Bariatric Procedure OVERVIEW

Springfield clinic

A COMMUNITY OF CARING

welcome

The Springfield Clinic Bariatric Weight Loss Center was developed to provide you with comprehensive and compassionate care throughout your weight loss journey. We understand everyone's journey is different. We combine evidence-based treatment with an individualized approach.

Your comprehensive care team will include:

- Registered Dietitians
- Physical Therapists
- Licensed Clinical Social Worker
- Nurses
- Bariatrician
- Surgeon
- Insurance Specialist
- And, YOU

The foundation of treatment begins with education on lifestyle modification and behavior change. Additionally, you may be a candidate for other treatment options including the ones outlined in this book.

Springfield Clinic Main Campus East
Bariatric Weight Loss Center
1025 South 6th Street, 1st Floor, Springfield, IL 62703

217.528.7541
ask for Bariatrics ext. 49712

Orlando Icaza Jr., MD, FACS, FASMBS
Bariatric Surgeon

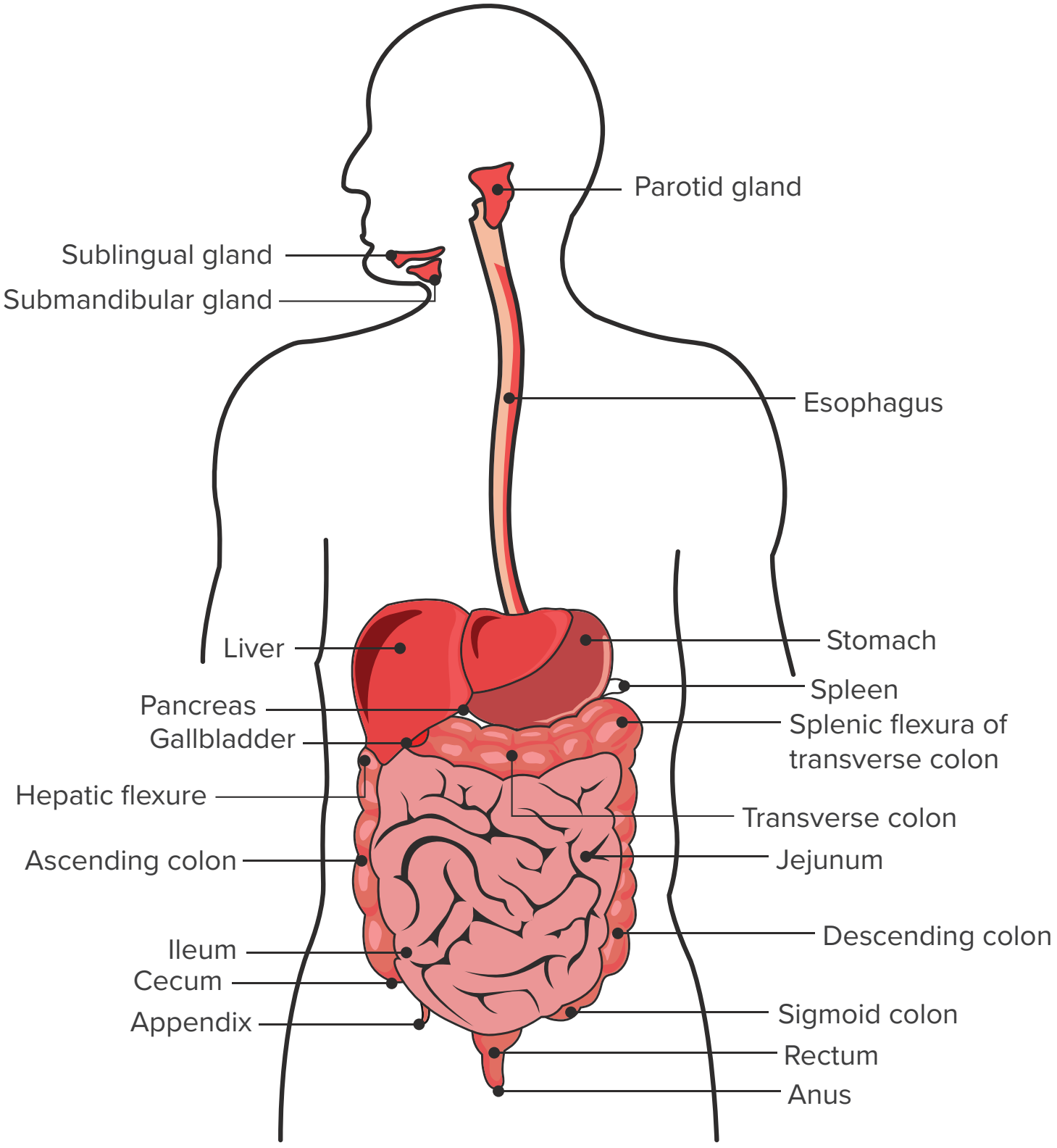
Springfield Clinic Peoria
1001 Main Street, 3rd Floor, Peoria, IL 61606

309.495.0200
ask for Bariatrics

Jacob Hopping,
MD, FACS
Bariatric Surgeon

Jayaraj Salimath,
DO, FACOS, FASMBS
Bariatric Surgeon

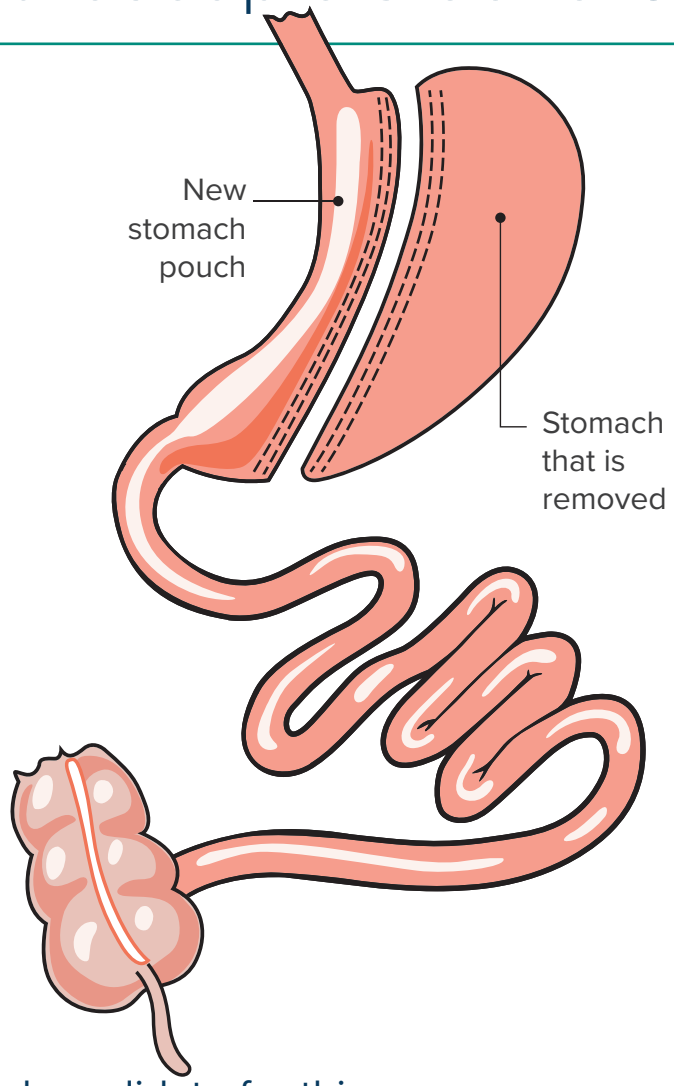
Normal GI Tract



Bariatric Surgeries: Mechanisms of Action

1. Restrictive
2. Malabsorptive
3. Combination

Laparoscopic Sleeve Gastrectomy



An ideal candidate for this surgery:

- Has a Body Mass Index (BMI) of 35-45
- Does not have GERD or Barrett's esophagus
- Exercises regularly
- Higher risk profile/extremes of age
- Adhesions/hernias
- A transplant candidate
- Stage procedure for risk reduction for Body Mass Index (BMI) > 50

The stomach is divided vertically (up and down) by stapling. The portion of the stomach that is left is shaped like a very slim banana (or sleeve). The nerves to the stomach and the valve leading from the stomach to the small intestine remain intact, so the stomach works as usual. The small intestine is left alone.

Because a large piece of the stomach is removed, you will not be able to eat as much.

BENEFITS

A sleeve gastrectomy is an easier surgery to perform, and usually takes only about 40 minutes. It also can be effective for people who had lap-band surgery and regained weight.

- Good weight loss (After 5 years, most people have had 50-60 percent excess weight loss.)
- No implanted devices or connection site (anastamosis) Intestines remain intact and there is no bypass
- No marginal ulcers or internal hernias
- Causes favorable changes in gut hormones affecting long-term hunger and satiety (ghrelin)
- Low risk of dumping syndrome or diarrhea
- Option for patients with BMI > 50 as a staged procedure
- This procedure can be easily revised to another procedure, such as gastric bypass or duodenal switch.

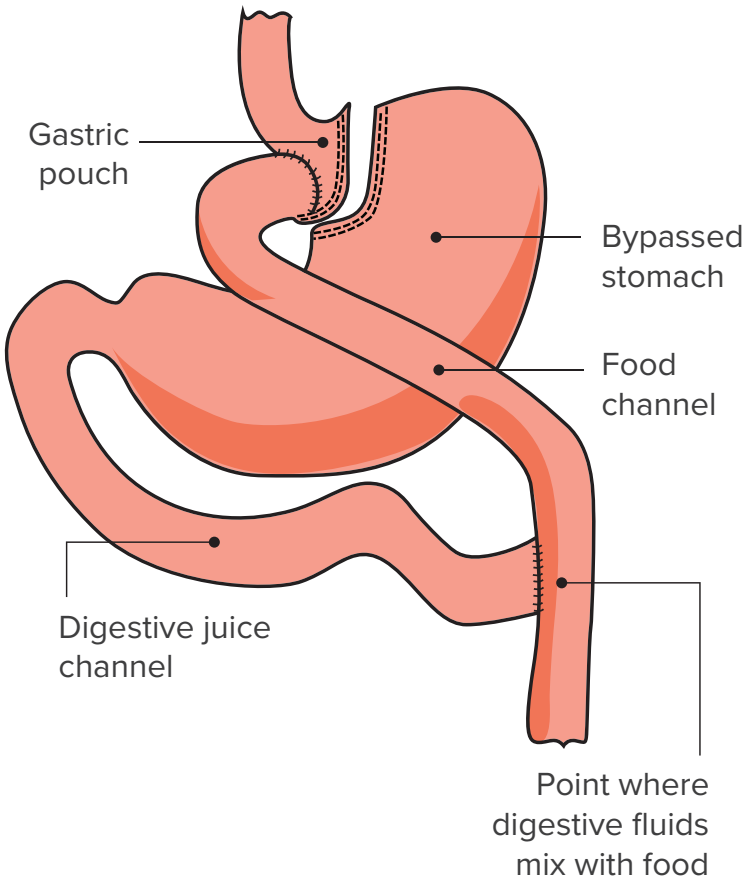
SHORT-TERM RISKS

- Leaks, bleeding and obstruction due to long staple line
- DVT (blood clot)/pulmonary embolus
- Irreversible, cannot be undone.

LONG-TERM RISKS

- Chronic GERD
- Weight gain (approx. 30% of patients regain greater than 20% of their weight after 5 years)

Laparoscopic Roux-En-Y Gastric Bypass



An ideal candidate for this surgery:

- Has a BMI of 35-50
- Is 18-65 years old
- Has not had previous stomach and lower GI/hernia surgery
- Individuals with any of the following:
  - Type 2 diabetes less than 10 years, and not on insulin)
  - Suffers from severe GERD
  - Barrett's esophagus

The Roux-en-Y bypass separates the stomach into two sections using parallel rows of staples. The small upper segment of the stomach (connected to your esophagus) will receive food just as it always has. The lower portion no longer receives any food.

Then, a piece of the small intestine is disconnected. The surgery re-routes food directly from the newly-created small stomach pouch directly into the remaining intestine.

BENEFITS

- Roux-en-Y gastric bypass is the current "Gold Standard." Generally, there is a lower risk of complications with excellent and durable weight loss (60-75% EWL). More than 70 percent of patients experience an improvement with diabetes.
- Roux-en-Y is durable long-term (50 years). The procedure is restrictive and malabsorptive.

SHORT-TERM RISKS

(1 to 3 months)

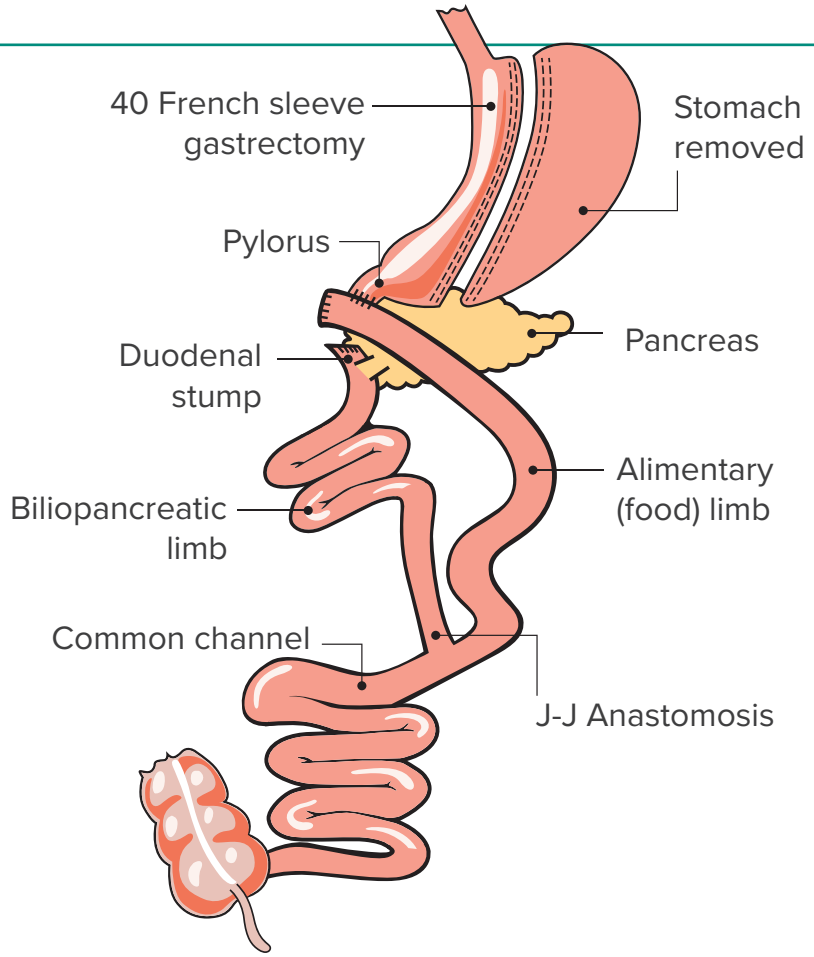
- Leaks, obstructions, bleeding
- DVT (blood clot)/pulmonary embolus
- Dumping syndrome (with increased intake of sweets)

LONG-TERM RISKS

(After 3 months)

- Nutritional deficiencies
- Marginal ulcers & strictures
- Must avoid: NSAIDS, steroids, alcohol, smoking & caffeine
- Internal hernias
- Intussusception
- Weight gain (approx. 15-20% of patients regain greater than 20% of their weight loss after 5 years)
- Anatomy changes making it harder to revise
- Protein/calorie malnutrition
- Gallbladder disease and/or gallstones
- Low blood sugar that occurs after a meal

Duodenal-Jejunal Bypass with Sleeve Gastrectomy (DJB-S)



An ideal candidate for this surgery:

- BMI 45-55
- Age 18-65 years
- Metabolic syndrome (T2DM, hypertension, hyperlipidemia)
- No Barrett's esophagus or severe esophagitis
- No history of Crohn's disease
- No previous resection of ileocecal valve or intestinal surgery
- Not a transplant candidate
- Willing to participate in life-long follow up

The DJB-S rearranges the intestines so that you absorb fewer calories from food with less malabsorption compared to the traditional duodenal switch. It also makes the stomach smaller so you cannot eat as much. This procedure is restrictive and malabsorptive. It should provide greater weight loss than the gastric bypass and sleeve gastrectomy while minimizing GI side effects of the traditional duodenal switch.

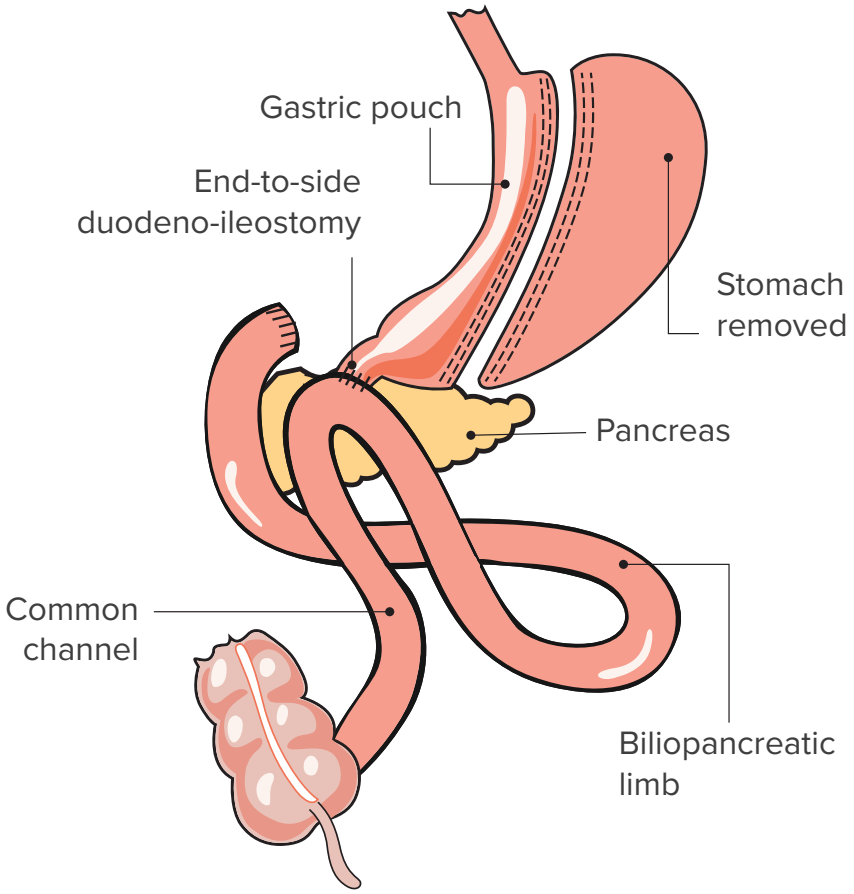
BENEFITS

- Estimated weight loss benefit better than gastric bypass and sleeve (due to more malabsorption), but less than traditional duodenal switch
- Helps to promote fullness (early satiety) due to removal of fundus and ghrelin secreting area of stomach (restrictive component)
- Pylorus function is maintained
- No dumping syndrome
- Helps maintain normal blood sugar levels
- Prevents bile reflux into stomach
- Lower risk of marginal ulcers and strictures compared to gastric bypass
- Improved Type 2 Diabetes resolution over gastric bypass or sleeve gastrectomy
- Fewer possible GI side effects compared to the duodenal switch
- Lower risk of nutritional and vitamin deficiencies compared to the duodenal switch
- Excellent short-term weight loss at 1 - 3 years

RISKS

- Higher risk of DVT/PE compared to gastric bypass and sleeve (longer operative time)
- Bleeding, leaks, obstruction
- Does not eliminate long-term risk of internal hernias
- Unknown long-term weight loss results

Single Anastomosis Duodeno-Ileostomy (SADI)



An ideal candidate for this surgery:

- BMI 45-55
- Age 18-65 years
- Metabolic syndrome (OMii, hypertension, hyperlipidemia)
- No Barrett's esophagus or severe esophagitis
- No history of Crohn's disease
- No previous resection of ileocecal valve or intestinal surgery
- Not a transplant candidate
- Willing to participate in life-long follow up

The Single Anastomosis Duodeno-Ileostomy (SADI) rearranges the intestines so that you absorb fewer calories from food with less malabsorption compared to the traditional duodenal switch. It also makes the stomach smaller so you cannot eat as much. This procedure is restrictive and malabsorptive. It should provide greater weight loss than the gastric bypass and sleeve gastrectomy while minimizing GI side effects of the traditional duodenal switch.

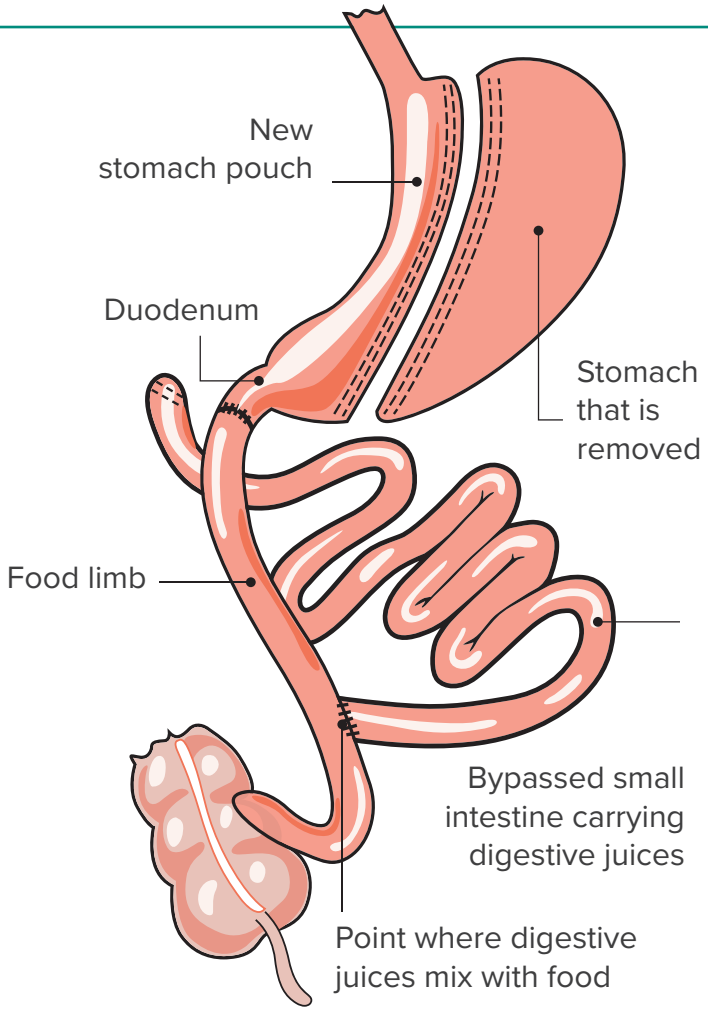
BENEFITS

- Weight loss is similar to a duodenal switch with similar improvement in metabolic conditions
- Can be staged procedure or revisional procedures who have had a sleeve gastrectomy or adjustable gastric band
- >90% remission of diabetes in 1 year
- Less risk of vitamin/mineral deficiency than with duodenal switch
- Avoids one anastamosis (surgical connection) which shortens surgery time resulting in the potential for lower risk than duodenal switch

RISKS

- Leaks, obstruction, bleeding
- DVT (blood clot)/pulmonary embolus
- Protein caloric malnutrition with poor compliance (less than duodenal switch; <4%)
- Bile reflux gastritis requiring revision to duodenal switch

Laparoscopic Duodenal Switch



An ideal candidate for this surgery:

- Is 18-60 years old
- Has BMI above 50
- Individuals with any of the following:
  - Poorly controlled Type 2 diabetes
  - High triglycerides
  - Metabolic syndrome

The duodenal switch rearranges the intestines so that you absorb fewer calories from food. It also makes your stomach smaller so you cannot eat as much. This procedure can be done in one or two stages.

During stage 1, the surgeon will first perform a vertical sleeve gastrectomy procedure.

During stage 2, typically 12-18 months after stage 1 procedure, the remaining part of the stomach is connected to the lower portion of the small intestine.

BENEFITS

- Greatest reduction in weight (> 80 percent EWL)
- Lowest weight-gain (< 10 percent)
- Can be staged procedure or revisional procedure for patients who had a band or sleeve
- Most effective in diabetes improvements (97 percent remission for patients)
- On insulin 5-10 years = 88 percent remission
- On insulin > 10 years = 66 percent remission
- Causes favorable changes in gut hormones affecting long-term hunger and satiety.
- Higher calorie consumption with greater weight loss
- Most effective for resolution of metabolic comorbidities

RISKS

- Leaks, obstructions, bleeding
- DVT (blood clot)/pulmonary embolus
- Higher surgical risk
- Longer surgery time (2.5 hours) and longer hospital stay (2 days)
- Highest risk for diarrhea
- Highest risk of foul smelling stools/gas/diarrhea (especially with sweets and/or fat)
- Highest risk of excessive weight loss
- Protein/calorie malnutrition with poor compliance (nutritional complications < 5 percent)
- Greater malabsorption of vitamins/minerals (Risk of osteoporosis, risk to bone health)

Procedure Comparison

	Based on national outcomes from the MBSAQIP data registry.		
	SLEEVE GASTRECTOMY	GASTRIC BYPASS	DUODENAL SWITCH
%TWL* 1-3 yrs	20%	30%	40%
Bleeding	0 – 3.6%	1.5 – 5%	0.5 – 2%
Leak	0 – 2.3%	0 – 1.9%	1 – 3%
Blood Clot	0.5%	0.2 – 0.7%	1 – 3%
Obstruction	0 – 1.3%	0 – 3.4%	1 – 2%
Change in BMI	↓ 10 – 12%	↓ 12 – 15%	↓ 21 – 24%
Death	0.1%	0.3%	0.5 – 1.2%

	Based on Springfield Clinic patients since 2015			
	SLEEVE GASTRECTOMY	GASTRIC BYPASS	DJBS	DUODENAL SWITCH
%TWL*	20 – 30%	20 – 35%	30 – 45%	40 – 50%
Bleeding	1 – 2%	<1%	<1%	0%
Leak	0%	0%	0%	0%
Blood Clot	0%	0%	0%	0%
Obstruction	0%	<1%	0%	0%
Readmission within 30 days	2 – 3%	3 – 6%	0%	0%
Reoperation within 30 days	1 – 2%	2 – 4%	2 – 4%	0%
Death	0.1%	0%	0%	0%

* Based on long-term follow-up and commitment to changes in nutrition, activity and behavior modification.

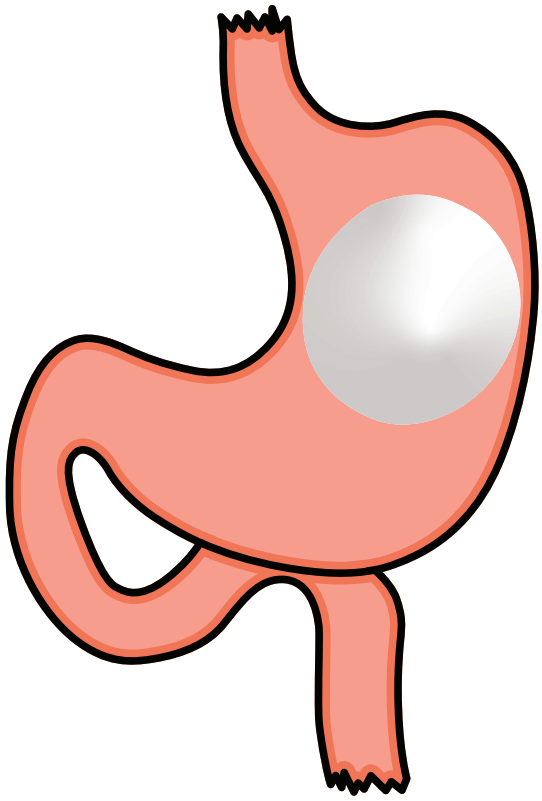
Resolution of Comorbidities After Bariatric Surgery Procedures

Most all patients have some degree of improvement in their weight-related comorbidities after bariatric surgery. Some also see a resolution or remission of those conditions (disease goes away completely). Resolution depends on severity of the disease, how long you have had the disease, types of medications used to manage the disease and the age of the patient.

	GASTRIC BYPASS[1] (at 5 – 9 years)	SLEEVE GASTRECTOMY[2]	DUODENAL SWITCH[3]
Type 2 Diabetes	70 – 84%	50 – 60%	≥95%
Hypertension	40 – 70%	40 – 60%	65 – 70%
Sleep Apnea	70 – 80%	70 – 80%	80 – 90%
Hyperlipidemia	40 – 50%	30 – 40%	75 – 90%
GERD (reflux)	>70%	≤40%	≤40%

Based on national outcomes from the MBSAQIP data registry.

Endoscopic Bariatric Therapy: Intragastric Balloon



An ideal candidate for this procedure:

- Age 18-65
- BMI 30-40 with or without comorbidities
- No previous stomach or GI surgery
- Team approach

The intragastric balloon is temporarily placed endoscopically in the stomach for six months. It helps your body adapt to smaller portion sizes.

The balloon is inserted through the mouth into your stomach. The balloon is then inflated with saline and is about the size of a grapefruit. After six months, the balloon is removed endoscopically.

This therapy is used with diet, exercise and possibly medications before, during and after the balloon.

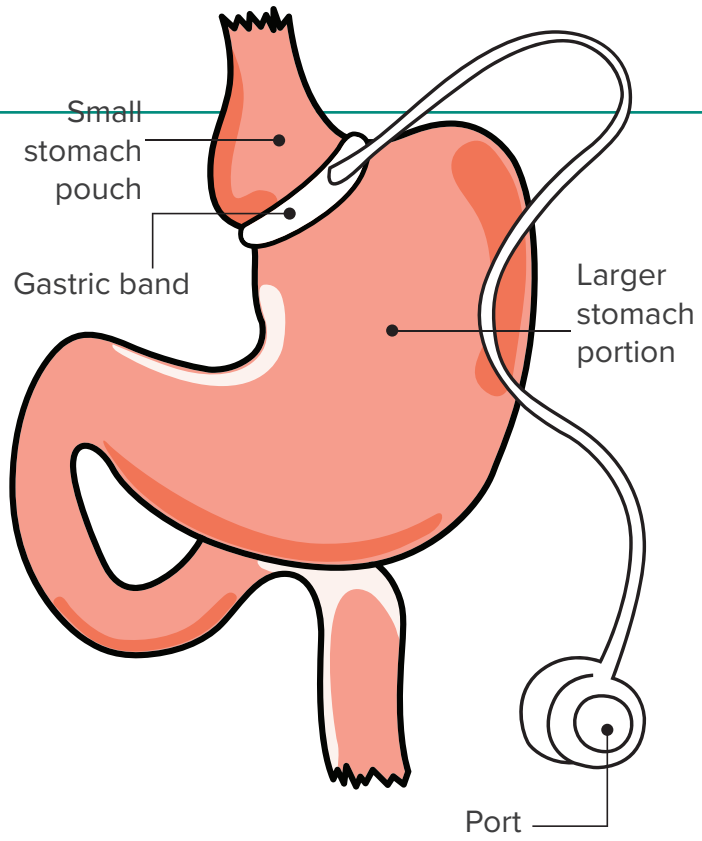
BENEFITS

- Outpatient procedure with sedation
- No incision or scar
- Easy to perform
- Faster recovery
- Safe
- Excess weight loss of 25 percent at 6 months post removal
- Total weight loss 10 – 15%

RISKS

- Device may cause nausea/ vomiting/abdominal pain/GERD
- Although it is rare, there is a risk of: obstruction, perforation, aspiration pneumonia and death
- Device intolerance is five percent, and the long-term durability is unknown
- Weight gain after removal of the balloon

Laparoscopic Adjustable Gastric Band



An ideal candidate for this surgery:

- Is 18-60 years old
- Has BMI between 30-40
- Is active
- Is willing to follow instructions
- Is able to visit a provider for monthly checkups

Lap-band is often performed laparoscopically (with a very small incision) as an outpatient procedure. You may have a shorter hospital stay and faster recovery time compared to a traditional surgical incision.

The surgeon puts a silicone elastic ring around the upper part of your stomach.

The ring is then filled with saline (saltwater) solution. A tube attached to the ring is connected to a port under the skin of the abdomen. The saline is then injected or drawn out until the ring is tight enough around the opening from the upper stomach to the lower stomach.

Tightening the band decreases hunger. You will eat less and still feel full.

For the first year after surgery, the device has to be checked every month by a trained healthcare provider to see if adjustments need to be made.

BENEFITS

- Shorter operative time (easiest to perform)
- No change to anatomy
- Adjustable and/or reversible/ removable
- Reduced risk for micronutrient deficiencies
- Shorter hospital stay (outpatient) and shorter recovery (return to work 1 -2 weeks)
- Lowest risk for death (0.08%)
- Lower cost

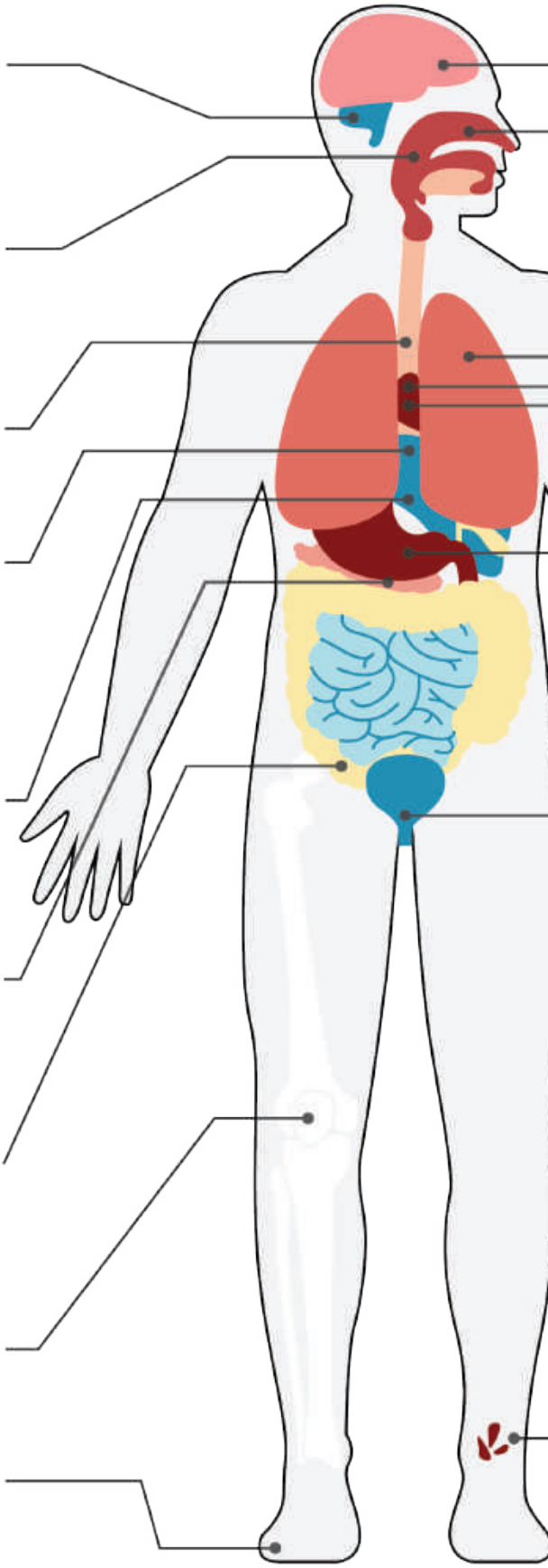
RISKS

- Slower weight loss (three years), and lower overall weight loss (five years 25-50 percent EWL)
- Easiest to cheat
- Problems with the device (port leakage, slipping, erosion)
- Nausea/vomiting/abdominal pain/GERD
- Esophageal and pouch expands; 75 percent of patients require second operation
- Long-term tolerance is unsure
- Removal rate higher than 50 percent at 5 years; 75 percent at 15 years
- Multiple adjustments may be needed

Co-Morbidity Reduction after Bariatric Surgery

95% of patients quality of life improved

89% reduction in 5-year mortality



Depression
55% resolved

Obstructive sleep apnea
74-98% resolved

Dyslipidemia, hypercholesterolemia
63% resolved

Non-alcoholic fatty liver disease
90% improved steatosis
37% resolution of inflammation
20% resolution of fibrosis

Metabolic syndrome
80% improved or resolved

Type II diabetes mellitus
83% improved or resolved

Polycystic ovarian syndrome
79% resolution of hirsutism
100% resolution of menstrual dysfunction

Degenerative joint disease
41-76% resolved

Gout
72% resolved

Migraines
57% resolved

Pseudotumor cerebri
96% resolved

Asthma
82% improved or resolved

Cardiovascular disease
82% risk reduction

Hypertension
52-92% resolved

GERD
72-98% resolved

Stress urinary incontinence
44-88% resolved

Venous stasis disease
95% resolved

Call 447.448.3061

www.SpringfieldClinic.com

Follow us on Instagram @SCBari