

*Selected, quality filtered, not subject to external review

Policy Issue: VHA offers bariatric surgery to eligible veterans at 14 facilities within its system. The VA Bariatric Surgery Workgroup (“Workgroup”)¹, sponsored by the VA National Director of Surgery within the Office of Patient Care Services, is formulating national guidance for bariatric surgery in collaboration with the VA National Center for Health Promotion and Disease Prevention (NCP)². The objective of the guidance is to develop a structured, evidence-based national bariatric surgery program that ensures access to surgery for qualified candidates and incorporates the best available evidence about candidate selection, operative care, and post-operative medical follow-up to provide the highest quality of care for VA patients. The NCP is also developing a weight management and physical activity five-step program called [MOVE!](#) (Managing Overweight/Obesity for Veterans Everywhere), which incorporates bariatric surgery as the last step. The Workgroup and the NCP have asked the VATAP for an update of its 2003 bibliography of quality filtered systematic reviews and primary studies³ to assist them with formulating program guidance.

Other federal guidance for bariatric surgery is under development. A recent technology assessment issued by the Agency for Health Research and Quality (AHRQ)⁴ (see Table 1) and prior reviews indicate the need for careful consideration of the evidence on bariatric surgery. The Center for Medicare and Medicaid Services (CMS) is referring the issue of surgical management of obesity to the Medicare Coverage Advisory Committee⁵.

Methods: In August 2004, VATAP queried the International Network of Agencies for Health Technology Assessment (INAHTA) via electronic mail for relevant completed or ongoing technology assessments produced since January 2003. In addition, VATAP searched the HTA database (www.inahta.org) using search terms for obesity, surgery, and bariatric and HTA reports (completed) and HTA projects (ongoing). These queries resulted in several new, completed and ongoing health technology assessments on surgical treatments for obesity from INAHTA members and other organizations (Table 1).

VATAP supplemented these reviews with an updated comprehensive search of primary studies published from January 2003 to October 2004 comparing surgical interventions for morbid obesity. MEDLINE[®], EMBASE[®], and Current Contents[®] were searched using search terms for controlled studies and guidelines for weight loss surgery, bariatric surgery, intragastric balloon, jejunioileal bypass, gastric bypass, biliopancreatic diversion, gastroplasty, and gastric banding. VATAP searched the Cochrane Library through Issue 4, 2004 for guidelines and studies using the same search terms. These searches identified over 50 possible guidelines and over 450 citations.

¹ <http://www1.va.gov/SURGERY/page.cfm?pg=25> accessed October 22, 2004.

² <http://www.nchpdp.med.va.gov/BariatricSurgery.asp> accessed October 22, 2004.

³ <http://www.va.gov/vatap/pubs/obesity.pdf> accessed October 22, 2004.

⁴ Shekelle PG, Morton SC, Maglione MA, Suttorp M, Tu W, Li Z, Maggard M, Mojica WA, Shugarman L, Solomon V, Jungvig L, Newberry SJ, Mead D, Rhodes S. Pharmacological and Surgical Treatment of Obesity. Evidence Report/Technology Assessment No. 103 (Prepared by the Southern California - RAND Evidence-Based Practice Center, Santa Monica, CA, under contract Number 290-02-0003.) AHRQ Publication No. 04-E028-2. Rockville, MD: Agency for Healthcare Research and Quality. July 2004.

⁵ <https://www.cms.hhs.gov/mcd/viewtrackingsheet.asp?id=137>, accessed October 26, 2004.

VATAP screened references using the following inclusion criteria:

- Adult, human subjects only;
- Sample size > 12 per treatment arm;
- Only FDA-approved devices used in bariatric surgery;
- Primary randomized, controlled or uncontrolled clinical studies comparing different bariatric surgical techniques;
- Only the most recent or largest studies reported data from the same population by the same investigators with the same objective (to eliminate redundancy);
- Systematic reviews with detailed methodology;
- Relevant guidelines;
- Full text published in English.

Results: No synthesis of information was requested. The results of this updated bibliography contain references published since 2003 based on available abstract information:

- Experimental or Quasi- Experimental Studies: Head-To-Head Comparisons of Surgical Techniques;
- Non-Experimental Studies: Head-To-Head Comparisons of Surgical Techniques;
- Guidelines on Management of Morbid Obesity;
- Health Technology Assessments and Systematic Reviews of Treatments for Obesity Published Since 2003 (Table 1).

EXPERIMENTAL OR QUASI- EXPERIMENTAL STUDIES: HEAD-TO-HEAD COMPARISONS OF SURGICAL TECHNIQUES

1. Fisher, BL. **Comparison of recovery time after open and laparoscopic gastric bypass and laparoscopic adjustable banding.** *Obesity surgery - the official journal of the American Society for Bariatric Surgery and of the Obesity Surgery Society of Australia and New Zealand* **2004**;14(1):67-72. *BACKGROUND: Laparoscopy is believed to reduce recovery time and patient discomfort following bariatric surgical operations. This study tests that hypothesis. METHODS: 60 randomly selected bariatric surgery patients, consisting of 20 open Roux-en-Y gastric bypass (RYGBP), 19 lap RYGBP, and 21 laparoscopic adjustable banding, were studied. Outcome measures including hospital length of stay (LOS), days to return to normal activity, days to surgical recovery, and pain medication usage were defined by the patients' subjective responses to a retrospective questionnaire. Overall differences among the three surgeries were first determined using the Kruskal-Wallis test, and then individual comparisons were made between each of the three pairs of operations using a Wilcoxon rank-sum test when a significant difference existed. RESULTS: Patients reported an average LOS of 3.45 days following open RYGBP, 2.47 days following lap RYGBP, and 1.33 days following Lap-Band surgery. There was little difference in return to normal activity, with open RYGBP patients reporting a 17.55 day delay in return to normal activity, and lap RYGBP reporting an 18.16 day delay. In contrast, Lap-Band patients responded that the delay was only 7.24 days. Days to recovery were reported to be 29.05 for open RYGBP patients, 21.68 for lap RYGBP patients and 15.81 for Lap-Band patients. Hospital days ($P=0.0002$), days to normal activity ($P=0.0115$), and days to recovery ($P<0.0001$) differed significantly among the surgery types. Lap and open RYGBP did not differ significantly regarding days to resumption of normal activities. Open RYGBP and banding differed significantly regarding days to recovery ($P <0.001$). CONCLUSIONS: Lap-Band patients returned to normal activity levels earlier than gastric bypass patient's irrespective of approach. Lap-Band patients also reported recovering from surgery significantly sooner than open RYGBP patients. Perceived differences in recovery time between open and laparoscopic RYGBP patients did not affect their time to resumption of normal activity.*

2. Lee, WJ, Huang, MT, Yu, PJ, Wang, W, Chen, TC. **Laparoscopic vertical banded gastroplasty and laparoscopic gastric bypass: A comparison.** *Obesity Surgery* **2004**;14(5):626-634. *Background: Vertical banded gastroplasty (VBG) and gastric bypass (GBP) are the two bariatric procedures recommended by NIH consensus conference. Recent advancement in laparoscopic (L) techniques has made LVBG and LGBP alternatives for the conventional open approach. Methods: From December 2000 to February 2002, 80 patients (24 men and 56 women; mean age 32 years, range 18-57) with morbid obesity (mean BMI 43.2 kg/m², range 36-59.8) were enrolled in a prospective trial and randomly assigned to LVBG or LGBP. Changes in quality of life were assessed using the Gastro-intestinal quality of life index (GIQLI). Results: The conversion rate was zero for LVBG and 2.5% (1/40) for LGBP. There has been no mortality. Surgical time was significantly longer for LGBP (209 min vs 126 min for LVBG, $P<0.001$). Mean hospital stay was 3.5 days for the LVBG vs 5.7 days for LGBP ($P<0.001$). Postoperative analgesic usage was also less for LVBG patients (mean dose 1.4 vs 2.4, $P<0.05$). Early complication rate was higher in the LGBP group (17.8% vs 2.5%, $P<0.001$). All 3 major complications were in the LGBP group, of which 2 were related to anastomotic leakage (5%). Late complications consisted of upper GI bleeding, stenosis and others observed in 4 LGBP patients (10%) and 2 LVBG patients (5%). Mean follow-up was 20 months (range 18 to 30). BMI fell significantly in both groups, with significant improvement of obesity-related co-morbidities. LGBP had significantly better excess weight loss than LVBG (62.9% vs 55.4% at 1 year and 71.4% vs 53.1% at 2 years), as well as lower BMI than LVBG (29.6 vs 31.1 at 1 year and 28.5 vs 31.9 at 2 years). There was no difference in the reduction of obesity-related laboratory abnormalities at 1 year except a lower hemoglobin in LGBP (11.8 vs 13.8, $P<0.05$). Preoperative GIQLI scores were similar between the groups; however, at 1 year, LGBP patients had better GIQLI scores than LVBG patients (121 vs 106, $P<0.01$). LVBG had improvement in physical condition, social function and emotional conditioning but deterioration in GI symptoms which resulted in no increase in total GIQLI score. Conclusion: LGBP was a time-consuming demanding technique with a higher early complication rate compared with LVBG. Although both operations resulted in significant*

weight reduction and decrease in obesity-related co-morbidities, LGBP had a trend of greater weight loss and significantly better GIQLI than LVBG at the cost of a significant long-term trace element deficiency state. Each patient should be individualized for the operations according to the patient's decision.

3. Lujan, JA, Frutos, MD, Hernandez, Q, Liron, R, et al. **Laparoscopic versus open gastric bypass in the treatment of morbid obesity: a randomized prospective study.** *Annals of surgery* **2004**;239(4):433-7. **OBJECTIVE:** The objective of the study was to compare the results of open versus laparoscopic gastric bypass in the treatment of morbid obesity. **SUMMARY BACKGROUND DATA:** Gastric bypass is one of the most commonly acknowledged surgical techniques for the management of morbid obesity. It is usually performed as an open surgery procedure, although now some groups perform it via the laparoscopic approach. **PATIENTS AND METHODS:** Between June 1999 and January 2002 we conducted a randomized prospective study in 104 patients diagnosed with morbid obesity. The patients were divided into 2 groups: 1 group with gastric bypass via the open approach (OGBP) comprising 51 patients, and 1 group with gastric bypass via the laparoscopic approach (LGBP) comprising 53 patients. The parameters compared were as follows: operating time, intraoperative complications, early (<30 days) and late (>30 days) postoperative complications, hospital stay, and short-term evolution of body mass index. **RESULTS:** Mean operating time was 186.4 minutes (125-290) in the LGBP group and 201.7 minutes (129-310) in the OGBP group ($P < 0.05$). Conversion to laparotomy was necessary in 8% of the LGBP patients. Early postoperative complications (<30 days) occurred in 22.6% of the LGBP group compared with 29.4% of the OGBP group, with no significant differences. Late complications (>30 days) occurred in 11% of the LGBP group compared with 24% of the OGBP group ($P < 0.05$). The differences observed between the 2 groups are the result of a high incidence of abdominal wall hernias in the OGBP group. Mean hospital stay was 5.2 days (1-13) in the LGBP group and 7.9 days (2-28) in the OGBP group ($P < 0.05$). Evolution of body mass index during a mean follow-up of 23 months was similar in both groups. **CONCLUSIONS:** LGBP is a good surgical technique for the management of morbid obesity and has clear advantages over OGBP, such as a reduction in abdominal wall complications and a shorter hospital stay. The midterm weight loss is similar with both techniques. One inconvenience is that LGBP has a more complex learning curve than other advanced laparoscopic techniques, which may be associated with an increase in postoperative complications.

4. Sundbom, M, Gustavsson, S. **Randomized clinical trial of hand-assisted laparoscopic versus open Roux-en-Y gastric bypass for the treatment of morbid obesity.** *British journal of surgery* **2004**;91(4):418-23. **BACKGROUND:** Roux-en-Y gastric bypass (RYGBP) has increased in popularity since the introduction of the laparoscopic procedure, but this approach requires extensive surgical skill and the learning curve is steep. The present study examined the suitability of hand-assisted laparoscopy for RYGBP. **METHODS:** In a prospective trial, 50 patients (median age 38 years, body mass index 45 kg/m²) were randomized to either hand-assisted ($n = 25$) or open ($n = 25$) RYGBP. The hand-assisted device was introduced through a right subcostal incision. Laparoscopic staplers were also used in the open group, allowing a short upper midline incision. The gastrojejunostomy was made by means of a circular stapler and the Roux limb placed behind the colon and excluded stomach. **RESULTS:** The postoperative outcome, with respect to morphine consumption, complications, hospital stay (6 days) and weight loss, was similar in the two groups. The operating time was significantly longer in the hand-assisted group (150 versus 85 min; $P < 0.001$) but there was no conversion to open operation. One patient in the hand-assisted group was reoperated owing to leakage and one patient developed an incisional hernia after open RYGBP. **CONCLUSION:** The hand-assisted technique was feasible and allowed good working conditions in all patients. However, the postoperative outcome was excellent in both groups and there was no advantage to the hand-assisted technique. ^Copyright 2004 British Journal of Surgery Society Ltd.

5. Courcoulas, A, Perry, Y, Buenaventura, P, Luketich, J. **Comparing the outcomes after laparoscopic versus open gastric bypass: a matched paired analysis.** *Obesity surgery - the official journal of the American Society for Bariatric Surgery and of the Obesity Surgery Society of Australia and New Zealand* **2003**;13(3):341-6. **BACKGROUND:** Laparoscopic gastric bypass (LGBP) is being

performed widely as a treatment of choice for morbid obesity. Advantages over open gastric bypass (OGBP) have not been well documented in controlled studies. The aim of this study is to evaluate the early postoperative outcomes after LGBP and OGBP using a matched paired analysis. **METHODS:** 80 consecutive LGBP patients were matched by age, gender, preoperative BMI, and number of co-morbid medical conditions to 80 OGBP patients. Outcomes included length of stay (LOS), complications, percent excess weight lost (%EWL) and change in BMI over 1 year, time to return to normal activities, and quality of life (QOL). Continuous variables were analyzed using Wilcoxon Signed Ranks and discrete data were analyzed with McNemar tests. **RESULTS:** Baseline variables were matched (LGBP/OGBP); age 43/42, mean preoperative BMI 44/46, co-morbid conditions 2.5/2.8. LOS was significantly shorter in the LGBP vs. OGBP group (3.6 vs. 4.3 days). There was a trend to more major complications (internal hernias requiring reoperation) in the LGBP group that did not reach significance. Minor complications were comparable. %EWL was significantly better in the LGBP group at 3, 6, and 9 months, but was comparable to the OGBP group at 1 year (LGBP/OGBP, 69%/65%). BMI at 1 year was also similar (29 vs. 31). LGBP patients returned to normal activities sooner and had equivalent QOL outcomes. **CONCLUSION:** LGBP provides certain advantages over OGBP. LOS and time to return to normal activities are shorter and early weight loss results may be superior.

6. Morino, M, Toppino, M, Bonnet, G, del, GG. **Laparoscopic adjustable silicone gastric banding versus vertical banded gastroplasty in morbidly obese patients: a prospective randomized controlled clinical trial.** *Annals of surgery* **2003**;238(6):835-41; discussion 841-2. **OBJECTIVE:** To compare, in a prospective, randomized, single-institution trial laparoscopic adjustable silicone gastric banding (LASGB) with laparoscopic vertical banded gastroplasty (LVBG) in morbidly obese patients. **SUMMARY BACKGROUND DATA:** LASGB is a simple and safe procedure, but some reports have suggested disappointing long-term results. Despite the recent widespread use of LASGB, there are no prospective nor randomized trials comparing LASGB with other laparoscopic procedures. **METHODS:** A total of 100 morbidly obese patients, with body mass index (BMI) 40 to 50 kg/m², without compulsive eating, were randomized to either LASGB (n = 49) or LVBG (n = 51). Minimum follow-up was 2 years (mean 33.1 months). **RESULTS:** There were no deaths or conversions in either group. Mean operative time was 94.2 minutes in LVBGs and 65.4 in LASGBs (P < 0.05). Early morbidity rate was lower in LASGBs (6.1%) versus LVBGs (9.8%) (P = 0.754). Mean hospital stay was shorter in LASGBs versus LVBGs: 3.7 days versus 6.6 (P < 0.05). Late complications rate in LVBGs was 14% (7 of 50) and in LASGBs 32.7% (16 of 49) (P < 0.05). The most frequent complication was the slippage of the band (18%). Late reoperations rate in LVBGs was 0% (0 of 50) versus 24.5% (12 of 49) in LASGBs (P < 0.001). Excess weight loss in LVBGs was, at 2 years, 63.5% and, at 3 years, 58.9%; in LASGBs, excess weight loss, respectively, was 41.4% and 39%. BMI in LVBGs was, at 2 years, 29.7 kg/m² and, at 3 years, 30.7 kg/m²; in LASGBs, BMI was 34.8 kg/m² at 2 years and 35.7 kg/m² at 3 years. According to Reinhold's classification, a residual excess weight <50% was achieved, at 2 years, in 74% of LVBG and 35% of LASGB (P < 0.001). **CONCLUSIONS:** This study demonstrates that, in patients with BMI 40 to 50 kg/m², LASGB requires shorter operative time and hospital stay but LVBG is more effective in terms of late complications, reoperations, and weight loss.

7. Nguyen, NT, Braley, S, Fleming, NW, Lambourne, L, Rivers, R, Wolfe, BM. **Comparison of postoperative hepatic function after laparoscopic versus open gastric bypass.** *American journal of surgery* **2003**;186(1):40-4. **BACKGROUND:** Pneumoperitoneum has been shown to reduce hepatic portal blood flow and alter postoperative hepatic transaminases. This study evaluated the changes in hepatic function after laparoscopic and open gastric bypass (GBP). **METHODS:** Thirty-six morbidly obese patients were randomly assigned to undergo either laparoscopic (n = 18) or open (n = 18) GBP. Liver function tests--total bilirubin (T Bil), gamma GT (GGT), albumin, alkaline phosphatase (ALP), aspartate transferase (AST), alanine transferase (ALT)--and creatine kinase levels were obtained preoperatively and at 1, 24, 48, and 72 hours postoperatively. **RESULTS:** The two groups were similar in age, sex, and body mass index. Albumin and ALP levels decreased while T Bil and GGT levels remained unchanged from baseline in both groups without significant difference between the two groups. After laparoscopic GBP, ALT and AST transiently increased by sixfold and returned to near baseline levels at 72 hours. After open GBP, ALT and AST transiently increased by fivefold to eightfold and returned to near baseline levels

by 72 hours. Creatine kinase level was significantly lower after laparoscopic GBP than after open GBP at 48 and 72 hours postoperatively. There was no postoperative liver failure or mortality in either group. **CONCLUSIONS:** Laparoscopic GBP resulted in transient postoperative elevation of hepatic transaminase (ALT, AST) but did not adversely alter hepatic function to any greater extent than open GBP. Creatine kinase levels were lower after laparoscopic GBP reflecting its lesser degree of abdominal wall trauma.

NON-EXPERIMENTAL STUDIES: HEAD-TO-HEAD COMPARISONS OF SURGICAL TECHNIQUES

1. Dolan, K, Hatzifotis, M, Newbury, L, Fielding, G. **A Comparison of Laparoscopic Adjustable Gastric Banding and Biliopancreatic Diversion in Superobesity.** *Obesity Surgery* **2004**;14(2):165-169. *Background:* Controversy exists regarding the best surgical treatment for superobesity (BMI >50 kg/m²), and a comparison of the 2 most commonly performed procedures in Europe, namely biliopancreatic diversion (BPD) and laparoscopic adjustable gastric banding (LAGB), has not yet been reported. *Methods:* BPD has been performed in 134 morbidly obese patients since 1996, and as the primary bariatric procedure in 23 superobese patients. 23 sex-matched patients who most closely resembled the age and BMI of the 23 BPD patients were chosen from 1,319 patients who had undergone LAGB since 1996. These groups were compared using appropriate statistical tests. *Results:* BPD was performed laparoscopically in 12 patients. Median excess weight loss at 24 months was 64.4% following BPD and 48.4% following LAGB. Hospital stay and complication rate were significantly greater with BPD, although the majority of complications were related to the laparotomy wound in patients undergoing open BPD. Rate of resolution of obstructive sleep apnea, hypertension and diabetes mellitus following LAGB was similar to BPD. *Conclusion:* BPD results in significantly greater weight loss than LAGB in superobese patients, but is associated with a longer hospital stay and a higher complication rate in patients undergoing open BPD.
2. Smith, SC, Edwards, CB, Goodman, GN, Halversen, RC, Simper, SC. **Open vs laparoscopic Roux-en-Y gastric bypass: comparison of operative morbidity and mortality.** *Obesity surgery - the official journal of the American Society for Bariatric Surgery and of the Obesity Surgery Society of Australia and New Zealand* **2004**;14(1):73-6. *BACKGROUND:* Open Roux-en-Y gastric bypass (RYGBP) has proven to be an effective method for weight control for the morbidly obese patient. With technologic and surgical skill advancement in the application of laparoscopic surgery, laparoscopic RYGBP has also been found to be of value in surgical control of obesity. Risk/benefit ratios in comparison of the 2 methods are undergoing definition by experience. *METHODS:* 779 patients who underwent RYGBP between March 1, 2000 and June 30, 2002 were evaluated retrospectively. 328 patients underwent laparoscopic RYGBP (Group A) and 451 underwent open RYGBP (Group B). All charts and hospital records of these patients were reviewed. Questionnaires were mailed to all patients who had undergone RYGBP. Follow-up was 5-29 months. *RESULTS:* 89 patients in Group A and 162 patients in Group B experienced significant morbidity. There were no surgical deaths in Group A and one surgical death in Group B. Weight loss profiles were the same. Significant differences in morbidity were noted with respect to gastrojejunal stenosis (Group A = 11.6%, Group B = 4.7%, P=.0012), occurrence of ventral incisional hernia (A=0%, B=10%, P<.00013), and wound problems (abdominal wall hematoma A=1.5%, B=0%, P=.013; wound infection A=1.2%, B=6.2%, P=.00037). Gastrojejunal perforation was not significantly different (A=1.5%, B=0.89%, P=.50), as was true of small bowel obstruction (A=2.7%, B=3.3%, P=.68). *CONCLUSIONS:* Each operative approach has associated problems. Wound care problems and ventral hernias are more common in Group B (open) and anastomotic stenoses are more common in Group A (laparoscopic). Anastomotic leaks and small bowel obstruction are troublesome but not statistically different in occurrence.
3. Biertho, L, Steffen, R, Ricklin, T, Horber, FF, et al. **Laparoscopic gastric bypass versus laparoscopic adjustable gastric banding: a comparative study of 1,200 cases.** *Journal of the*

American College of Surgeons 2003;197(4):536-44; discussion 544-5. **BACKGROUND:** Indications for and results of laparoscopic adjustable gastric banding (LAGB) and laparoscopic gastric bypass (LGB) are still controversial, especially between Europe and the United States. The recent availability of gastric bandings in the United States made it necessary to compare the two techniques. **STUDY DESIGN:** We compared a series of 456 LGB to a series of 805 LAGB performed in two different institutions. Body mass index (BMI), complication rate, mortality, and excess weight loss (EWL) after 3, 6, 12, and 18 months were obtained. A Fischer's exact test and a Student t test with covariance analysis were used for statistical analysis. **RESULTS:** Results are expressed as a mean +/- standard deviation, comparing LGB with LAGB. Preoperative BMI was 49.4 +/- 8.3 kg/m(2) versus 42.2 +/- 4.9 kg/m(2) ($p = 0.0001$), respectively. Perioperative major complication rates were 2.0% versus 1.3% (NS), and the early postoperative major complication rates were 4.2% versus 1.7% ($p = 0.02$), respectively. Mortality rate was 0.4% versus 0% (NS), respectively. The global EWL was 36.3% for LGB versus 14.7% for LAGB at 3 months ($p < 0.0001$), 51.6% versus 21.9% at 6 months ($p < 0.0001$), 67.0% versus 33.3% at 12 months ($p < 0.0001$), and 74.6% versus 40.4% at 18 months ($p < 0.0001$), respectively. Longterm followup for the LAGB group showed an EWL of 47% at 2 years, 56% at 3 years, and 58% at 4 years. Patients were sorted after their preoperative BMI (30 to 40, 40 to 50, and 50 to 60 kg/m(2)). The EWL at 3, 6, 12, and 18 months was statistically superior in the LGB group, for any BMI ranges. **CONCLUSIONS:** These data suggest that LGB provides a higher EWL at 18 months, compared with LAGB, and this was true for any preoperative BMI range. It is associated with a higher early postoperative complication rate.

4. Gonzalez, R, Lin, E, Mattar, SG, Venkatesh, KR, Smith, CD. **Gastric bypass for morbid obesity in patients 50 years or older: is laparoscopic technique safer?** American surgeon 2003;69(7):547-53; discussion 553-4. Some physicians have considered age $> \text{ or } = 50$ years as a relative contraindication for bariatric surgery. Recent reports demonstrated the safety and efficacy of Roux-en-Y gastric bypass (RYGB) in this patient subgroup, but comparisons between laparoscopic technique (LT) and open technique (OT) have not been reported. A review of 52 patients $> \text{ or } = 50$ years old who underwent RYGB between January 1999 and April 2002 was conducted. Demographics, operative data, and outcomes were assessed. Preoperative and postoperative renal and hepatic functions, electrolytes, anemia studies, and hematology results were compared. Patients were divided into LT and OT groups and operative outcomes were compared. The percentage of excess body weight loss was 66 +/- 4 per cent at mean follow-up of 12 months. Blood samples drawn after a mean of 8 +/- 2 months revealed no postoperative metabolic alterations. RYGB resulted in a reduction of the number of patients with hyperglycemia, hypertension, degenerative joint disease, gastroesophageal reflux disease, and continuous positive airway pressure-dependent sleep apnea ($P < 0.05$). The LT resulted in fewer intensive care unit admissions and shorter length of stay. RYGB is safe and well tolerated in patients $> \text{ or } = 50$ years resulting in no renal, hepatic, or electrolytic alterations. Weight loss and control of obesity-related comorbidities are satisfactory. The LT results in fewer intensive care unit admissions and shorter length of stay than the OT.

5. Kim, W-W, Gagner, M, Kini, S, Inabnet, WB, et al. **Laparoscopic vs. open biliopancreatic diversion with duodenal switch: a comparative study.** Journal of gastrointestinal surgery - official journal of the Society for Surgery of the Alimentary Tract 2003;7(4):552-7. Biliopancreatic diversion with duodenal switch (BPD-DS) is a well-known emerging open procedure that appears to be as effective as other bariatric operations and has been shown to provide excellent long-term weight loss. Therefore we looked at the safety and efficacy of the laparoscopic BPD-DS procedure compared to open BPD-DS in superobese patients (body mass index > 60). A retrospective study of 54 superobese patients (body mass index > 60) was carried out from July 1999 to June 2001: laparoscopic BPD-DS in 26 patients and open BPD-DS in 28 patients. Median preoperative body weight was 189.8 kg (range 155.1 to 271.2 kg) in the laparoscopic BPD-DS group and 196.5 kg (range 160.3 to 298.9 kg) in the open BPD-DS group. Median body mass index was 66.9 kg/m(2) in the laparoscopic group and 68.9 kg/m(2) in the open group. The two groups were compared by means of the unpaired t test, which yielded the following results: Major morbidity occurred in six patients (23%) in the laparoscopic BPD-DS group and in five patients (17%) in the open BPD-DS group ($P = 0.63$). There were two deaths in the laparoscopic BPD-DS group (7.6% mortality) and one death (3.5% mortality) in the open BPD-DS group ($P = 0.51$). Preoperative comorbidity

was improved in eight patients in the laparoscopic BPD-DS group and two patients in the open BPD-DS group ($P < 0.02$). Laparoscopic BPD-DS is a technically feasible procedure that results in effective weight loss similar to the open procedure. However, both open and laparoscopic BPD-DS procedures are associated with appreciable morbidity and mortality in the superobese population. Additional studies are needed to determine the best surgical treatment for superobesity.

6. Mittermair, RP, Weiss, H, Nehoda, H, Kirchmayr, W, Aigner, F. **Laparoscopic Swedish adjustable gastric banding: 6-year follow-up and comparison to other laparoscopic bariatric procedures.** *Obesity surgery - the official journal of the American Society for Bariatric Surgery and of the Obesity Surgery Society of Australia and New Zealand* **2003**;13(3):412-7. **BACKGROUND:** *The advantages of laparoscopy over open surgery are well known. The aim of this study was to compare our results with Swedish adjustable gastric banding (SAGB) with other laparoscopically performed bariatric procedures (gastric bypass, LapBand, vertical banded gastroplasty).* **METHODS:** *Between January 1996 and December 2001, 454 patients (381 women, 73 men) underwent laparoscopic SAGB. All data (demographic and morphologic, co-morbidities, operative, and follow-up) were prospectively collected in a computerized databank.* **RESULTS:** *Mean follow-up was 30 months (range 1-66). Average total weight loss was 35.5 kg after 1 year, reaching an average total of 54 kg after 3 years. Mean excess weight loss was 72% after 3 years, and the BMI decreased from 46.7 to 28.1 kg/m². Patients with co-morbidities reported marked improvement of their accompanying diseases. Complications requiring reoperation occurred in 7.9%. There was no mortality. The clinical outcome compared with the other laparoscopic bariatric procedures showed no significant difference.* **CONCLUSION:** *All laparoscopically performed bariatric procedures are very promising. The great advantage of laparoscopic adjustable gastric banding is that this operation is minimally invasive to the stomach, totally reversible and adjustable to the patients' needs.*

GUIDELINES

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Table 1. Health Technology Assessments and Systematic Reviews of Treatments for Obesity Published Since January 2003

Sources: Results of query to INAHTA members as of September 2004 and results of search that met criteria for inclusion. This query updates the results of a VATAP bibliography of HTAs of surgical treatments for morbid obesity which was published in January 2003, available at: <http://www.va.gov/vatap/pubs/obesity.pdf>

| Organiza-tion | Citation/ Comments | Publica-tion year |
|------------------------|---|-------------------|
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