Equation	P-Value	
	Females n=32	Males n=8
Cockcroft-Gault (ABW) vs. Measured	< 0.001	0.002
Cockcroft-Gault (IBW) vs. Measured	< 0.001	0.033
Cockcroft-Gault (ADW*) vs. Measured	0.354	0.158
Salazar-Corcoran vs. Measured	< 0.001	0.007

*ADW = IBW + .4(ABW – IBW)

P133. GASTRIC GHRELIN EXPRESSION ASSOCIATED WITH HELICOBACTER PYLORI INFECTION AND CHRONIC GASTRITIS IN OBESE PATIENTS.

Phui-Ly Liew, LeeWei-Jei MD¹

Department of Pathology, En-Chu Kong Hospital, San-shia Town, Taipei Hsien 237 Taiwan; ¹Department of Surgery, Taoyuen, Taiwan

Background:

Helicobacter pylori is a major pathogen of stomach. Ghrelin plays a role in weight regulation. The aim of the present study was to investigate gastric ghrelin immunoreactivity associated with *H. pylori* infection, chronic gastritis and clinical correlation in obese patients.

Methods:

We examined the histologic findings of the stomach in 156 patients including 62 *H. pylori*-positive and 94 *H. pylori*-negative patients who were undergoing bariatric surgery for obesity. Ghrelin immunoreactivity was evaluated. Relationship between density of ghrelin positive cells, histopathology of chronic gastritis scored by Sydney system and clinical correlation were analyzed.

Results:

H. pylori was present in 62 (39.7%) out of 156 cases. The density of ghrelin positive cells was significantly lower for *H. pylori*-infected patients. There was a significant stepwise decrease in density of ghrelin positive cells with progression of histological severity of chronic inflammation, neutrophil activity and glandular atrophy in the corpus. Obese patients' positive for *H. pylori* were associated with older age and abnormal plasma triglyceride level. There was no relationship between density of gastric ghrelin positive cells and body mass index.

Conclusion:

H. pylori infection has a negative impact on density of gastric ghrelin positive cells in obese patients. Impaired density of gastric ghrelin positive cells is associated with neutrophil activity, chronic inflammation and glandular atrophy induced by *H. pylori* infection. The potential role of *H. pylori* infection and density of gastric ghrelin positive cells for the development of obesity and their biological significance warrant further investigation.

Table 1. Characteristics of *H. pylori*-negative and -positive patients

	<i>H. pylori</i> -negative	<i>H. pylori</i> -positive	<i>p</i> -value
Total number (n)	94	62	
Gender (n)[F/M]	61/33	36/26	0.389
Age (yr)	32.12(10.13)	36.98(8.91)	0.002 *
Body height (m)	164.40(9.65)	163.89(8.63)	0.734
Body weight (kg)	115.13(25.53)	107.12(23.22)	0.49
BMI (kg/m ²)	42.45(7.50)	39.62(6.11)	0.014 *
Systolic blood pressure (mmHg)	135.57(15.66)	138.56(15.29)	0.241
Diastolic blood pressure (mmHg)	84.40(10.94)	88.90(12.70)	0.020 *
Fasting blood sugar (mg/dL)	156.45(60.23)	153.63(54.91)	0.768
GOT (U/L)	37.86(27.72)	25.27(22.65)	0.541
GPT (U/L)	45.00(36.68)	43.77(34.34)	0.834
GOT/GPT	0.934(0.32)	0.95(0.37)	0.798
Total cholesterol (mg/dL)	205.63(34.80)	212.37(33.10)	0.229
Triglyceride (mg/dL)	237.12(156.43)	310.00(213.87)	0.023 *
UA (mg/dL)	7.36(2.00)	7.40(1.90)	0.904
Neutrophil activity	0(0)	1(0)	0.000 *
Chronic inflammation	1(0)	2(0)	0.000 *
GI atrophy	1(1)	1(0)	0.000 *
Intestinal metaplasia	0(0)	0(0)	0.060
Ghrelin per total glands	30.19(8.52)	16.93(6.29)	0.000 *

NOTE. For all laboratory measures: median (interquartile range), *p* value ANOVA analysis. For continuous variables: mean (SD), *p* value independent t-test. Proportions: percentage, *p* value chi-square.

* *p*<0.05

Table 2. Characteristics of low, middle and high ghrelin groups according to percentage of ghrelin positive cells per total gland in all patients

	Low ($\leq 20\%$)	Middle ($>20-30\%$)	High ($>30\%$)	<i>p</i> -value
Total number (n)	50	64	42	
Number of <i>H. pylori</i> positive	41	21	0	
Percentage of <i>H. pylori</i> positive (%)	82	32.8	0	
Age (yr)	35.86(9.28)	32.72(9.39)	33.93(11.29)	0.523
Body height (m)	164.83(9.23)	164.35(9.21)	163.23(9.42)	0.664
Body weight (kg)	108.75(26.81)	113.45(24.67)	113.44(22.94)	0.672
BMI (kg/m ²)	39.74(6.63)	41.84(7.62)	42.44(6.59)	0.183
Systolic blood pressure (mmHg)	136.38(16.02)	137.36(15.34)	136.31(15.58)	0.965
Diastolic blood pressure (mmHg)	86.78(12.00)	86.61(11.98)	84.85(11.59)	0.665
Fasting blood sugar (mg/dL)	142.80(36.76)	161.79(69.71)	160.52(58.17)	0.275
GOT (U/L)	37.50(24.66)	38.53(29.49)	33.45(20.78)	0.597
GPT (U/L)	46.54(33.91)	44.75(38.77)	41.73(33.33)	0.787
GOT/GPT	0.92(0.35)	0.97(0.36)	0.91(0.25)	0.808
Total cholesterol (mg/dL)	208.64(35.99)	206.50(34.66)	210.66(31.82)	0.874
Triglyceride (mg/dL)	306.74(215.84)	249.00(166.75)	244.00(164.58)	0.297
UA (mg/dL)	7.45(1.95)	7.27(1.62)	7.42(2.38)	0.948
Neutrophil activity	1(1)	0(1)	0(0)	0.000*
Chronic inflammation	2(1)	1(1)	1(0)	0.000*
GI atrophy	1(0)	1(1)	0(1)	0.000*
Intestinal metaplasia	0(0)	0(0)	0(0)	0.463
<i>H. pylori</i> density	1(0)	0(1)	0(0)	0.000*

NOTE. For all laboratory measures: median (interquartile range), *p* value ANOVA analysis. For continuous variables: mean (SD), *p* value independent t-test. Proportions: percentage, *p* value chi-square.

* $p < 0.05$

P134. QUANTIFYING THE INFLUENCE OF OBESITY ON PROTEIN SYNTHESIS IN VIVO: TOWARDS THE APPLICATION IN BARIATRIC PATIENTS.

Peter T Hallowell, MD; Danielle Gilge, MS; Stephanie Anderson, RD; Alison Steiber, PhD; Stephen Previs, PhD
University Hospitals Case Medical Center, Cleveland, OH

Background:

It is well known that proteins are continuously synthesized and degraded and that the synthesis of some proteins is stimulated during feeding. We have developed and validated the use of $2\text{H}_2\text{O}$ (a stable, non-radioactive isotope method) for measuring rates of protein synthesis in vivo. In addition, using rodent models we have demonstrated that protein synthesis in liver (and plasma albumin) and skeletal muscle are responsive to food intake.

Methods:

A rodent model of diet-induced obesity, i.e. high-fat fed vs. low-fat fed C57BL/6J mice was used. $2\text{H}_2\text{O}$ was injected intraperitoneally. The mice were sacrificed 5 hours later.

Results:

We observed comparable rates of protein synthesis in skeletal muscle in the basal (i.e. fasted) state but an impaired response following a liquid meal, in obese vs. lean mice, respectively. Those studies also found a tendency for reduced liver and plasma albumin synthesis in the basal state with virtually no effect on the response of either liver or albumin synthesis during the meal, in obese vs. lean mice, respectively.

Conclusion:

This method is unique in that it is possible to (i) quantify protein turnover in free-living subjects and (ii) determine the influence of an acute perturbation (e.g. meal-feeding) on protein synthesis in-vivo. Studies are now being planned to apply our $2\text{H}_2\text{O}$ method in patients undergoing bariatric surgery. For example, we will quantify rates of albumin synthesis in free-living patients before and after surgery. This will allow us a better understanding of protein metabolism during the profound changes after bariatric surgery.