

2017.1 Procedures Criteria

PATIENT:	Name	DOB	ID#	GROUP#
	Facility		Service Date	
PROVIDER:	Name		Fax#	Phone#
	Signature		Date	NPI/ID#

ICD-10:

CPT®:

Subset: Bariatric Surgery^(1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13)**Requested Service:** Sleeve Gastrectomy**Age:**⁽¹⁴⁾ Age ≥ 18**INSTRUCTIONS:** Answer the following questions⁽¹⁵⁾ **Obesity**

1. Choose one:

- A) Primary bariatric surgery
- B) Revisional bariatric surgery^(16, 17)
- C) Other clinical information (add comment)

- If option A selected, then go to question 2
- If option B selected, then go to question 13
- No other options lead to the requested service

2. Choose one:⁽¹⁸⁾

- A) BMI ≥ 30 and < 35 kg/m²
- B) BMI ≥ 35 and < 40 kg/m²⁽¹⁹⁾
- C) BMI ≥ 40 kg/m²⁽²⁰⁾
- D) Other clinical information (add comment)

- If option A selected, then go to question 3
- If option B selected, then go to question 8
- If option C selected, then go to question 9
- No other options lead to the requested service

3. Choose one:

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3. Choose one: *(Continued...)*

- A) Type 2 diabetes mellitus (DM)⁽²¹⁾
- B) Metabolic syndrome⁽²²⁾
- C) Other clinical information (add comment)

- If option A or B selected, then go to question 4
- No other options lead to the requested service

4. Choose all that apply:⁽²³⁾

- A) Documented history of participation in supervised weight loss program
- B) Unable to achieve or maintain weight loss
- C) Other clinical information (add comment)

- If the number of options selected is 2 and option C not selected, then go to question 5
- No other options lead to the requested service

5. Choose all that apply:⁽²⁴⁾

- A) No active peptic ulcer disease (PUD) or gastritis OR PUD or gastritis evaluated and treated⁽²⁵⁾
- B) Endocrine cause of obesity excluded⁽²⁶⁾
- C) Other clinical information (add comment)

- If the number of options selected is 2 and option C not selected, then go to question 6
- No other options lead to the requested service

6. Choose all that apply:

- A) No drug or alcohol misuse by history or drug and alcohol free period \geq 1 year⁽²⁷⁾
- B) No psychiatric disorder by history or psychiatric disorder managed⁽²⁸⁾
- C) No cigarette smoking by history or smoke free period \geq 6 weeks⁽²⁹⁾
- D) Dietary consultation⁽³⁰⁾
- E) Patient has understanding of surgical procedure, post procedure compliance, and follow-up care⁽³¹⁾
- F) Other clinical information (add comment)

- If the number of options selected is 5 and option F not selected, then go to question 7
- No other options lead to the requested service

7. Procedure to be performed at bariatric surgery center⁽³²⁾

- Yes
- No

- If option Yes selected, then the rule is satisfied; you may stop here **Ltd 2nd (Outpatient)** ^(1, 33, 34)
- No other options lead to the requested service

8. Comorbidity, Choose all that apply:⁽³⁵⁾

- A) Type 2 diabetes mellitus (DM)⁽²¹⁾
- B) Hypertension (HTN)⁽³⁶⁾
- C) Dyslipidemia⁽³⁷⁾
- D) Coronary artery disease (CAD)⁽³⁸⁾
- E) Heart failure⁽³⁹⁾
- F) Obstructive sleep apnea⁽⁴⁰⁾
- G) Non-alcoholic fatty liver disease or non-alcoholic steatohepatitis⁽⁴¹⁾
- H) Pseudotumor cerebri⁽⁴²⁾
- I) Gastroesophageal reflux disease (GERD)⁽⁴³⁾
- J) Osteoarthritis⁽⁴⁴⁾
- K) Other clinical information (add comment)

- If 1 or more options A, B, C, D, E, F, G, H, I or J selected and option K not selected, then go to question 9
- No other options lead to the requested service

9. Choose all that apply:⁽²³⁾

- A) Documented history of participation in supervised weight loss program
- B) Unable to achieve or maintain weight loss
- C) Other clinical information (add comment)

- If the number of options selected is 2 and option C not selected, then go to question 10
- No other options lead to the requested service

10. Choose all that apply:⁽²⁴⁾

- A) No active peptic ulcer disease (PUD) or gastritis OR PUD or gastritis evaluated and treated⁽²⁵⁾
- B) Endocrine cause of obesity excluded⁽²⁶⁾
- C) Other clinical information (add comment)

- If the number of options selected is 2 and option C not selected, then go to question 11
- No other options lead to the requested service

11. Choose all that apply:

- A) No drug or alcohol misuse by history or drug and alcohol free period \geq 1 year⁽²⁷⁾
- B) No psychiatric disorder by history or psychiatric disorder managed⁽²⁸⁾
- C) No cigarette smoking by history or smoke free period \geq 6 weeks⁽²⁹⁾
- D) Dietary consultation⁽³⁰⁾
- E) Patient has understanding of surgical procedure, post procedure compliance, and follow-up care⁽³¹⁾
- F) Other clinical information (add comment)

- If the number of options selected is 5 and option F not selected, then go to question 12
- No other options lead to the requested service

12. Procedure to be performed at bariatric surgery center⁽³²⁾

- Yes
 No

- If option Yes selected, then the rule is satisfied; you may stop here (**Outpatient**)⁽¹⁾
 - No other options lead to the requested service

13. Able to achieve or maintain > 50% excess body weight loss⁽⁴⁵⁾

- Yes
 No

- If option No selected, then go to question 14
 - No other options lead to the requested service

14. Choose one:

- A) BMI ≥ 35 and < 40 kg/m²⁽⁴⁶⁾
 B) BMI ≥ 40 kg/m²⁽²⁰⁾
 C) Other clinical information (add comment)

- If option A selected, then go to question 15
 - If option B selected, then go to question 16
 - No other options lead to the requested service

15. Comorbidity, Choose all that apply:⁽³⁵⁾

- A) Type 2 diabetes mellitus (DM)⁽²¹⁾
 B) Hypertension (HTN)⁽³⁶⁾
 C) Dyslipidemia⁽³⁷⁾
 D) Coronary artery disease (CAD)⁽³⁸⁾
 E) Heart failure⁽³⁹⁾
 F) Obstructive sleep apnea⁽⁴⁰⁾
 G) Non-alcoholic fatty liver disease or non-alcoholic steatohepatitis⁽⁴¹⁾
 H) Pseudotumor cerebri⁽⁴²⁾
 I) Gastroesophageal reflux disease (GERD)⁽⁴³⁾
 J) Osteoarthritis⁽⁴⁴⁾
 K) Other clinical information (add comment)

- If 1 or more options A, B, C, D, E, F, G, H, I or J selected and option K not selected, then go to question 16
 - No other options lead to the requested service

16. Choose all that apply:

16. Choose all that apply: *(Continued...)*

- A) ≥ 1 year since primary surgery⁽⁴⁷⁾
- B) Documented history of postoperative compliance with diet and physical activity⁽⁴⁸⁾
- C) Other clinical information (add comment)

- If the number of options selected is 2 and option C not selected, then go to question 17
- No other options lead to the requested service

17. Choose all that apply:

- A) No drug or alcohol misuse by history or drug and alcohol free period ≥ 1 year⁽²⁷⁾
- B) No psychiatric disorder by history or psychiatric disorder managed⁽²⁸⁾
- C) No cigarette smoking by history or smoke free period ≥ 6 weeks⁽²⁹⁾
- D) Patient has understanding of surgical procedure, post procedure compliance, and follow-up care⁽³¹⁾
- E) Other clinical information (add comment)

- If the number of options selected is 4 and option E not selected, then go to question 18
- No other options lead to the requested service

18. Procedure to be performed at bariatric surgery center⁽³²⁾

- Yes
- No

- If option Yes selected, then go to question 19
- No other options lead to the requested service

19. Primary bariatric procedure, Choose one:

- A) Adjustable gastric banding
- B) Roux-en-Y gastric bypass (RYGB)
- C) Sleeve gastrectomy
- D) Biliopancreatic diversion with duodenal switch
- E) Other clinical information (add comment)

- If option A selected, then the rule is satisfied; you may stop here **(Outpatient)** ⁽¹⁾
- If option B, C or D selected, then the rule is satisfied; you may stop here ⁽¹⁾
- No other options lead to the requested service

Reference

Ltd - This requested service is designated as 'Limited Evidence.'

2nd - Secondary review required.

Notes

(1)

I/O setting:

Adjustable gastric banding (AGB) - Outpatient

Biliopancreatic diversion with duodenal switch - Inpatient

Removal, revision, or replacement of adjustable gastric band (AGB) device or port - Outpatient

Revision of gastroduodenal anastomosis with reconstruction - Inpatient

Revision of gastrojejunal anastomosis with reconstruction - Inpatient

Roux-en-Y gastric bypass (RYGB) - Inpatient

Sleeve gastrectomy - Inpatient

(2)

This guideline includes the following procedures:

Biliopancreatic diversion with duodenal switch

Laparoscopic adjustable gastric banding (AGB)

Removal, revision, or replacement of adjustable gastric band device or port

Revision of gastroduodenal anastomosis with reconstruction

Revision of gastrojejunal anastomosis with reconstruction

Roux-en-Y gastric bypass (RYGB)

Sleeve gastrectomy

(3)

These criteria do not address new procedures, not yet standard of care (e.g., gastric balloon, transoral gastroplasty long limb gastric bypass, mini-gastric bypass), or procedures of primarily historical interest (e.g., jejunoileal bypass, horizontal gastric stapling, vertical banded gastroplasty).

(4)

Accompanying surgery:

- Some patients with severe obesity may have a ventral or umbilical hernia. Repair at the time of weight reduction surgery is recommended and does not require separate authorization.
- Cholecystectomy for biliary colic diagnosed preoperatively may be performed without separate authorization.
- Gallstone formation is common following weight reduction surgery secondary to bile stasis. Ursodiol (Actigall) may be used postoperatively to reduce the formation of new gallstones. Results reported in one meta-analysis found that cholecystectomy after Roux-en-Y gastric bypass was necessary in only 6.8% of patients and of those, the subsequent complication rate was 1.8% (Warschkow et al., *Obes Surg* 2013, 23: 397-407). Prophylactic cholecystectomy (cholecystectomy performed on an asymptomatic patient) is, therefore, not warranted and requests for prophylactic cholecystectomy require separate authorization.
- Although gastroesophageal reflux disease is associated with severe obesity, weight loss surgery (by eliminating acid reflux even before the patient experiences weight loss) often eliminates this problem. Requests for simultaneous antireflux surgery, therefore, require separate authorization.

(5)

Bariatric surgery is more effective than conventional treatment (e.g., diet, exercise) for achieving long-term, sustained weight loss (Colquitt et al., *Cochrane Database Syst Rev* 2014, 8: CD003641; Schauer et al., *N Engl J Med* 2014, 370: 2002-13; Gloy et al., *BMJ* 2013, 347: f5934; Schauer et al., *N Engl J Med* 2012, 366: 1567-76). The Longitudinal Assessment of Bariatric Surgery (LABS) Consortium reported increased morbidity and mortality following surgery in patients with extreme obesity (BMI greater than 50), a history of thrombophilia, and obstructive sleep apnea. Age, sex, race, ethnic group, and other comorbidities were not associated with increased operative or postoperative risk (Flum et al., *N Engl J Med* 2009, 361: 445-54).

(6)

A meta-analysis reported low absolute mortality and morbidity for patients greater than 55 years old undergoing weight loss surgery when compared with patients less than 55 years old; however, the risks were significantly higher in older patients. The remission or improvement of diabetes, hypertension, sleep apnea, and lipid abnormalities was comparable with a younger cohort. Age alone, therefore, should not be a reason for exclusion from bariatric surgery (Lynch and Belgaumkar, *Obes Surg* 2012, 22: 1507-16).

(7)

The type of surgical procedure performed depends on the patient's body mass index, their comorbidity profile, and surgeon preference. The most commonly performed bariatric procedures in the United States as reported in the Bariatric Outcomes Longitudinal Database (BOLD) are Roux-en-Y gastric bypass (46.6%), sleeve gastrectomy (27.8%), adjustable gastric banding (17.8%), and biliopancreatic diversion/duodenal switch (2.2%) (Buchwald and Oien, *Obes Surg* 2013, 23: 427-36). There is currently insufficient evidence to recommend one procedure over another. The best choice for the patient should be based on individualized treatment goals, available expertise (e.g., surgeon, center), patient preference and risk stratification (Mechanick et al., *Obesity* (Silver Spring) 2013, 21 Suppl 1: S1-S27).

(8)

Roux-en-Y gastric bypass (RYGB) is a combination restrictive and malabsorptive procedure in which a small gastric pouch is connected to a segment of the jejunum. RYGB is associated with significant and sustained weight loss. Within a very short period of time, many patients experience an endocrine response that results in improved glycemic control or remission of diabetes (Blackburn et al., *Obesity* (Silver Spring) 2009, 17: 842-62). A systematic review reported that RYGB resulted in higher rates of weight loss, diabetic control and remission, and improved hyperlipidemia and hypertension when compared with adjustable gastric banding (Puzziferri et al., *JAMA* 2014, 312: 934-42).

Postoperative complications include pulmonary embolism, anastomotic leaks, venous thromboembolism, wound infections, small bowel obstruction, and bleeding (Coblijn et al., *Obes Surg* 2014, 24: 299-309; Blackburn et al., *Obesity* (Silver Spring) 2009, 17: 842-62). Hospital mortality, complications, and length of stay are significantly lower for patients undergoing laparoscopic RYGB when compared to the open procedure, although higher than patients undergoing sleeve gastrectomy or adjustable banding (Banka et al., *Arch Surg* 2012, 147: 550-6; Hutter et al., *Ann Surg* 2011, 254: 410-20; discussion 20-2).

(9)

With adjustable gastric banding (AGB), an adjustable gastric band or collar is placed around the upper stomach to create a small pouch, limiting the amount of food that can be consumed. The weight loss that occurs with AGB is gradual and patients can expect to achieve 40% excess weight loss at 12 months and 50% at 24 months (Dumon and Murayama, *Surg Clin North Am* 2011, 91: 1313-38). A long-term study confirmed a sustainable 47% excess weight loss up to 15 years after AGB. This weight loss was comparable to that found after Roux-en-Y gastric bypass (RYGB) (O'Brien et al., *Ann Surg* 2013, 257: 87-94). AGB has a low morbidity and mortality compared with RYGB and laparoscopic sleeve gastrectomy. AGB is technically easier to perform, is reversible, and results in durable weight loss. Complications include band erosion or slippage, pouch dilation, esophageal motility disorders, and failure to achieve or maintain weight loss. It is estimated that failure rates may be as high as 40% to 50% (Ee and Nottle, *ANZ J Surg* 2013, 83: 571-4; Elnahas et al., *Surg Endosc* 2013, 27: 740-5; Hutter et al., *Ann Surg* 2011, 254: 410-20; discussion 20-2). Although other bariatric procedures may result in significantly greater weight loss, AGB is associated with fewer adverse outcomes, decreased operative time, and shorter hospital length of stay (Chakravarty et al., *Surgeon* 2012, 10: 172-82; Angrisani et al., *Surg Obes Relat Dis* 2007; 3(2): 127-132; discussion 132-123).

(10)

Sleeve gastrectomy creates a tubular conduit along the lesser curve of the stomach via a left partial gastrectomy and is technically less complex than Roux-en-Y gastric bypass (RYGB) or biliopancreatic diversion with duodenal switch. A large retrospective analysis of inpatient data reported an increase from 6.7% to 24% of patients undergoing sleeve gastrectomy during the study period (Pallati et al., *Surg Endosc* 2012, 26: 3077-81). Historically, sleeve gastrectomy was performed in combination with malabsorptive procedures but is now most often performed as a standalone procedure.

Several studies showed that sleeve gastrectomy demonstrated durable weight loss, improvement in medical comorbidities, long-term patient satisfaction, and improved quality of life (Mechanick et al., *Obesity* (Silver Spring) 2013, 21 Suppl 1: S1-S27; Neff and le Roux, *J Clin Pathol* 2013, 66: 90-8; Rawlins et al., *Surg Obes Relat Dis* 2013, 9: 21-5; Trastulli et al., *Surg Obes Relat Dis* 2013, 9: 816-29; van Rutte et al., *ISRN Surg* 2012, 2012: 674042; Hutter et al., *Ann Surg* 2011, 254: 410-20; discussion 20-2). Complications associated with sleeve gastrectomy include hemorrhage, anastomotic leaks and stenosis, and increased rates of gastroesophageal reflux. Patients who undergo sleeve gastrectomy may experience nutritional deficiencies postoperatively (Beckman and Earthman, *J Acad Nutr Diet* 2013, 113: 398-9).

(11)

The comparative effectiveness of the laparoscopic sleeve gastrectomy, laparoscopic Roux-en-Y gastric bypass (RYGB), and laparoscopic adjustable gastric banding (AGB) has been reported in many studies. Laparoscopic RYGB was found to result in greater weight loss and remission of diabetes but had a higher rate of complications compared with sleeve gastrectomy (Zhang et al., *Obes Surg* 2014, 24: 1528-35). One randomized trial reported that clinical outcomes (e.g., weight loss, remission of comorbidities) were similar for sleeve

gastrectomy and RYGB up to a year after surgery. Sleeve gastrectomy was found to be associated with shorter operative time, however (Peterli et al., *Ann Surg* 2013, 258: 690-4; discussion 5).

Studies comparing the efficacy of RYGB and sleeve gastrectomy with AGB found that RYGB and sleeve gastrectomy had similar outcomes and were better than those of AGB (Colquitt et al., *Cochrane Database Syst Rev* 2014, 8: CD003641). Additionally, sleeve gastrectomy was more effective than adjustable gastric banding in inducing weight loss and remission of diabetes (Wang et al., *Obes Surg* 2013, 23: 980-6).

(12)

Biliopancreatic diversion with duodenal switch involves the creation of a pouch of stomach, typically larger than that seen with Roux-en-Y gastric bypass, with a bypass of the proximal intestine to limit absorption. Biliopancreatic diversion results in impressive weight loss and dramatically impacts comorbidities but requires close nutritional counseling postoperative due to significant vitamin loss (Hedberg et al., *Obes Rev* 2014, 15: 555-63; Mechanick et al., *Obesity (Silver Spring)* 2013, 21 Suppl 1: S1-S27).

(13)

InterQual® Procedures criteria are derived from the systematic, continuous review and critical appraisal of the most current evidence-based literature and include input from our independent panel of clinical experts. To generate the most appropriate recommendations, a comprehensive literature review of the clinical evidence was conducted. Sources searched included PubMed, Agency for Healthcare Research and Quality (AHRQ) Comparative Effectiveness Reviews, the Cochrane Library, Choosing Wisely, Centers for Medicare & Medicaid Services (CMS) National Coverage Determinations, the National Institute of Health and Care Excellence (NICE), and the National Guideline Clearinghouse. Other medical literature databases, medical content providers, data sources, regulatory body websites, and specialty society resources may also have been used. Relevant studies were assessed for risk of bias following principles described in the Cochrane Handbook. The resulting evidence was assessed for consistency, directness, precision, effect size, and publication bias. Observational trials were also evaluated for the presence of a dose-response gradient and the likely effect of plausible confounders.

(14)

If Age < 18, refer to the pediatric guideline for this procedure.

(15)

Patients with a body mass index (BMI) of greater than 30 kg/m² are considered obese. Clinically severe obesity is defined as a BMI greater than 35 kg/m² or 100 or more pounds over ideal body weight.

(16)

These criteria cover revisional procedures for patients who fail to maintain or achieve the expected weight loss after their initial bariatric surgery and do not address patients in which reoperation is related to a complication from surgery or related to complications caused by the patient's failure to adhere to recommended postoperative care.

(17)

Revisional surgery may involve conversion of one bariatric procedure to another (e.g., gastric banding to sleeve gastrectomy) or readjustment of a gastric band to achieve goals. Roux-en-Y gastric bypass (RYGB), sleeve gastrectomy, or biliopancreatic diversion with duodenal switch (BPD/DS) can all be done to revise a primary bariatric procedure.

It is estimated that adjustable gastric banding (AGB) has a failure rate as high as 40% to 50% and that 20% to 30% of patients will require revision (Elnahas et al., *Surg Endosc* 2013, 27: 740-5). Evidence suggests that AGB can be successfully converted to sleeve gastrectomy, RYGB, or BPD/DS, although the evidence to support BPD/DS is based on small case studies with short-term follow-up (Brethauer et al., *Surg Obes Relat Dis* 2014, 10: 952-72).

(18)

Body mass index (BMI) is a safe, simple, and inexpensive method for gauging general adiposity. Adults with a BMI more than 30 kg/m² are considered obese. There are four classes of obesity: Class I (30.0 to 34.9 kg/m²), Class II (35.0 to 39.9 kg/m²), Class III (40.0 to 49.9 kg/m²), and Class IV (greater than or equal to 50 kg/m²).

BMI may under represent adiposity in some ethnic groups, especially Asians, and may over represent obesity in muscular individuals. In Asian populations, individuals have elevated glucose levels and dyslipidemia at significantly lower BMI levels when compared to Caucasians (Li et al., *Diabetes Obes Metab* 2012, 14: 262-70; Shimizu et al., *J Obes* 2012, 2012: 147256).

(19)

Bariatric surgery should be considered for patients with a body mass index of 35.0 to 39.9 kg/m² when one or more obesity-related comorbid conditions are present (Fried et al., *Obes Surg* 2014, 24: 42-55; Jensen et al., *J Am Coll Cardiol* 2014, 63: 2985-3023; Mechanick et al., *Obesity (Silver Spring)* 2013, 21 Suppl 1: S1-S27).

(20)

A patient with a body mass index of greater than or equal to 40 kg/m², even in the absence of a comorbid condition, can be considered for bariatric surgery (Fried et al., *Obes Surg* 2014, 24: 42-55; Jensen et al., *J Am Coll Cardiol* 2014, 63: 2985-3023; Mechanick et al., *Obesity (Silver Spring)* 2013, 21 Suppl 1: S1-S27).

(21)

Obesity is a primary risk factor for the development of type 2 diabetes mellitus (DM). For those patients who are severely obese, it is estimated that their risk of developing diabetes is increased 93-fold for women and 42-fold for men (Dixon et al., *Surg Obes Relat Dis* 2011, 7: 433-47). Multiple studies have compared intensive or conventional medical treatment to bariatric surgery in patients with type 2 DM, and the research unequivocally demonstrated that surgical patients were significantly more likely to achieve remission of their DM when compared with medically treated patients (Ricci et al., *Obes Surg* 2014, 24: 522-8; Sjostrom et al., *JAMA* 2014, 311: 2297-304; Courcoulas et al., *JAMA* 2013, 310: 2416-25; Ikramuddin et al., *JAMA* 2013, 309: 2240-9; Mingrone et al., *N Engl J Med* 2012, 366: 1577-85).

Additionally, several studies have confirmed the long-term remission of type 2 DM. The researchers noted that patients who were preoperatively treated with insulin or who had poor preoperative glycemic control and a longer history of diabetes were more likely to have lower remission rates or experience more relapses of their DM. This suggests that earlier surgical intervention is likely to be more effective in achieving durable diabetes remission (Puzziferri et al., *JAMA* 2014, 312: 934-42; Schauer et al., *N Engl J Med* 2014, 370: 2002-13; Courcoulas et al., *JAMA* 2013, 310: 2416-25).

(22)

Metabolic syndrome is directly associated with obesity and includes insulin resistance or type 2 diabetes mellitus, visceral adiposity, hypertension, and dyslipidemia. Metabolic syndrome is also associated with microvascular changes, increased markers of inflammation (e.g., C-reactive protein, tumor necrosis factor), polycystic ovarian syndrome, and non alcoholic fatty liver disease. Patients with metabolic syndrome are at increased risk of developing cardiovascular disease (Richardson et al., *Endocrinol Metab Clin North Am* 2011, 40: 81-96, viii).

(23)

Prior to bariatric surgery, patients should participate in a comprehensive treatment program for weight management. This supervised program should include both dietary modifications, as well as physical activity. Techniques that may be used to teach behavioral skills to patients include, but are not limited to, self-monitoring, goal setting, positive reinforcement, social support, and relapse prevention. Pharmacologic therapy may also be tried but is not required prior to consideration for bariatric surgery (Fried et al., *Obes Surg* 2014, 24: 42-55; Jensen et al., *J Am Coll Cardiol* 2014, 63: 2985-3023; Kelly et al., *Circulation* 2013, 128: 1689-712). Unsupervised commercial-based programs are not a substitution for a supervised, comprehensive weight loss program.

(24)

A comprehensive preoperative evaluation is essential in the work-up of the obese patient. The goals of screening are to identify comorbidities best managed before surgery (thus reducing perioperative morbidity and mortality) and to diagnose previously unrecognized comorbid conditions. The multidisciplinary team should also evaluate noncompliance, psychiatric illness, substance abuse, medical and surgical history, and unreasonable postoperative expectations (Fried et al., *Obes Surg* 2014, 24: 42-55; Mechanick et al., *Obesity (Silver Spring)* 2013, 21 Suppl 1: S1-S27; Tariq and Chand, *Gastrointest Endosc Clin N Am* 2011, 21: 229-40). Screening may include fasting lipid panel, noninvasive cardiac testing, and sleep studies (Mechanick et al., *Obesity (Silver Spring)* 2013, 21 Suppl 1: S1-S27).

(25)

There is no evidence to support routinely performing endoscopy on all preoperative bariatric surgery patients or that it has an impact on surgical outcomes (Anderson et al., *Gastrointest Endosc* 2008, 68: 1-10). However, clinically significant gastrointestinal symptoms should be evaluated with upper GI series or endoscopy and treated prior to bariatric surgery (Mechanick et al., *Obesity (Silver Spring)* 2013, 21 Suppl 1: S1-S27).

(26)

Endocrine causes of weight gain (e.g., hypothyroidism, Cushing syndrome) account for a small proportion of obesity. Laboratory testing and imaging need only be done if there is a strong clinical suspicion of disease.

(27)

A psychosocial evaluation should be performed to assess for current drug and alcohol misuse which is considered a contraindication to surgery. Patients who have a history of substance misuse should demonstrate one year or more of continuous sobriety before weight loss surgery is considered.

There is new evidence suggesting that a subgroup of patients undergoing bariatric surgery may be at risk for developing substance abuse postoperatively due to increased availability of narcotic pain medication, change in metabolism of substances, addiction transfer or substitution, and unresolved psychological issues (Ivezaj et al., *Obes Surg* 2012, 22: 1308-14). Additionally, patients who undergo bariatric surgery can experience enhanced effects of alcohol consumption (e.g., increased peak alcohol levels, higher maximum alcohol concentration, longer time to return to baseline), potentially setting up at-risk patients for alcohol abuse. Patients should be advised of these risks preoperatively (Mechanick et al., *Obesity (Silver Spring)* 2013, 21 Suppl 1: S1-S27; Ivezaj et al., *Obes Surg* 2012, 22: 1308-14; King et al., *JAMA* 2012, 307: 2516-25).

(28)

A significant percentage of bariatric surgery patients have a history of diagnosed or undiagnosed psychopathology, including mood or anxiety disorders, post-traumatic stress disorder, and eating disorders. Although none of these conditions are exclusionary, all patients

should be screened to assess stability and understanding of both the procedure and the postoperative follow-up. Patients with unstable disease should be referred to a behavioral health provider and surgery deferred until the patient is stabilized (Fried et al., *Obes Surg* 2014, 24: 42-55; Mechanick et al., *Obesity (Silver Spring)* 2013, 21 Suppl 1: S1-S27). The presence of a pre-existing psychological illness (e.g., binge eating disorder, night eating syndrome, grazing) has been associated with decreased weight loss postoperatively and these patients, therefore, warrant close follow-up (Mechanick et al., *Obesity (Silver Spring)* 2013, 21 Suppl 1: S1-S27; Mitchell et al., *Surg Obes Relat Dis* 2012, 8: 533-41; Blackburn et al., *Obesity (Silver Spring)* 2009, 17: 842-62). Additionally, a systematic review reported that patients who undergo bariatric surgery have an increased risk for suicide compared with the general population (Peterhansel et al., *Obes Rev* 2013, 14: 369-82).

(29)

Cigarette smoking cessation should occur at least 6 weeks prior to bariatric surgery, as smoking has been associated with an increased risk of impaired wound healing, anastomotic ulcer, and general poor health (Mechanick et al., *Obesity (Silver Spring)* 2013, 21 Suppl 1: S1-S27; Blackburn et al., *Obesity (Silver Spring)* 2009, 17: 842-62).

(30)

Nutritional counseling is essential for the patient who is undergoing bariatric surgery. All procedures involve a lifelong commitment to changed eating patterns and sufficient protein consumption; some may require nutrient supplementation postoperatively. Failure to adhere to eating plans can result in nausea, vomiting, pain, nutritional deficiencies (e.g., iron, vitamin B₁₂), metabolic bone disease, and failure to achieve desired weight loss (Beckman and Earthman, *J Acad Nutr Diet* 2013, 113: 398-9; Mechanick et al., *Obesity (Silver Spring)* 2013, 21 Suppl 1: S1-S27; Tariq and Chand, *Gastrointest Endosc Clin N Am* 2011, 21: 229-40; Blackburn et al., *Obesity (Silver Spring)* 2009, 17: 842-62).

(31)

The patient should be assessed before surgery and demonstrate an understanding of the surgical procedure, including options and outcomes, as well as the need for long-term follow-up care, including attendance at planned follow-up appointments, behavioral modifications, physical exercise, dietary changes, and micronutrient supplementation (Fried et al., *Obes Surg* 2014, 24: 42-55; Mechanick et al., *Obesity (Silver Spring)* 2013, 21 Suppl 1: S1-S27; Michalsky et al., *Surg Obes Relat Dis* 2012, 8: 1-7; Baur and Fitzgerald, *J Paediatr Child Health* 2010, 46: 704-7; Pratt et al., *Obesity (Silver Spring)* 2009, 17: 901-10).

It is also recommended that female patients be informed that bariatric surgery is associated with increased fertility and subsequent increased risk of pregnancy. Pregnancy should be avoided during the first 18 months after surgery (Mechanick et al., *Obesity (Silver Spring)* 2013, 21 Suppl 1: S1-S27; Pratt et al., *Obesity (Silver Spring)* 2009, 17: 901-10).

(32)

Bariatric surgery should be performed at a surgical center that is equipped for obese patients, employs surgeons skilled in bariatric surgical techniques, provides long-term follow-up, and provides a multidisciplinary approach that includes medical management of comorbidities, specialized nursing care, dietary instruction, exercise training, and psychological expertise. The trend of improved perioperative outcomes has been confirmed in a study that demonstrated that patients who did not undergo bariatric surgery at a center of excellence had similar rates of complications compared with patients who did. These results are attributed to a shift from open to laparoscopic surgery and the multidisciplinary approach, not to surgery in a center of excellence (Dimick et al., *JAMA* 2013, 309: 792-9).

(33)

Recommendations are designated as "Limited Evidence" based on one or more of the following:

- Research to date has not demonstrated this intervention's equivalence or superiority to the current standard of care.
- The balance of benefits and harms does not clearly favor this intervention.
- The clinical utility of this intervention has not been clearly established.
- The evidence is mixed, unclear, or of low quality.
- This intervention is not standard of care.
- New technology is still being investigated.

(34)

Although several guidelines recognize the beneficial effects of bariatric surgery on glycemic control in diabetic patients, it is believed there is insufficient evidence to unconditionally support bariatric surgery in patients with a body mass index (BMI) less than 35 kg/m² (Jensen et al., *J Am Coll Cardiol* 2014, 63: 2985-3023; *Diabetes Care* 2013, 36 Suppl 1: S4-10; Mechanick et al., *Obesity (Silver Spring)* 2013, 21 Suppl 1: S1-S27; Dixon et al., *Surg Obes Relat Dis* 2011, 7: 433-47). The American Society for Metabolic and Bariatric Surgery fully endorses bariatric surgery as a treatment option for patients with Class I obesity and type 2 diabetes (*Surg Obes Relat Dis* 2013, 9: e1-10).

One systematic review of the efficacy of different types of bariatric surgery for treating Class I obesity found only moderate strength evidence to support treating diabetes with a weight loss procedure. The study also reported that there was insufficient evidence to

support efficacy beyond two years (Maggard-Gibbons et al., JAMA 2013, 309: 2250-61). Therefore, pending additional long-term study results, bariatric surgery for patients with a BMI less than 35 kg/m² cannot be fully recommended at this time.

(35)

Obesity is associated with multiple complications and comorbidities. Bariatric surgery has been shown to induce significant and sustained weight loss, improve comorbid conditions, reduce mortality, and decrease the risk of developing new comorbid conditions (Colquitt et al., Cochrane Database Syst Rev 2014, 8: CD003641; Messiah et al., Surg Obes Relat Dis 2013, 9: 503-13; Blackburn et al., Obesity (Silver Spring) 2009, 17: 842-62).

(36)

Hypertension (HTN) is one of the most common comorbidities seen in patients with obesity and increases with the severity of the obesity. Multiple studies have shown that HTN resolved or improved with reduction in weight and one study showed continued improvement from baseline at 10 years after surgery (Puzziferri et al., JAMA 2014, 312: 934-42; Ricci et al., Obes Surg 2014, 24: 522-8; Courcoulas et al., JAMA 2013, 310: 2416-25; Messiah et al., Surg Obes Relat Dis 2013, 9: 503-13; Alqahtani et al., Ann Surg 2012, 256: 266-73; Laurino Neto et al., Obes Surg 2012, 22: 1580-5; Vest et al., Heart 2012, 98: 1763-77; Zitsman et al., Surg Obes Relat Dis 2011, 7: 720-6; Holterman et al., J Pediatr Surg 2010, 45: 74-8; discussion 8-9).

(37)

Dyslipidemia (e.g., elevated levels of low-density lipoprotein, elevated triglycerides, decreased levels of high-density lipoprotein (HDL)) is a major risk factor in coronary artery disease and is present in approximately 50% of obese patients. The Swedish Obesity Study reported a significant reduction of triglyceride levels and increased HDL at ten year follow-up in patients treated with bariatric surgery compared with a medical control group (Kaul and Sharma, Surg Clin North Am 2011, 91: 1295-312, ix). Several other studies have shown that bariatric surgery improves dyslipidemia (Puzziferri et al., JAMA 2014, 312: 934-42; Ricci et al., Obes Surg 2014, 24: 522-8; Courcoulas et al., JAMA 2013, 310: 2416-25).

(38)

Obesity is a significant risk factor for coronary artery disease and is associated with increased mortality related to cardiovascular disease (Network, Management of Obesity. 2010). One systematic review reported regression of left ventricular hypertrophy and improvement of diastolic dysfunction after surgery (Vest et al., Heart 2012, 98: 1763-77). Bariatric surgery can also reduce the risk for cardiovascular events, myocardial infarction, stroke, and mortality (Kwok et al., Int J Cardiol 2014, 173: 20-8; Sjostrom et al., JAMA 2014, 311: 2297-304).

(39)

Heart failure in obese patients is caused by high cardiac output and increased circulating blood volume, left ventricular dysfunction, and diastolic dysfunction. Multiple studies have demonstrated that patients who undergo bariatric surgery experience reverse remodeling and improvement in the subjective and objective symptoms of heart failure (Cuspidi et al., Am J Hypertens 2014, 27: 146-56; Neff and le Roux, J Clin Pathol 2013, 66: 90-8; Kaul and Sharma, Surg Clin North Am 2011, 91: 1295-312, ix).

(40)

Sleep apnea is common in obese patients. Patients who have obstructive sleep apnea due to obesity may benefit from bariatric surgery (Aguilar et al., Multidiscip Respir Med 2014, 9: 43; Sarkhosh et al., Obes Surg 2013, 23: 414-23; Alqahtani et al., Ann Surg 2012, 256: 266-73; Messiah et al., Surg Obes Relat Dis 2012; Fleetham et al., Can Respir J 2011, 18: 25-47; Buchwald et al., JAMA 2004, 292: 1724-37).

(41)

Non-alcoholic fatty liver disease is associated with obesity and metabolic syndrome. It is one of the most common causes of liver disease and may advance to end stage liver disease, known as non-alcoholic steatohepatitis. Weight loss may result in improvement of these conditions. Bariatric surgery offers patients significant and durable weight loss; however, the use of this procedure for the treatment of non-alcoholic steatohepatitis remains controversial, due to limited high quality evidence. Although there is limited evidence, current guidelines recommend that patients with non-alcoholic fatty liver disease or non-alcoholic steatohepatitis be considered for bariatric surgery (Mechanick et al., Obesity (Silver Spring) 2013, 21 Suppl 1: S1-S27; Michalsky et al., Surg Obes Relat Dis 2012, 8: 1-7; Baur and Fitzgerald, J Paediatr Child Health 2010, 46: 704-7; Pratt et al., Obesity (Silver Spring) 2009, 17: 901-10).

(42)

Idiopathic intracranial hypertension (pseudotumor cerebri) is a disease characterized by headache, visual changes or loss of vision, and pulsatile tinnitus. It is most commonly seen in obese women. The cause of the intracranial hypertension is believed to be secondary to chronically increased intra-abdominal pressure. The condition is known to respond favorably to weight loss and bariatric surgery may be a more appropriate treatment than cerebral spinal fluid peritoneal shunting. Two systematic reviews reported significant improvement or resolution of symptoms in 92% of patients and complete resolution of papilledema in 97% to 100% of patients who underwent surgical management of their obesity (Handley et al., Surg Obes Relat Dis 2015, 11: 1396-403; Fridley et al., J Neurosurg 2011, 114: 34-9).

(43)

Improvement of gastroesophageal reflux disease symptoms depends largely upon the type of procedure being performed. Sleeve gastrectomy may increase symptoms, Roux-en-Y gastric bypass can significantly improve symptoms, and adjustable gastric banding has mixed results (Kaul and Sharma, *Surg Clin North Am* 2011, 91: 1295-312, ix).

(44)

Obesity is the main modifiable risk factor in the development of osteoarthritis (OA). The development of OA is known to be mechanical (added weight) and proposed to have a biochemical component caused by the release of pro-inflammatory mediators. A systematic review reported improved hip and knee pain related to osteoarthritis following bariatric surgery and weight loss (Gill et al., *Obes Rev* 2011, 12: 1083-9).

(45)

Inadequate weight loss is defined as the failure to maintain or achieve 50% or greater estimated body weight loss (Brethauer et al., *Surg Obes Relat Dis* 2014, 10: 952-72; Apers et al., *Surg Endosc* 2013, 27: 558-64; Elnahas et al., *Surg Endosc* 2013, 27: 740-5; Kuesters et al., *Surg Endosc* 2012, 26: 1718-23).

(46)

Obesity related comorbidities include type 2 diabetes mellitus, hypertension, non-alcoholic fatty liver disease or non-alcoholic steatohepatitis, obstructive sleep apnea, pseudotumor cerebri, gastroesophageal reflux disease, osteoarthritis, hyperlipidemia, venous stasis disease, and urinary incontinence (Mechanick et al., *Obesity (Silver Spring)* 2013, 21 Suppl 1: S1-S27).

(47)

The rate and amount of weight lost following bariatric surgery varies by procedure. The greatest amounts of weight loss are seen during the first one to two years after surgery. Roux-en-Y gastric bypass patients will typically experience excess body weight loss (EBWL) of 50% to 65%, while patients undergoing sleeve gastrectomy will lose 40% to 55% EBWL, and 30% to 50% EBWL for adjustable gastric banding (Puzziferri et al., *JAMA* 2014, 312: 934-42). Patients who fail to continue to lose weight or regain weight after one year should be evaluated by their bariatric surgery team.

(48)

Patients should only be considered for a revisional bariatric procedure if a registered dietician determines that the patient has been compliant with postoperative care, including foods to eat or avoid, portion control, and assessment of eating disorders and other factors which may have contributed to failure to lose or maintain weight. Also, patients should demonstrate adherence with all other postoperative instructions, including attendance at planned follow-up appointments, behavioral modifications, physical exercise, dietary changes, and micronutrient supplementation (Mechanick et al., *Obesity (Silver Spring)* 2013, 21 Suppl 1: S1-S27; Kellogg, *Surg Clin North Am* 2011, 91: 1353-71).

ICD-10-CM (circle all that apply): E11.00, E11.01, E11.21, E11.29, E11.311, E11.319, E11.36, E11.39, E11.40, E11.51, E11.618, E11.620, E11.621, E11.622, E11.628, E11.630, E11.638, E11.641, E11.649, E11.65, E11.69, E11.8, E11.9, E78.4, E78.5, E88.81, G47.33, G93.2, I01.8, I09.81, I10, I11.0, I11.9, I12.0, I12.9, I13.0, I13.10, I13.11, I13.2, I15.0, I15.8, I25.10, I25.810, I25.811, I25.812, I50.1, I50.20, I50.21, I50.22, I50.23, I50.30, I50.31, I50.32, I50.33, I50.40, I50.41, I50.42, I50.43, I50.9, K21.9, K76.0, K76.89, M15.0, M15.1, M15.2, M15.3, M15.8, M15.9, M16.10, M16.7, M16.9, M17.10, M17.5, M17.9, M18.9, M19.019, M19.029, M19.039, M19.049, M19.079, M19.219, M19.229, M19.239, M19.249, M19.279, M19.90, M19.91, M19.93, Z68.30, Z68.31, Z68.32, Z68.33, Z68.34, Z68.35, Z68.36, Z68.37, Z68.38, Z68.39, Z68.41, Z68.42, Z68.43, Z68.44, Z68.45, Other_____

ICD-10-PCS (circle all that apply): 0DB60Z3, 0DB60ZX, 0DB60ZZ, 0DB63Z3, 0DB63ZX, 0DB63ZZ, 0DB64Z3, 0DB64ZX, 0DB64ZZ, 0DB67Z3, 0DB67ZX, 0DB67ZZ, 0DB68Z3, 0DB68ZX, 0DB68ZZ, Other_____

CPT® (circle all that apply): 43775, Other_____