

**ASMBS Insurance Committee
Literature Review Group:**

Matthew Brengman

Helmuth Billy

Ashutosh Kaul

Rachel Moore

Don Selzer

Mario Morales

Year: 2014

Author: Aarts

Title: What happens after gastric band removal without additional bariatric surgery?

Citation: Surgery for Obesity & Related Diseases. 10(4):633-40, 2014 Jul-Aug.

Abstract:

BACKGROUND: The laparoscopic adjustable gastric band (LAGB) is widely used for the treatment of morbid obesity. Many patients benefit from this procedure initially, but experience complications after a few years. The treatment for many complications is revisional bariatric surgery. A number of patients, however, request only band removal without secondary bariatric surgery. The aim of this study was to assess the perioperative and medium term outcomes of patients who had their LAGB removed without secondary bariatric surgery.

METHODS: Patients were retrospectively selected using a prospectively collected database. The LAGB had to be in situ for at least 1 year, and minimum postoperative follow-up had to be 12 months.

RESULTS: Thirty-eight patients who had their LAGB laparoscopically removed between 2000 and 2010 were included. Median follow-up after LAGB removal was 3.0 (1.4 to 8.9) years. Only 2 complications (5%) and no mortality occurred perioperatively. In the 21 patients who did not undergo additional bariatric surgery, the median excess weight loss (EWL) decreased from 41% (-12% to -100%) at band removal to 9% (-10% to 90%), 0% (-20% to 78%), and -11% (-12% to 56%) after 1, 2, and 5 years, respectively. Percentage weight loss (%WL) was 17% (-54% to -5%), 4% (-47% to -9%), 0% (-41% to 11%), and -5% (-29% to 9%) after these same time intervals, respectively. After a median 2.1 (.5 to 9.9) years, 17 patients underwent either a Roux-en-Y gastric bypass (14 patients) or a Scopinaro (3 patients) all because of weight regain. The current EWL and %WL in these patients is 67% (24% to 113%) and 30% (12% to 53%), respectively compared with -11% (-33% to 57%) and -4% (-14% to 34%) in patients without a secondary bariatric procedure ($P < .001$).

CONCLUSION: Patients who have their LAGB removed are guaranteed to suffer from weight regain. It is inadvisable to only remove the LAGB without performing an additional bariatric procedure when deemed technically feasible and safe. In this study, no patient was able to maintain the weight loss achieved with the LAGB after its removal. Copyright © 2013 American Society for Bariatric Surgery Published by American Society for Metabolic and Bariatric Surgery All rights reserved.

ASMBS Reviewers' Comments: This small series compares what happens after band removal alone and band removal with conversion to an alternate procedure. This paper is helpful in supporting the second stage of gastric band conversions. Would be very helpful with a Medical Director.

Year: 2014

Author: Cheung

Title: Revisional bariatric surgery following failed primary laparoscopic sleeve gastrectomy: a systematic review.

Citation: Obesity Surgery. 24(10):1757-63, 2014 Oct.

Abstract:

Revisional bariatric surgery following laparoscopic sleeve gastrectomy (LSG) failure presents a clinical challenge for the bariatric surgeon. Limited evidence exists in selecting the appropriate revisional operation: laparoscopic gastric bypass (LGB), laparoscopic re-sleeve gastrectomy (LRSG), or other surgical intervention (OSI), to address weight regain. We systematically reviewed the literature to assess the efficacy of existing revisional surgery. A comprehensive search of electronic databases (e.g., Medline, Embase, Scopus, Web of Science, and the Cochrane Library) was completed. All randomized controlled trials, non-randomized comparison study, and case series were included. Eleven primary studies (218 patients) were identified and included in the systematic review. Studies were grouped into three main categories: LGB, LRSG, and OSI. Preoperative body mass index (BMI) was 41.9 kg/m² (LGB), 38.5 kg/m² (LRSG), and 44.4 kg/m² (OSI). After conversion to LGB, BMI decreased to 33.7 and 35.7 kg/m² at 12 and 24 months of follow-up, respectively. Excess weight loss (EWL) was 60 and 48 % over the same periods. After LRSG, BMI decreased to 30.4 and 35.3 kg/m² with corresponding EWL of 68 and 44 %, at 12 and 24 months, respectively. After OSI, BMI decreased to 27.3 kg/m² with an EWL of 75 % at 24-month follow-up but could not be analyzed due to incomplete data collection in primary studies. Both LGB and LRSG achieve effective weight loss following failed LSG. The less technically challenging nature of LRSG may be more widely applicable. Further research is required to elicit sustainability in long-term weight loss benefits.

ASMBS Reviewers' Comments: This review is a helpful for reoperative procedure effectiveness. There is no safety data included. This is an excellent reference to justify RNYGB after sleeve gastrectomy for intractable GERD.

Year: 2014

Author: te Riele

Title: Rebanding for slippage after gastric banding: should we do it?

Citation: Obesity Surgery. 24(4):588-93, 2014 Apr.

Abstract:

BACKGROUND: Laparoscopic adjustable gastric banding (LAGB) is a commonly performed bariatric procedure. LAGB is frequently complicated by slippage. Possible treatment for slippage is rebanding, but long-term effects are unknown. The aim of this study was to investigate whether rebanding after gastric band slippage is associated with weight loss failure.

METHODS: This was a post hoc analysis of a prospectively collected database of 627 consecutive LAGB patients. Rebanding for slippage was performed in 81 patients. The effect of rebanding on weight loss was evaluated by three analyses: (1) in 81 rebanded patients, weight loss was compared before and after rebanding, separately for patients in whom primary LAGB was successful or unsuccessful; (2) 81 rebanded patients were matched to 81 patients without slippage for prognostic variables and compared for weight loss after rebanding; (3) multivariate logistic regression was performed whether rebanding was independently associated with weight loss failure.

RESULTS: The chance of a fair result of rebanding for patients following primary successful (n=34) and unsuccessful LAGB (n=22) was 62 and 27 % after median follow-up of 113 and 97 months, respectively. There was no difference in weight loss failure between 81 rebanded patients and 81 matched patients: 54 vs 59 % (P=0.43). In multivariate analysis, rebanding was not significantly associated with weight loss failure: adjusted odds ratio 1.42; 95 % confidence interval 0.85-2.38; P=0.18.

CONCLUSION: In general, rebanding after LAGB has no negative effect on weight loss. However, patients in whom LAGB was unsuccessful prior to rebanding have poor long-term weight loss results.

ASMBS Reviewers' Comments: Nice analysis of rebanding. Helpful in decision-making to choose the right operation. Would be a helpful reference for the MD who desires to perform conversion rather than rebanding for the patient with persistent or recurrent obesity.

Year: 2014

Author: Rossetti

Title: Does helicobacter pylori infection have influence on outcome of laparoscopic sleeve gastrectomy for morbid obesity?

Citation: International Journal of Surgery. 12 Suppl 1:S68-71, 2014.

Abstract:

INTRODUCTION: Among the surgical procedures for treatment of morbid obesity, laparoscopic sleeve gastrectomy has known widespread diffusion in the last years, although it is not free from significant morbidity rates. Aim of this work is to evaluate the incidence of *Helicobacter pylori* (HP) infection on the postoperative outcome of patients undergoing laparoscopic sleeve gastrectomy.

METHODS: Between January 2008 and December 2013, 184 patients (65 males, 119 females), mean age 35.8 +/- 5.7 years, affected with morbid obesity, mean BMI 46.6 +/- 6.7, underwent laparoscopic sleeve gastrectomy. All the specimens at the end of the operation were analysed by the same pathologist. Histological grading was based on the Sidney classification.

RESULTS: Seventy-two of the patients (39.1%) were HP positive, while 112 (60.9%) were negative. No significant differences were observed between the HP+ and HP- group in terms of age, sex, weight, BMI, incidence of comorbidities and duration of follow-up. All the operations were completed via laparoscopic approach. No mortality was observed. Postoperative complications occurred in 5 patients (2.7%): three leaks (1.6%), all in the HP- group and two bleedings (1.1%), one in the HP+ and one in the HP- group. In two cases a reintervention was necessary. No significant differences were observed in the morbidity rates between the two groups. Overall mean excess weight loss at 6 months, 12 months and 24 months was respectively 47.4 +/- 11.3%, 61.1 +/- 12.4% and 68.4 +/- 13.5%, with no significant differences between the HP+ and HP- groups.

CONCLUSIONS: HP infection seems not to influence postoperative outcome of patients operated of laparoscopic sleeve gastrectomy. Copyright © 2014 Surgical Associates Ltd. Published by Elsevier Ltd. All rights reserved.

ASMBS Reviewers' Comments: H. Pylori eradication before sleeve gastrectomy is not so important as no difference found in complication rates or weight loss. H. Pylori infection seems not to influence outcome after laparoscopic sleeve gastrectomy.

Year: 2014

Author: Obeid

Title: Single-stage versus 2-stage sleeve gastrectomy as a conversion after failed adjustable gastric banding: 30-day outcomes.

Citation: Surgical Endoscopy. 28(11):3186-92, 2014 Nov.

Abstract:

BACKGROUND: Sleeve gastrectomy (SG) is being performed as a conversion after adjustable gastric banding (AGB), often in a single stage. However, some argue that it should be performed in 2 stages to improve safety. Few studies compare complications between 1-stage and 2-stage procedures. Our aim is to compare the 30-day complication rates among these two groups.

METHODS: We retrospectively reviewed patients converted from AGB to SG between 8/2008 and 10/2013 and compared patients undergoing 1-stage and 2-stage techniques. Primary outcome was overall 30-day adverse event rate (postoperative complication, readmission, or reoperation). Secondary outcomes included operating room (OR) time, length of stay (LOS), leak, infection, and bleeding rates, as well as mortality.

RESULTS: A total of 83 patients underwent SG after band removal; three were excluded due to short follow-up, leaving 60 1-stage and 20 2-stage. Mean time from band removal to SG for 2-stage was 438 days. Demographics, intraoperative technique (bougie size, staple reinforcement, oversewing staple line, and leak test), and mean follow-up were not statistically different. Mean OR time (132.1 min 1-stage vs. 127.8 min 2-stage, $p = 0.702$) and LOS (3.1 vs. 2.4 days, $p = 0.676$) were similar. Overall 30-day adverse event rate was 12 % for 1-stage versus 15 % for 2-stage procedures ($p = 0.705$). Differences in 30-day readmission (8 vs. 5 %) and reoperation (5 vs. 0 %) were not statistically significant ($p = 0.999$ and 0.569 , respectively). Leak (3 vs. 0 %, $p = 0.999$), abscess (2 vs. 5 %, $p = 0.440$), and bleeding rates (2 vs. 0 %, $p = 0.999$) were not different. There were no deaths.

CONCLUSIONS: SG performed as a conversion after AGB is safe and feasible. Our findings indicate no statistical difference in 30-day outcomes when performed in 1 or 2 stages. Future studies with larger sample sizes are necessary to further investigate these differences.

ASMBS Reviewers' Comments: Case series showing that it is safe to convert LAGB to sleeve gastrectomy in one stage. There were no major outcome differences between one stage and two stage conversion. Morbidity 12-15%, no mortality. 3 leaks. SG performed as a conversion after AGB is safe and feasible. Findings indicate no statistical difference in 30-day outcomes when performed in 1 or 2 stages.

Year: 2014

Author: Fernando Santos

Title: Band removal and conversion to sleeve or bypass: are they equally safe?

Citation: Surgical Endoscopy. 28(11):3086-91, 2014 Nov.

Abstract:

INTRODUCTION: Patients who require laparoscopic adjustable gastric band (LAGB) removal are often converted to sleeve gastrectomy (SG) or roux-en-Y gastric bypass (RYGB). The relative safety of these salvage bariatric procedures is unclear. We hypothesized that LAGB removal with conversion to SG (BSG) or RYGB (BRYGB) would be associated with higher morbidity and mortality compared to primary SG or RYGB.

METHODS: National Surgical Quality Improvement Project data (2005-2011) were analyzed. Patients undergoing SG, RYGB, BRYGB, and BSG were identified. The incidence of major complications, as well as mortality was compared between groups. Multivariate analysis was performed to identify patient factors and operation types associated with major complications or mortality. Odds ratios (OR) were calculated with 95 % confidence intervals (CI) with p value <0.05 considered statistically significant.

RESULTS: A total of 51,609 patients were analyzed, consisting of primary RYGB (n = 46,153), BRYGB (495), primary SG (n = 4,831), and BSG (n = 130) patients. All groups had similar mean age (45 +/- 11-years old). Salvage patients were more commonly female (89 vs. 79 %) and with lower body-mass index than primary bariatric patients (BMI 42 +/- 8 vs. 46 +/- 8 kg/m²). Major complication rates were 5.23 % (RYGB), 4.65 % (BRYGB), 3.95 % (SG) and 6.92 % (BSG), with 30-day mortality of 0.16 % (RYGB), 0.20 % (BRYGB), 0.08 % (SG) and 0.77 % (BSG). Multivariate analysis showed that compared to SG, RYGB, and BSG were independent predictors of major complications. Multivariate analysis of mortality showed BSG was an independent predictor of mortality compared to SG (OR 8.02, 95 % CI 1.08-59.34, p = 0.04).

CONCLUSIONS: Band removal with conversion to RYGB is not associated with higher morbidity or mortality compared to primary RYGB. However, band removal with conversion to sleeve gastrectomy appears to be independently associated with a higher rate of major complications and mortality, and thus may not be the salvage procedure of choice.

ASMBS Reviewers' Comments: High Quality article, large database analysis which shows complication rates higher after conversion from Band to sleeve than to Bypass. Band removal with conversion to RYGB is not associated with higher morbidity or mortality compared to primary RYGB. However, band removal with conversion to sleeve gastrectomy appears to be independently associated with a higher rate of major complications and mortality, and thus may not be the salvage procedure of choice.

Year: 2014

Author: Carandina

Title: Two stages conversion of failed laparoscopic adjustable gastric banding to laparoscopic roux-en-y gastric bypass. A study of one hundred patients.

Citation: Journal of Gastrointestinal Surgery. 18(10):1730-6, 2014 Oct.

Abstract:

INTRODUCTION: Conversion to laparoscopic gastric bypass (LRYGB) appears to be the treatment of choice after failed LAGB. To reduce the risk of postoperative complications, some surgeons routinely adopt a two-stage strategy. The purpose of this study was to analyze our institution's experience with the two-stage procedure for LAGB conversion to LRYGB **MATERIALS AND METHODS:** The bariatric database of our institution was reviewed to identify patients who had undergone conversion of LAGB to LRYGB from November 2007 to June 2012.

RESULTS: One hundred patients were included. Of these, 62 (62%) required conversion to LRYGB for inadequate weight loss or weight regain and 38 for band-related complications. All the procedures were performed in two stages and laparoscopically. The average time between band removal and LRYGB was 17.3 months. The mean follow-up after LRYGB was 31+/-18.7 months. The mean BMI prior to LRYGB conversion was 45.3+/-5.2. Early complications occurred in 15 patients (15%), while late complications occurred in only 3 patients (3%). The average %EWL at 24 months and 48 months after conversion was 70.1 and 69.4%, respectively.

CONCLUSION: Although a two-stage conversion strategy increases the number of operations and hospital stay without decreasing the rate of early complications compared to one-stage conversion; it has shown to be associated with low rates of GJA stenosis and excellent %EWL.

ASMBS Reviewers' Comments: Series from France showing that RYGB in two stages effective and safe after LAGB. Although a two-stage conversion strategy increases the number of operations and hospital stay without decreasing the rate of early complications compared to one-stage conversion; Two-stage conversion is shown to be associated with low rates of GJA stenosis and excellent %EWL.

Year: 2014

Author: Aarts

Title: Long-term results after laparoscopic adjustable gastric banding: a mean fourteen year follow-up study.

Citation: Surgery for Obesity & Related Diseases. 10(4):633-40, 2014 Jul-Aug.

Abstract:

BACKGROUND: For over a decade, the laparoscopic adjustable gastric band (LAGB) was 1 of the most performed bariatric procedures in Europe. This study is a retrospective analysis with prospectively collected data of the experience in 1 specialized Dutch center with the adjustable gastric band over 14 years.

METHODS: Between 1995 and 2003, 201 patients underwent an LAGB for morbid obesity in our hospital. Data on preoperative clinical characteristic, postoperative outcome and weight loss patterns, and co-morbidities for up to 18 years are presented and evaluated using the Bariatric Analysis and Reporting Outcome System (BAROS).

RESULTS: Average follow-up was 13.6 (+/- 2.0) years (163 mo) and 99% of patients with complete follow-up. Two thirds of patients reached an excess weight loss (EWL)>50% at some point after LAGB placement. However, due to insufficient weight loss or complications in 53% of patients, the LAGB had to be removed or converted to a Roux-en-Y gastric bypass. Additionally, half of the remaining patients had disappointing results according to the BAROS score. In total, less than one quarter (22%) of patients had a functioning band with a good result after the follow-up period. Although initially the number of patients experiencing co-morbidities was reduced, most of them returned and a large number of patients developed new co-morbidities. Complications, other than weight regain, were numerous as 47% of patients experienced at least 1. In total, 204 reoperations were performed in 137 (68%) patients. Furthermore, patients who were lost to follow-up did almost twice as bad in terms of EWL compared to patients who had regular follow-up.

CONCLUSION: Morbid obesity is a chronic disease that can be resolved with bariatric surgery. One of the treatment options is the LAGB, which in the short term shows good results in terms of EWL and co-morbidity reduction. In the long term, however, EWL and co-morbidity reduction are disappointing, and the LAGB does not seem to live up to expectations. Besides the decrease in EWL over time, the number of reoperations required is alarming. In total, less than a quarter of patients still had a functioning band after a mean 14 years of follow-up. Copyright © 2014 American Society for Bariatric Surgery. Published by Elsevier Inc. All rights reserved.

ASMBS Reviewers' Comments: Small series from Netherlands showing poor long-term results after band. The number of reoperations required is high. In total, less than a quarter of patients still had a functioning band after a mean 14 years of follow-up.

Year: 2014

Author: Chouillard

Title: Roux-En-Y Fistulo-Jejunostomy as a salvage procedure in patients with post-sleeve gastrectomy fistula.

Citation: Surgical Endoscopy. 28(6):1954-60, 2014 Jun.

Abstract:

BACKGROUND: Sleeve gastrectomy (SG) is currently the most common bariatric procedure in France. It achieves both adequate excess weight loss and significant reduction of comorbidities. However, leak is still the most common complication after SG. Nevertheless, its risk of occurrence is <3% in specialized centers. Its management is difficult, long, and challenging. Although the procedure is commonly endoscopic and nonoperative, the management of post-SG fistulas could sometimes be surgical, including peritoneal lavage, abscess drainage, disrupted staple line suturing, resleeve, gastric bypass, or total gastrectomy. Roux-en-Y fistulojejunosomy (RYFJ) has been described as a salvage option. In this study, we report the early results of RYFJ for post-SG fistula, emphasizing indications, operative technique, and short-term outcome.

METHODS: Between January 2007 and December 2012, we treated 62 patients with post-SG fistula. Before surgery, intra-abdominal or thoracic abscesses or collections were either excluded or treated by computed tomographic scan-guided drainage or even surgery. Endoscopic stenting was then attempted. After optimization of the nutritional status in case of failure of endoscopic measures, some of the patients underwent RYFJ.

RESULTS: Between January 2007 and December 2012, a total of 21 patients (16 women and 5 men) had RYFJ for post-SG fistula. Mean age was 47 years (range, 22-59 years). Procedures were performed laparoscopically in all but 3 cases. The rate of secondary conversion to laparotomy was 11.1%. There was no mortality. The postoperative morbidity rate was less than 5%. The rate of fistula control was eventually 100%.

CONCLUSIONS: RYFJ is a safe and feasible salvage procedure for the treatment of patients with post-SG fistula. Longer outcome analysis is, however, needed especially regarding the physiological and metabolic behavior of the procedure.

ASMBS Reviewers' Comments: This contains a good discussion of sleeve leak management and an algorithm for possible approaches. 21 patient groups comprised of 8 who failed other therapies and 13 whose first presentation was more than 3 months after sleeve. 100% fistula control was achieved by putting Roux limb up to the fistula. Morbidity 4.7%, no mortalities.

Year: 2014

Author: McKenna

Title: Revisional bariatric surgery is more effective for improving obesity-related co-morbidities than it is for reinducing major weight loss.

Citation: Surgery for Obesity & Related Diseases. 10(4):654-9, 2014 Jul-Aug.

Abstract:

BACKGROUND: Patients having previous bariatric surgery are at risk for weight regain and return of co-morbidities. If an anatomic basis for the failure is identified, many surgeons advocate revision or conversion to a Roux-en-Y gastric bypass. The aim of this study was to determine whether revisional bariatric surgery leads to sufficient weight loss and co-morbidity remission.

PATIENTS AND METHODS: From 2005-2012, patients undergoing revision were entered into a prospectively maintained database. Perioperative outcomes, including complications, weight loss, and co-morbidity remission, were examined for all patients with a history of a previous vertical banded gastroplasty (VBG) or Roux-en-Y gastric bypass (RYGB).

RESULTS: Twenty-two patients with a history of RYGB and 56 with a history of VBG were identified. Following the revisional procedure, the RYGB group experienced 35.8% excess weight loss (%EWL) and a 31.8% morbidity rate. For the VBG group, patients experienced a 46.2% %EWL from their weight before the revisional operation with a 51.8% morbidity rate. Co-morbidity remission rate was excellent. Diabetes (VBG:100%, RYGB: 85.7%), gastroesophageal reflux disease (VBG: 94.4%, RYGB: 80%), and hypertension (VBG: 74.2%, RYGB:60%) demonstrated significant improvement.

CONCLUSION: Revision of a failed RYGB or conversion of a VBG to a RYGB provides less weight loss and a higher complication rate than primary RYGB but provides an excellent opportunity for co-morbidity remission. Copyright © 2014 American Society for Bariatric Surgery. Published by Elsevier Inc. All rights reserved.

ASMBS Reviewers' Comments: This article may be useful for a patient with recurrence of previously controlled weight-related medical conditions. 22 RYGB and 56 VBG were revised. Type II diabetes, GERD, sleep apnea and hypertension improved, but excess body weight loss was only 35.8% in RYGB and 46.2% in VBG.

Year: 2014

Author: Edholm

Title: Twelve-year results for revisional gastric bypass after failed restrictive surgery in 131 patients.

Citation: Surgery for Obesity & Related Diseases. 10(1):44-8, 2014 Jan-Feb.

Abstract:

BACKGROUND: Gastric banding (GB) and vertical banded gastroplasty (VBG) may result in unsatisfactory weight loss or intolerable side effects. Such outcomes are potential indications for additional bariatric surgery, and Roux-en-Y gastric bypass is frequently used at such revisions (rRYGB). The present study examined long-term results of rRYGB.

METHODS: In total, 175 patients who had undergone rRYGB between 1993 and 2003 at 2 university hospitals received a questionnaire regarding their current status. The questionnaire was returned by 131 patients (75% follow-up rate, 66 VBG and 65 GB patients). Blood samples were obtained and medical charts studied. The reason for conversion was mainly unsatisfactory weight loss among the VBG patients and intolerable side effects among GB patients.

RESULTS: The 131 patients (112 women), mean age 41.8 years at rRYGB, were evaluated at mean 11.9 years (range 7-17) after rRYGB. Mean body mass index of those with prior unsatisfactory weight loss was reduced from 40.1 kg/m² (range 28.7-52.2) to 32.6 kg/m² (range 19.1-50.2) (P<.01). Only 2 patients (2%) underwent additional bariatric surgery after rRYGB. The overall result was satisfactory for 74% of the patients. Only 21% of the patients adhered to the recommendation of lifelong multivitamin supplements while 76% took vitamin B12. Anemia was present in 18%.

CONCLUSIONS: rRYGB results in sustained weight loss and satisfied patients when VBG or GB have failed. Subsequent bariatric surgery was rare but micronutrient deficiencies were frequent. Copyright © 2014 American Society for Bariatric Surgery. Published by Elsevier Inc. All rights reserved.

ASMBS Reviewers' Comments: Roux en Y gastric bypass proves to be a reasonable option for the scenario of converting a prior VBG to a bypass. This paper provides an analysis of outcomes including morbidity and demonstrates overall weight loss success.

Year: 2014

Author: Dogan

Title: Endoscopic management of gastric band erosions: a 7-year series of 14 patients.

Citation: Canadian Journal of Surgery. 57(2):106-11, 2014 Apr.

Abstract:

BACKGROUND: Intra-gastric band migration is an unusual but major complication of gastric banding. We review our experience with endoscopic removal of eroded gastric bands.

METHODS: We retrospectively evaluated the cases of 110 morbidly obese patients who underwent adjustable gastric banding between 2005 and 2012 to identify those who experienced band erosion. To remove the migrated band, we used an endoscopic approach with a Gastric Band Cutter.

RESULTS: Band or tube erosion occurred in 14 patients (12.7%). The median time interval from the initial gastric band placement to the diagnosis of band erosion was 32 (range 18-52) months. Upper abdominal pain, port site infection, loss of restriction and weight regain were the most common symptoms. We used the Gastric Band Cutter to remove the band endoscopically. It was able to cut the band successfully in all but 1 patient, in whom twisting of the cutting wire required conversion from endoscopy to laparotomy. In 2 patients, the band, after being cut, was locked in the gastric wall and required laparotomic removal. In 1 patient, we performed surgery for intra-gastric penetration of the connecting tube broken close to the band.

CONCLUSION: The Gastric Band Cutter was successful in dividing the band in all but 1 patient, although we could not always complete the procedure endoscopically. Endoscopic removal seems to be effective and safe for band erosion.

ASMBS Reviewers' Comments: Endoscopic removal is feasible and safe. However laparoscopy may be required at the time of endoscopy if the buckle is "locked" in the gastric wall.

Year: 2014

Author: Marin-Perez

Title: Outcomes after laparoscopic conversion of failed adjustable gastric banding to sleeve gastrectomy or Roux-en-Y gastric bypass.

Citation: British Journal of Surgery. 101(3):254-60, 2014 Feb.

Abstract:

BACKGROUND: Laparoscopic adjustable gastric banding (LAGB) has a high incidence of long-term complications and failures. The best procedure to handle these failures and the optimal number of stages in such cases is still controversial. The aim of this retrospective study was to compare the results of conversions of LAGB to either laparoscopic sleeve gastrectomy (LSG) or laparoscopic Roux-en-Y gastric bypass (LRYGB) in failed LAGB using a single-stage approach.

METHODS: All patients who underwent conversion from LAGB to either LRYGB or LSG between January 2005 and March 2012 were included in the study. Early and late complications were reviewed. The percentage excess weight loss (%EWL) between the two groups was compared at 3, 6, 12 and 24 months of follow-up.

RESULTS: Fifty-nine patients, 11 men and 48 women, were included in the study. The most frequent indication was insufficient weight loss or weight regain (non-responders group), in 44 patients (75 per cent); 15 patients had a revision for complicated LAGB. The early complication rate in the non-responders group was 7 per cent (3 of 44 patients), compared with 13 per cent (2 of 15) in the complicated LAGB group. Mean(s.d.) %EWL in the non-responders group was 55(22) per cent in patients converted to LRYGB and 28(25) in those converted to LSG (P=0001).

CONCLUSION: LRYGB and LSG are both safe and feasible options for failed or complicated LAGB. In the non-responders group, %EWL was superior for conversion to LRYGB. The surgical morbidity rate was highest in patients having revision for band complications. Copyright © 2014 BJS Society Ltd. Published by John Wiley & Sons Ltd.

ASMBS Reviewers' Comments: This is helpful to cite in a letter of medical necessity when one is converting a band to either a sleeve or a bypass. Although this is a relatively small case series, the successes are clear.

Year: 2014

Author: Stroh

Title: Is a one-step sleeve gastrectomy indicated as a revision procedure after gastric banding? Data analysis from a quality assurance study of the surgical treatment of obesity in Germany.

Citation: Obesity Surgery. 24(1):9-14, 2014 Jan.

Abstract:

BACKGROUND: Since 1 January 2005, the outcomes of bariatric surgeries have been examined in Germany. All data are registered prospectively in cooperation with the Institute of Quality Assurance in Surgery at Otto-von-Guericke University Magdeburg.

METHODS: Data are collected in an online data bank. Data collection began in 2005 for the results of gastric banding (GB) and in 2006 for sleeve gastrectomies (SGs). In addition to primary bariatric operations, data regarding the complications of revision procedures and redo operations have been analyzed. Participation in the quality assurance study is required for all certified centers in Germany.

RESULTS: SGs are a popular redo operation after failed gastric banding. Using the German Bariatric Surgery Registry, we analyzed data from 137 SGs that were used in a one-step approach after GB and 37 SGs that were used in a two-step approach. Leakage rates for primary SGs dropped to 1.9 %. The incidence of leakage after a one-step SG after GB is significantly higher (4.4 %) than for a two-step approach (0 %).

CONCLUSION: SGs are popular procedures after failed GB in Germany, but the complication rates for one-step band removal are higher than for a two-step approach. After examining the data, we suggest performing band removal and SG as a two-step procedure. Further analysis is necessary to evaluate the optimal time period between band removal and SG. Follow-up investigations must be performed to determine if SG is an effective and safe option after GB.

ASMBS Reviewers' Comments: This helps to demonstrate the benefits of one stage and two stage conversion of band to sleeve. The study is international and may be impacted negatively as a result, but it is helpful overall.

Year: 2014

Author: Thereaux

Title: Similar postoperative safety between primary and revisional gastric bypass for failed gastric banding.

Citation: JAMA Surgery. 149(8):780-6, 2014 Aug.

Abstract:

IMPORTANCE: Adjustable gastric bands are widely used because of low postoperative morbidity, but their long-term results are poor, often leading to revisional surgery.

OBJECTIVE: To assess the safety of revisional procedures by comparing the 30-day outcomes of primary gastric bypass vs revisions following failed adjustable gastric banding.

DESIGN, SETTING, AND PARTICIPANTS: Retrospective review using logistic regression models to compute odds ratios (95% CIs) across preoperative body mass index (calculated as weight in kilograms divided by height in meters squared) quartiles to evaluate the risk for major adverse outcomes at 30 days (death, venous thromboembolism, reinterventions, and failure to be discharged). The prospective database of a single university surgical center in Paris, France, was queried for clinical and other relevant data among all patients undergoing primary or revisional laparoscopic gastric bypass between January 1, 2004, and June 30, 2013.

MAIN OUTCOMES AND MEASURES: The primary outcome was a comparison between 30-day outcomes of primary gastric bypass and procedures following failed adjustable gastric banding.

RESULTS: In total, 831 patients had a primary procedure (group 1), and 177 patients had a secondary procedure after failed adjustable gastric banding (group 2). Overall, 78.7% of patients were female, the mean (SD) patient age was 42.6 (11.6) years, the mean (SD) body mass index was 47.6 (7.6), and mortality at 30 days was 0.5%. The rates of major adverse outcomes were similar in group 1 (7.8%) and group 2 (8.5%) ($P=.77$). In multivariate analyses, odds ratios for major adverse outcomes across preoperative body mass index quartiles (<42, 42-46, >46 to 52, and >52) were 1.00, 0.39 (95% CI, 0.20-0.77; $P=.006$), 0.55 (95% CI, 0.30-1.02; $P=.06$), and 0.50 (95% CI, 0.27-0.94; $P=.03$), respectively.

CONCLUSIONS AND RELEVANCE: The 30-day major adverse outcome rates were similar for primary gastric bypass and for procedures following failed adjustable gastric banding. Long-term comparative studies are required to better understand the quadratic relationship between body mass index and early postoperative outcomes.

ASMBS Reviewers' Comments: Good study with excellent evidence supporting conversion of LAGB to LRYGB.

Year: 2014

Author: Keating

Title: Revisional surgery after laparoscopic adjustable gastric banding in a national Australian cohort.

Citation: JAMA Surgery. 149(8):874-5, 2014 Aug.

Abstract: Online Publication without abstract. This is an Australian administrative billing database review of reoperations on 6037 LAGB patients. 1 in 5 required reoperation within 3.5 yrs.

ASMBS Reviewers' Comments: General knowledge demonstrating high frequency of reoperations following gastric band.

Year: 2014

Author: Beitner

Title: Sustained weight loss after gastric banding revision for pouch-related problems.

Citation: Annals of Surgery. 260(1):81-6, 2014 Jul.

Abstract:

OBJECTIVE: To assess the impact of revisional surgery after laparoscopic adjustable gastric banding (LAGB) on weight loss at 12 and 24 months.

BACKGROUND: There is no uniform consensus as to the optimal procedure for patients requiring revision after LAGB. Few studies address the issue of weight loss after band salvage procedures, despite this being a critical factor in deciding which reoperative procedure to choose.

METHODS: A retrospective analysis was conducted of adult patients who underwent LAGB from January 1, 2001 to June 30, 2009 at a single institution. Patients who required revision for pouch-related problems including band slippage, pouch dilation, and hiatal hernia were studied. Demographic data, body mass index (BMI), percentage excess weight loss (% EWL), and operative details were recorded. Weights were recorded at 12 and 24 months after revision. These were compared with initial weight, weight before revision, and weight in patients who did not have a reoperation.

RESULTS: Of 3876 patients, 390 patients were included in analysis of weight outcomes after revision. The procedure-related mortality was 0%. Early (30-day) complications occurred in 0.5%, late complications (erosion) in 0.5%, and 29 patients (7.4%) required a second revision. For patients undergoing revision, the initial weight was 124.06 +/- 21.28 kg and BMI was 44.80 +/- 6.12 kg/m. At reoperation, weight was 89.18 +/- 20.51 kg, BMI was 32.25 +/- 6.50 kg/m and, %EWL was 54.13 +/- 21.80%. Twelve months postrevision, weight was 92.24 +/- 20.22 kg, BMI was 33.32 +/- 6.41 kg/m, and %EWL was 48.81 +/- 22.71%. Weight was 92.42 +/- 19.91 kg, BMI was 33.53 +/- 6.25 kg/m, and %EWL was 47.50 +/- 22.91% twenty-four months postrevision.

CONCLUSIONS: Reoperation for pouch-related problems after LAGB is safe and effective. Weight loss is maintained after reoperation.

ASMBS Reviewers' Comments: Good general knowledge demonstrating high frequency of reoperations following gastric band and no improvement in EWL following the revisions.

Year: 2014

Author: Kruger

Title: A bariatric surgery center of excellence: operative trends and long-term outcomes.

Citation: Journal of the American College of Surgeons. 218(6):1163-74, 2014 Jun.

Abstract:

BACKGROUND: Surgery remains the most effective intervention for obesity and its comorbidities. However, the long-term efficacy of bariatric procedures is rarely reported. This study addresses operative trends, efficiency, and long-term outcomes from a large bariatric program.

STUDY DESIGN: Data were prospectively collected on 3,460 patients undergoing 3,503 operations from January 2004 to March 2013. Primary procedures included Roux-en-Y gastric bypass (RY; n = 2,966), adjustable band (AB; n = 352), and sleeve gastrectomy (SG; n = 118). There were 67 revisional procedures (RP). Mean operative time, hospital length of stay, major 30-day morbidity/mortality, follow-up compliance, and weight loss per procedure at follow-up were recorded.

RESULTS: Mean operative times decreased to the following: RY, 53 minutes; AB, 35 minutes; SG, 46 minutes; and RP, 71 minutes. Mean length of stay was reduced to the following: RY, 1.53 days; AB, 0.97 days; SG, 2.12 days; and RP, 2.68 days. Major complications were mortality, 0.09%; leak, 0.51%; bleed, 2.37%; pneumonia, 0.63%; venous thromboembolism, 0.40%; and reoperation, 2.34%. The complication rate was lowest for AB and highest for SG ($p < 0.05$). Adjustable band was the initial procedure in 73% of cases requiring RP. Follow-up compliance was 93% at 1 year, 79% at 3 years, 71% at 5 years, and 33% at 9 years. Adjustable band offered significant weight loss at 1 and 3 years ($p < 0.0001$), but less than RY or SG ($p < 0.0001$). Excess weight loss was not significantly different between RY and SG at 1 year. Significant weight loss with RY persisted at 7 to 9 years ($p < 0.0001$).

CONCLUSIONS: Our bariatric program experienced an increase in SG and RP and a decrease in AB. Optimization of care reduced operative time and length of stay. All procedures achieved significant weight loss in the first year. Adjustable band had the lowest morbidity, but inferior weight loss and greater need for revision. Long-term weight-loss data are only available for RY. Copyright © 2014 American College of Surgeons. Published by Elsevier Inc. All rights reserved.

ASMBS Reviewers' Comments: Excellent general knowledge that provides good evidence to support effectiveness of LAGB conversion to RYGB.

Year: 2014

Author: DuPree

Title: Laparoscopic sleeve gastrectomy in patients with preexisting gastroesophageal reflux disease : a national analysis.

Citation: JAMA Surgery. 149(4):328-34, 2014 Apr.

Abstract:

OBJECTIVES: To analyze the effect of laparoscopic sleeve gastrectomy (LSG) on patients with gastroesophageal reflux disease (GERD) and to compare the results of LSG vs gastric bypass (GB) among patients with known GERD.

DESIGN, SETTING, AND PATIENTS: We performed a retrospective review of the Bariatric Outcomes Longitudinal Database from January 1, 2007, through December 31, 2010, including inpatient and all outpatient follow-up data. We compared patients undergoing LSG with a concurrent cohort undergoing GB.

MAIN OUTCOMES AND MEASURES: Rates of improvement or worsening of GERD symptoms, development of new-onset GERD, and weight loss and complications.

RESULTS: A total of 4832 patients underwent LSG and 33867 underwent GB, with preexisting GERD present in 44.5% of the LSG cohort and 50.4% of the GB cohort. Most LSG patients (84.1%) continued to have GERD symptoms postoperatively, with only 15.9% demonstrating GERD resolution. Of LSG patients who did not demonstrate preoperative GERD, 8.6% developed GERD postoperatively. In comparison, GB resolved GERD in most patients (62.8%) within 6 months postoperatively ($P < .001$). Among the LSG cohort, the presence of preoperative GERD was associated with increased postoperative complications (15.1% vs 10.6%), gastrointestinal adverse events (6.9% vs 3.6%), and increased need for revisional surgery (0.6% vs 0.3%) (all $P < .05$). The presence of GERD had no effect on weight loss for the GB cohort but was associated with decreased weight loss in the LSG group.

CONCLUSIONS AND RELEVANCE: Laparoscopic sleeve gastrectomy did not reliably relieve or improve GERD symptoms and induced GERD in some previously asymptomatic patients. Preoperative GERD was associated with worse outcomes and decreased weight loss with LSG and may represent a relative contraindication.

ASMBS Reviewers' Comments: Excellent general knowledge from large databank specific to bariatrics supporting GERD as a contraindication to Sleeve gastrectomy and supports potential conversion to RYGB for post sleeve GERD symptoms.

Year: 2014

Author: Van Rutte

Title: Outcome of sleeve gastrectomy as a primary bariatric procedure.

Citation: British Journal of Surgery. 101(6):661-8, 2014 May.

Abstract:

BACKGROUND: Sleeve gastrectomy is being performed increasingly in Europe. Data on long-term outcome would be helpful in defining the role of sleeve gastrectomy. The aim of this study was to evaluate the outcome of sleeve gastrectomy as a primary bariatric procedure.

METHODS: Medical charts of all patients who underwent a primary sleeve gastrectomy at the authors' institution between August 2006 and December 2012 were reviewed retrospectively using a prospective online data registry. For evolution of weight loss and co-morbidity, only patients with follow-up of at least 1year were included. A subgroup analysis was done to compare patients with an intended stand-alone procedure and those with an intended two-stage procedure.

RESULTS: A total of 1041 primary sleeve gastrectomies were performed in the study period. Median duration of surgery was 47min, and median hospital stay was 2days. Intra-abdominal bleeding occurred in 27 patients (26 per cent) and staple-line leakage in 24 (2.3 per cent). Some 866 patients had at least 1year of follow-up. Mean excess weight loss was 68.4 per cent after 1year ($P<0.001$) and 67.4 per cent after 2years. Smaller groups of patients achieved a mean excess weight loss of 69.3 per cent (163 patients), 70.5 per cent (62) and 58.3 per cent (19) after 3, 4 and 5years respectively. No difference in postoperative complications was found between the subgroups. Seventy-one (8.2 per cent) of 866 patients had a revision of the sleeve gastrectomy; reflux or dysphagia was the indication in 34 (48 per cent) of these patients.

CONCLUSION: Sleeve gastrectomy is a safe and effective bariatric procedure. Maximum weight loss was achieved after 4years. Long-term results regarding weight loss and co-morbidities were satisfactory.

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ASMBS Reviewers' Comments: Excellent general knowledge supporting 8.2% revision/conversion of sleeve due to postoperative complications or persistent or recurrent obesity.

Year: 2014

Author: Noel

Title: Revised sleeve gastrectomy: another option for weight loss failure after sleeve gastrectomy.

Citation: Surgical Endoscopy. 28(4):1096-102, 2014 Apr.

Abstract:

INTRODUCTION: Laparoscopic sleeve gastrectomy (LSG) is becoming a very common bariatric procedure, based on several advantages it carries over more complex bariatric procedures such as gastric bypass or duodenal switch (DS), and a better quality of life over gastric banding. However, in the long-term follow-up, weight loss failure and intractable severe reflux after primary LSG can necessitate further surgical interventions, and revisional sleeve gastrectomy (ReSG) can represent an option to correct these.

METHODS: From October 2008 to June 2013, 36 patients underwent an ReSG for progressive weight regain, insufficient weight, or severe gastroesophageal reflux in 'La Casamance' Private Hospital. All patients with weight loss failure after primary LSG underwent radiological evaluation. If Gastrografin swallow showed a huge unresected fundus or an upper gastric pouch dilatation, or if the computed tomography (CT) scan volumetry revealed a gastric tube superior to 250 cc, ReSG was proposed.

RESULTS: Thirty-six patients (34 women, two men; mean age 41.3 years) with a body mass index (BMI) of 39.9 underwent ReSG. Thirteen patients (36.1 %) had their original LSG surgery performed at another hospital and were referred to us for weight loss failure. Twenty-four patients (66.6 %) out of 36 had a history of gastric banding with weight loss failure. Thirteen patients (36.1 %) were super-obese (BMI > 50) before primary LSG. The LSG was realized for patients with morbid obesity with a mean BMI of 47.1 (range 35.4-77.9). The mean interval time from the primary LSG to ReSG was 34.5 months (range 9-67 months). The indication for ReSG was insufficient weight loss for 19 patients (52.8 %), weight regain for 15 patients (41.7 %), and 2 patients underwent ReSG for invalidating gastroesophageal reflux disease. In 24 cases the Gastrografin swallow results were interpreted as primary dilatation, and in the remaining 12 cases results were interpreted as secondary dilatation. The CT scan volumetry was realized in 21 cases, and it has revealed a mean gastric volume of 387.8 cc (range 275-555 cc). All 36 cases were completed by laparoscopy with no intraoperative incidents. The mean operative time was 43 min (range 29-70 min), and the mean hospital stay was 3.9 days (range 3-16 days). One perigastric hematoma was recorded. The mean BMI decreased to 29.2 (range 20.24-37.5); the mean percentage of excess weight loss was 58.5 % (+/-25.3) ($p < 0.0004$) for a mean follow-up of 20 months (range 6-56 months).

CONCLUSIONS: The ReSG may be a valid option for failure of primary LSG for both primary or secondary dilatation. Long-term results of ReSG are awaited to prove efficiency. Further prospective clinical trials are required to compare the outcomes of ReSG with those of Roux en Y Gastric Bypass or DS for weight loss failure after LSG.

ASMBS Reviewers' Comments: Excellent general knowledge supporting potentially revising a sleeve for recurrent or persistent obesity due to dilated proximal anatomy.

Year: 2015

Author: Altieri

Title: Gastroesophageal reflux disease after bariatric procedures.

Citation: Surgical Clinics of North America. 95(3):579-91, 2015 Jun.

Abstract:

GERD is a significant comorbidity in bariatric patients preoperatively and postoperatively. Surgeons should be aware of appropriate evaluation, procedures choices, and management options. Revision surgery for reflux symptoms is common and appropriate anatomy and outcomes should be considered when offering these interventions to our patients. Patient selection is important to ensure avoiding postoperative development or worsening of GERD.

ASMBS Reviewers' Comments: Excellent current review in Surgical Clinics of North American on incidence and treatment of GERD after all current bariatric procedures. Supports conversion of sleeve to gastric bypass as treatment of complication not a second bariatric procedure.

Year: 2014

Author: Aarts

Title: Revisional surgery after failed gastric banding: results of one-stage conversion to RYGB in 195 patients.

Citation: Surgery for Obesity & Related Diseases. 10(6):1077-83, 2014 Nov-Dec.

Abstract:

BACKGROUND: The most performed restrictive bariatric procedure is the laparoscopic adjustable gastric band (LAGB). With many patients still receiving a LAGB in Europe and the United States, inevitably, the number of complications also increases. For many complications revisional bariatric surgery is necessary. In this study, the outcomes of one-stage LAGB conversion to a Roux-en-Y gastric bypass (RYGB) at our institution are presented. The objective of this study was to investigate the safety and efficiency of RYGB performed as a one-stage procedure after failed LAGB.

METHODS: Patients were retrospectively selected using a prospectively collected database. The gastric band had to be in situ for at least 1 year and minimum postoperative follow-up was 12 months. The revisional RYGB had to be performed as a 1-step procedure.

RESULTS: A total of 195 patients were included while 3 were lost to follow up. Overall, 178 (91%) procedures were performed without perioperative complications, and only 8 (4%) patients required reoperation within 30 days. The mean follow-up was 40 months (+/-24) after RYGB. Mean excess weight loss (EWL) increased from 25% (+/-26/-50- 120%) to 60% (+/-21.2/0- 130), 65% (+/-23.5/0- 131), 63% (+/-24.2/2- 132), 60% (+/-24.1/0- 111) and 53% (+/-28.7/-39- 109) in the first 5 postoperative years.

CONCLUSION: Converting a gastric band to a RYGB in a one-stage procedure is safe and feasible, with acceptable complication rates when performed in a specialized institution. The RYGB conversion results in a good EWL of 65% after 2 years. However, proper patient selection is of the utmost importance.
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ASMBS Reviewers' Comments: Good article on single stage Gastric band removal and conversion to Gastric Bypass. Excellent follow-up and honest results. Supports single stage procedure though there was no comparator group.

Year: 2014

Author: Noel

Title: Laparoscopic sleeve gastrectomy as a revisional procedure for failed gastric banding: lessons from 300 consecutive cases.

Citation: Surgery for Obesity & Related Diseases. 10(6):1116-22, 2014 Nov-Dec.

Abstract:

BACKGROUND: Laparoscopic adjustable gastric banding (LAGB) is a common bariatric procedure associated with a high rate of weight loss failure and/or complications in the long term. The objective of this study was to test the hypothesis that the conversion of failed LAGB into laparoscopic sleeve gastrectomy (LSG) is not associated with an increased risk of postoperative complications and leads to weight loss results that are comparable to those obtained with a primary LSG.

METHODS: We retrospectively analyzed the results of a prospective series of 1360 LSG regarding patient demographics, the indication for revision morbidity, the percentage of excess weight loss, and the rate of postoperative complications.

RESULTS: The primary LSG group contained 1060 patients and the LAGB to LSG group contained 300 patients. The rate of postoperative complications was 4.5% in the primary LSG group and 2% in the LAGB to LSG group. Two patients died in the LSG group (1 pulmonary embolus, 1 myocardial infarction). There was no significant difference with respect to the rate of leak, which was 1% in the LAGB to LSG group and 1.6% in the primary LSG group. There was a greater weight loss after primary LSG, mean % excess weight loss of 75.9% \pm 21.4 at a mean interval of 29 \pm 19.8 months, versus 62.6% \pm 22.2 at a mean interval of 35 \pm 24 months after LAGB to LSG ($P = .008$). There were 72.1% and 59.2% of patients available for follow-up after primary LSG at 24 and 60 months respectively, versus 69.3% and 55.4% after LAGB to LSG.

CONCLUSION: This study indicates that the risk of leak after LSG was not increased after conversion failed LAGB into LSG when performed as a 2-step procedure. Copyright © 2014 American Society for Bariatric Surgery. Published by Elsevier Inc. All rights reserved.

ASMBS Reviewers' Comments: Large multicenter study comparing 2-stage gastric band to sleeve conversion to primary sleeve gastrectomy. Poor 2 year and later follow-up precludes strong statement on efficacy but good data on comparative early safety.

Year: 2014

Author: Jackson

Title: Short-term morbidity associated with removal and revision of the laparoscopic adjustable gastric band.

Citation: Surgery for Obesity & Related Diseases. 10(6):1110-5, 2014 Nov-Dec.

Abstract:

BACKGROUND: Laparoscopic adjustable gastric band (LAGB) insertion is a commonly performed bariatric procedure with low associated short-term risk. Given that a significant number of patients will require additional revision/removal procedures, overall morbidity may be underestimated. The objective of this study was to define the 30-day morbidity associated with LAGB removal and revision procedures.

METHODS: Patients undergoing revision or removal of LAGB were identified within The American College of Surgeons National Surgery Quality Improvement Program (ACS-NSQIP) participant use file using current procedural terminology and ICD-9 coding. Patients having concurrent procedures were excluded. Primary outcomes included 30-day morbidity. The rate of complications in the removal/revision patients versus primary LAGB insertion was compared. We also analyzed trends over time.

RESULTS: A total of 3,236 patients underwent LAGB removal (n = 1,580), revision (n = 1,111) or port site revision (n = 545) from 2006-2011. The overall 30-day complication rate was 5.6% (95% confidence interval [CI]: 4.8%, 6.4%) and was higher in patients undergoing LAGB removal with a 6.8% (95% CI: 5.6%, 8.1%) adverse event rate (2.5% infectious, 2.3% wound, 2.4% reoperation). A total of 24,438 patients underwent primary LAGB insertion within the data set with a 30-day complication rate of 2.6% (95% CI: 2.4%, 2.8%). Patients undergoing LAGB removal had a significantly higher complication rate than those having primary LAGB insertion with an odds ratio of 2.72 (95% CI: 2.18, 3.37). The proportion of LAGB revision/removal compared to primary placement increased annually over the study period (P for trend < .001).

CONCLUSION: The 30-day morbidity associated with LAGB revision is significant and higher than that associated with primary LAGB insertions. The potential need for future procedures and the associated additional morbidity should be considered when evaluating LAGB as a treatment option for morbid obesity. Copyright © 2014 American Society for Metabolic and Bariatric Surgery. Published by Elsevier Inc. All rights reserved.

ASMBS Reviewers' Comments: Analysis of the NSQIP database on the morbidity of Gastric band removal or revision alone (without conversion). This is important general knowledge for surgeons performing reoperations. The morbidity of gastric removal/revision is 2-2.5 x higher than initial gastric band placement. Though still lower than morbidity reported after primary gastric bypass or sleeve, and certainly lower than either conversion operation.