

Bariatric Preoperative & Postoperative Education



Congratulations on making a decision to pursue bariatric surgery.

When combined with lifestyle changes, this surgery is a very useful tool to help you lose weight and keep it off. In addition to losing weight, most people gain self-confidence and improve their quality of life after surgery. Memorial Wellness Center (MWC) is excited to walk alongside you and support you as you start down the road toward better health. Thank you for choosing us to be a part of your journey.

Bariatric Surgery

Patient Responsibilities

Preoperative Evaluation

Beginning the bariatric program pre-operative evaluation process does not guarantee you will have bariatric surgery. Not all patients are candidates for bariatric surgery.

Nicotine Agreement

Bariatric surgery candidates are required to be nicotine-free and remain nicotine-free for a period of three (3) months. A nicotine test may be ordered at any time and must be completed to be considered for surgery. Continued nicotine use may remove you entirely from consideration for surgery.

Alcohol and Drugs

Abstinence from drugs, except those prescribed or approved by your physicians, is required. This includes, but is not limited to, alcohol, tobacco, narcotics and/or other medications without the approval of the bariatric surgeon. A history of alcohol or drug abuse may require documentation of successful completion of rehabilitation and/or counseling prior to evaluation for bariatric surgery. Inability to comply with abstinence will result in temporary or permanent elimination from the program.

Postoperative Vitamin/Mineral Supplementation

Vitamin/mineral supplements are recommended after surgery to prevent serious complications post-op. Most insurance companies DO NOT cover this expense. You will be notified of out-of-pocket expenses prior to enrolling in the program. A financial plan and ability to budget for this expense will be reviewed during your assessments.

Post-Op Follow-Up Care

Follow-up visits with the team, including laboratory work, is required to ensure your health postoperatively. This includes visits one week after surgery and during the following months postoperatively: 1, 3, 6, 12, 18 and annually. Additional visits may be added if a need is identified by you or the team.

Bariatric Preoperative Appointments Checklist

Appointment Needed	Date	Time	Instructions
<input type="checkbox"/> Initial visit with medical provider			Provide most recent medication list and lab work. <i>A scale is required for weight verification if visit is scheduled as telehealth.</i>
<input type="checkbox"/> Initial visit with behavioral health provider			Please have the name, phone number and fax number of current counselors or psychiatrists (<i>if applicable</i>). Not having this information could delay in moving forward with the rest of the team.
<input type="checkbox"/> Attend Bari 200			Please read and review the following items prior to the group. All of the documents below are available on the patient education website. <input type="checkbox"/> Preparing for Bariatric Surgery Video <input type="checkbox"/> Pre- and post-op education booklet
<input type="checkbox"/> Initial visit with dietitian			<input type="checkbox"/> Complete Bari 200 prior to initial dietitian visit. <input type="checkbox"/> Complete initial screening lab work (<i>orders given by medical provider</i>) <u>at least one week prior to appointment</u> . Not completing labs could result in a delay of surgery. <i>A scale is required for weight verification if visit is scheduled as telehealth.</i>
<input type="checkbox"/> Initial visit with physical therapist			Wear comfortable shoes, no sandals or heels. No nail polish or acrylic nails for exercise testing. Not complying could result in a delay of surgery.
<input type="checkbox"/> Follow up with medical provider**			Complete initial screening lab work, chest X-ray, EKG <u>at least one week prior to appointment</u> . Not completing screenings could result in a delay of surgery. <i>A scale is required for weight verification if visit is scheduled as telehealth.</i>
<input type="checkbox"/> Follow up with behavioral health provider			If recommended by team or patient desires due to difficulties making or maintaining lifestyle changes.
<input type="checkbox"/> Follow up with dietitian			Bring food logs to nutrition visit. <i>A scale is required for weight verification if visit is scheduled as telehealth.</i>
<input type="checkbox"/> Follow up with physical therapist			Wear comfortable shoes, no sandals or heels. No nail polish or acrylic nails for exercise testing. Not complying could result in a delay of surgery.

<input type="checkbox"/> Attend Bari 300 <i>(monthly supervised weight loss)</i>			Please bring food log to be reviewed as well as progress toward changes such as: balancing plate, spreading calories throughout the day, drinking 64–80 ounces of decaffeinated/non-carbonated beverages. Weight verification required at time of visit.
<input type="checkbox"/> Attend Bari 400			<input type="checkbox"/> Please read and review the following items prior to the group. All of the documents below are available on the patient education website. <input type="checkbox"/> Preparing for Bariatric Surgery Video <input type="checkbox"/> Bari Pre and Post operative Education <ul style="list-style-type: none"> <input type="checkbox"/> Presurgical Diet <input type="checkbox"/> Daily Dose on Vitamins and Minerals <input type="checkbox"/> Vitamin Contract <input type="checkbox"/> Vitamin schedule—please use the schedule that coordinates with your procedure. <ul style="list-style-type: none"> • Sleeve (<i>First Stage Duodenal Switch</i>) • Gastric Bypass • DJB-S • Duodenal Switch • SADI-S
<input type="checkbox"/> Vitamin schedule			An individualized vitamin schedule will be created before bariatric surgery.
<input type="checkbox"/> Insurance submission	n/a	n/a	Once all preoperative requirements have been completed, our insurance staff will submit all preoperative requirements to your insurance for prior authorization.
<input type="checkbox"/> Scheduling preoperative visit with surgeon and scheduling surgery			Our surgery scheduler will call you to discuss scheduling your preoperative visit with surgeon and scheduling surgery.
<input type="checkbox"/> Complete preoperative knowledge assessment test			Your procedure-specific booklet contains a preoperative knowledge assessment test. This must be completed and brought to your preoperative visit with the surgeon.
<input type="checkbox"/> Complete preoperative visit with the surgeon <i>(normally scheduled 7–14 days prior to your surgery date)</i>			<ul style="list-style-type: none"> • You will complete preoperative teaching in a group setting with the surgeon’s nurse. • The surgeon’s nurse will collect and review your completed preoperative knowledge assessment test. • The surgeon will also complete preoperative teaching in a group setting. • You will complete an individual visit with the surgeon once the group teaching has been completed.
<input type="checkbox"/> *Patient education website			Please access this website for all patient education needs: memorial.health/medical-services/wellness-care/patient-education

**Some insurance companies require a specific amount of time working with the program or specific number of visits with the program. We will make you aware of what your insurance company requires.

***This preoperative appointment checklist is for all surgical patients. Due to individualized needs, you may be asked to complete appointments that are not on this checklist.

Popular Myths about Bariatric Surgery

MYTH: You'll never regain your weight.

TRUTH:

While most patients will lose weight consistently over the initial 12-18 months post-op, there is typically a 5-10 percent weight regain or rebound from the lowest weight achieved. In order to maintain weight loss after bariatric surgery, it's essential to sustain lifestyle changes in regards to nutrition, activity, stress management and healthy coping skills.

MYTH: You will never be hungry after bariatric surgery.

TRUTH:

Most patients do not experience physical hunger in the initial months after surgery; however, some may. As you get further out from surgery, hunger levels will increase over time. You may also still experience "mental" hunger, so it is important to identify this and address ways to cope prior to surgery.

MYTH: You can't eat "normal" food for the rest of your life.

TRUTH:

There will be a diet progression after surgery from liquids to soft solids and so on until you have incorporated most foods back into your diet. Portion sizes will also go through a progression, from just a few tablespoons to ½-1 cup of volume over time. There are no "special" foods. You can still enjoy the same foods as your family, at home and even out at a restaurant.

MYTH: Weight-loss surgery is an easy way out.

TRUTH:

All weight-loss surgery programs have various requirements. However, surgery alone does not "fix" everything. It takes a lot of work from you to be successful. Behavioral changes serve as a foundation and are essential for long-term success.

MYTH: You'll be happy after surgery.

TRUTH:

Surgery itself will not make you happy. If there are underlying issues that are not addressed as a part of your journey, they will continue to impact your happiness even after surgery.

MYTH: You will have a great body.

TRUTH:

Your body will go through tremendous change. The impact of obesity on your body may still be seen and felt after weight loss, such as loose skin. This will likely be a journey as well from body "tolerance" to body "acceptance" to body "compassion."

MYTH: Weight-loss surgery will save your marriage.

TRUTH:

If there are any issues in a relationship prior to surgery, these may become more apparent after, and this journey can be an added stressor on the relationship. Open communication is important. Your team has resources to help navigate this journey with your spouse or support person.

MYTH: You don't have to exercise to lose weight after surgery.

TRUTH:

You do need to incorporate exercise into your lifestyle for long-term success after surgery. Early post-op, you may lose weight rapidly; however, exercise is important in maintaining muscle mass. Muscle mass is essential for weight maintenance.

Understanding the Recommendations for Bariatric Surgery

Why is structure and planning so important after bariatric surgery?

After surgery, most patients may not feel physical hunger. Maintaining regular meals and snack times will help ensure you are taking in enough nutrition to support weight loss, maintain lean body mass during weight loss and set you up for good habits for weight maintenance.

Why do I have to take bariatric vitamins?

Bariatric surgery changes the way your digestive system works. This could include reducing the size of your stomach, removal of your stomach or bypassing sections of your small intestine. These changes reduce absorption within the stomach and also changes the pH of the stomach which varies among the various procedures. These changes could include reducing the size of the stomach, removal of the stomach and bypass sections of your small intestine. This affects the body's ability to absorb certain nutrients. The risk of developing a deficiency increases as time goes on after surgery. This is why we strongly recommend you take bariatric vitamins for your whole life after surgery. Bariatric vitamins are specially formulated to help prevent deficiencies, some of which may have irreversible complications. They contain higher levels of certain micronutrients than regular vitamins and many of the nutrients are in a specific form to help them be better absorbed.

Why do I have to wait to get pregnant after bariatric surgery?

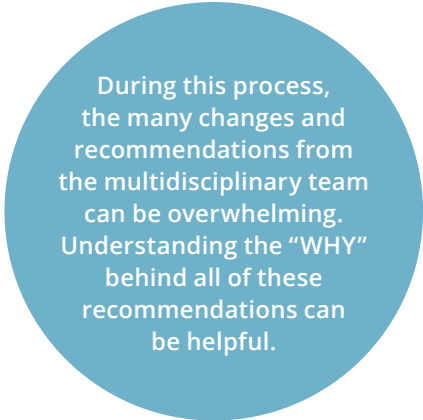
Women of childbearing age, or who have suffered from infertility prior to bariatric surgery, have the ability to become pregnant in the early stages postoperatively due to improvements in hormone regulation or failure to implement a contraception plan.

Increased risks exist to the mother and fetus during this time of rapid weight loss (prior to 12 months post-op) including:

- Greater incidence of premature birth
- Challenge meeting maternal weight gain goal to promote appropriate fetal growth
- Increased metabolic and vitamin/mineral disturbances resulting in growth retardation and neural tube defects
- Greater risk of miscarriage
- Increased risk of malnutrition for mother and fetus with restricted oral calorie and protein intake
- Increased incidence of Cesarean deliveries

With the above complications noted, it is required that a plan for early pregnancy prevention (barrier, intrauterine, condoms or stated abstinence/denying sexual activity) be in place for the first year postoperatively to prevent early pregnancy and the high risks that accompany it. Oral birth control is not a preferred method of contraception postoperatively due to the malabsorption mechanism present after surgery, thus making it an ineffective method. A documented plan for early pregnancy prevention during the preoperative evaluation phase (while working with our team) will be developed in the event you are noted as a safe candidate for bariatric surgery.

Planned pregnancies after one year post-bariatric surgery have demonstrated safe outcomes for mother and child. Consultation with the bariatric team, surgeon, OB/GYN and PCP can ensure screenings are in place and care can be coordinated to ensure the most safe and successful outcomes.



During this process, the many changes and recommendations from the multidisciplinary team can be overwhelming. Understanding the "WHY" behind all of these recommendations can be helpful.

Why can't I smoke or use nicotine products?

The bariatric team requires patients to eliminate the use of nicotine (cigarettes, cigars, chew, hookah, e-cigarettes, patches and other nicotine-replacement therapies) three months prior to bariatric surgery and to remain abstinent from nicotine after surgery. This reduces the incidence of postoperative risks.

Here are a few reasons why:

- The use of nicotine, whether passive or active, increases surgical risks for developing complications, such as:
 - Decreased oxygen to your heart
 - Poor wound healing due to loss of blood flow
 - Increased risk of wound infection
 - Increased risk of chest infection and pneumonia
 - Increased risk of blood clots
- Smoking makes liver enzymes metabolize anesthesia drugs differently, changing the effect and duration of anesthesia and making it less predictable.
- Nicotine users tend to require more pain management medications after bariatric surgery.
- Nicotine use increases the risk of postoperative ulcers, which can lead to perforation or GI bleeding.

Why is support important after bariatric surgery?

One of the most powerful things you can do to help with your weight-loss and management efforts is to receive support and encouragement from other people. When others encourage you to keep working, you feel like you can do anything!

Consider this:

- Ask others for encouragement in your weight-control efforts. Ask key people whom you know will be positive and supportive.
- Share your concerns and struggles with those key supporters.
- Explain what they can do to help. Be specific. For example, "Ask me how I am doing, then listen," or "Please don't offer me junk food."
- Let them know their support is meaningful to you and describe how you need their encouragement for the long run.
- Even if a support person fails to ask how you are doing, go ahead and tell them. This starts the conversation and provides an opportunity for encouragement.
- Give back in return. Reward your support people with your attention and your support for them.

Memorial Wellness Center (MWC) also offers our patient community several opportunities for support outside of our clinic to help you along your journey. Some examples include:

- Support groups
- MWC secret Facebook groups
- MWC Facebook page
- Support person booklet

SUPPORT GROUPS

Studies show that bariatric surgery patients who attend support groups maintain about 20 to 30 percent greater excess weight loss as compared to patients who do not attend support groups.

Bariatric surgery support groups share knowledge and support as we work to regain and maintain good health. Plan to join us so we can help each other while we help ourselves.

Memorial Wellness Center offers several support groups at our main location in Springfield as well as our satellite/affiliate locations. Check out our support group schedule and locations online at memorial.health/wellness.

Why do I have to worry about certain types of medications after bariatric surgery?

Certain medications are not absorbed in the same manner after surgery. The pH of your stomach is altered. The rate of how quickly things move through your GI tract is changed. Bariatric surgery changes the way your body processes medications. The same biological changes that increase your risk of nutritional malabsorption can also impact the way your body absorbs medications. After surgery, pills have less time to dissolve in your stomach, the acid/pH level of your stomach changes and the absorption process in the small intestine is impacted. As a result, there are changes in both the anatomy and chemistry of your digestive tract.

It is reasonable to hope to experience a reduction in medications following bariatric surgery and significant weight loss. Medications for diabetes, hypertension and asthma are often significantly decreased or eliminated. However, the need for antidepressants and other psychological medications is less likely to be reduced. Be sure to consider how your body will process these medications after your surgery.

After bariatric surgery, smaller, more frequent doses of medication may be needed. In general, extended or sustained release medications are not recommended after surgery. Medications in capsule form are also not recommended after surgery. The exception to this is the bariatric multivitamin, which is specially formulated for bariatric surgery patients and acceptable in capsule form. Talk with your doctor, who will decide what, if any, changes will be made to your medications.

Informed consent for bariatric surgery requires you to understand the potential for long-term, permanent problems while using medications to manage depression or other psychological problems. If you start to notice an increase in your depressive symptoms after surgery, contact your doctor immediately to discuss these issues.

Why can't I drink caffeine or carbonated drinks after bariatric surgery?

Both caffeine and carbonation can irritate the stomach. Caffeine is a diuretic, which means it increases urine production, which counteracts our efforts to keep you hydrated. Carbonation introduces air into the stomach and causes bloating and discomfort.

Why do I have to journal my food intake after bariatric surgery?

Keeping a food journal or logging your intake is the best way to record what and how much you take in. This helps ensure you consume enough calories and nutrients. Commonly, patients will overestimate how much they are eating. Logging helps to ensure you take in enough calories and protein throughout the day to fuel your daily activities as well as your exercise. Writing down what you eat can also help you monitor your tolerance to certain foods. Long-term studies on weight maintenance have shown those who log maintain their weight loss more compared to those who do not log.

Why can't I drink alcohol after bariatric surgery?

The bariatric team requires patients to eliminate the use of alcohol before having bariatric surgery and to remain abstinent from alcohol after surgery. This reduces the incidence of postoperative risks.

Here's why:

- Alcohol affects absorption of vitamins and minerals. Alcohol is a diuretic and can decrease the vitamins and minerals stored in the body.
- Alcohol can lead to dehydration. After bariatric surgery, it will take you a minimum of 6–10 hours a day to drink the required 64–80 ounces of fluid (you cannot drink with meals, which accounts for approximately five hours out of the day, and you cannot drink while you are sleeping, which for most individuals is six to eight hours out of the day). Consuming alcohol will decrease your hydration and require more time to hydrate.
- Your body absorbs alcohol faster, which increases your blood alcohol content (BAC). In one study, individuals who drank one serving of alcohol were past the legal limit of .08 percent within 10 minutes of drinking.
- Increased risk of becoming dependent upon or abusing alcohol. The faster you feel the effects of a substance, the more likely you are to become addicted.
- Your body takes longer to eliminate alcohol. Even though you can become intoxicated more quickly, the time it takes your body to sober will increase.
- Increased risk of developing ulcers.
- An increase in heartburn if the alcoholic drink is carbonated.
- Empty calories. There are no nutrients in alcohol so your body is not able to use the calories for daily functioning. Unnecessary calories can also lead to weight gain.

Research has shown an increased risk for becoming dependent or abusing alcohol two years postoperatively after bariatric surgery. While the exact cause of this is still undetermined, the faster absorption rate increases risk for becoming dependent. After surgery, individuals might use alcohol instead of food to socialize. Making healthy lifestyle choices after surgery is important.

Why is fluid so important?

Dehydration is one of the most common complications after bariatric surgery. Avoid this complication by ensuring that you drink the recommended 64–80 ounces of fluid daily. After surgery, you are only able to drink 1–2 ounces every 15 minutes. You should also avoid drinking prior to, during or directly after your meals. This provides limited time in which you are able to drink hydrating (caffeine-free) fluids. Unlike prior to surgery, after surgery you are not able to consume large amounts of water at one time so you have to be sure to drink fluids throughout the entire day.

Why do I have to eat slowly, take small bites and chew food thoroughly (mindful eating)?

These strategies will help you to be more aware of your eating habits. After bariatric surgery, your stomach is small, about the size of an egg or small banana, and does not have as many of the acids your stomach currently does to help with digestion. It is important to chew food thoroughly enough to help with this digestion process. Take small bites to ensure you are chewing your bites thoroughly. Eating too fast can lead to frothing or foamy mucus-like vomiting.

Why do I have to go on a two-week presurgical diet?

The presurgical diet, low-calorie and high protein, helps reduce the size of the liver prior to surgery. This helps decrease surgical risk.

Why can't I just drink protein shakes after surgery?

Eating is essential to living a healthy lifestyle. Learn to eat a variety of foods to ensure you consume the nutrients you need. Chewing is a fundamental part of eating and helps your body recognize when it is full. Without chewing, your mind may trick your body into thinking it is hungry when it is not.

Why do I have to take so much time off after surgery?

Adjusting to life after bariatric surgery takes time. Immediately postoperatively, you will track your intake and fluids to ensure you stay hydrated and consume enough nutrients. Without hunger cues, you may forget to eat, and it is easy to forget to drink. Ensuring you are getting the fluids and nutrients you need each day will be the more important task. Your body also needs time to heal from the procedure. Recovery is different for everyone. The length of time off after surgery will depend on the surgery type, pain management, adjustment to changes and tolerance of intake.

Why do I continue to see my bariatric team after surgery?

After surgery, you are part of our family. Follow-up with your team is important so they can ensure you experience the optimal results and support for the use of your weight-loss tools. Remember, weight loss and maintenance is a journey, and we are here to help if you feel you are struggling. We can also help assess structural reasons for weight regain. Surveillance of long-term complications is also very important, such as strictures and vitamin or mineral deficiencies.

Why do I have to make all of these changes before surgery?

Demonstrating the recommended changes prior to surgery helps the team identify you are a safe candidate. It also helps you begin to practice habits that will help you to be successful both pre- and postoperatively.

Why do I need to exercise after bariatric surgery?

There are multiple strategies to lose and maintain weight after bariatric surgery and the next one to add to your list is exercise. Exercise has been shown to support long term weight maintenance, improve mental and cardiovascular health and prevent muscle loss as we age. In addition, exercise assists with skin elasticity and keeps our aging joints strong and stable. Exercise should be continued throughout your LIFETIME however; frequency and duration will vary. Along with healthy eating and proper hydration, exercise will assist with long term weight maintenance.

Why is protein so important? Why do I have to take protein supplements after surgery?

Protein is emphasized, especially in the first few weeks and months after surgery, because it supports recovery and is essential for maintaining muscle mass during weight loss. During the two weeks before and in the early postoperative period, the main source of protein will come from liquid protein supplements.

What kind of vitamins should I buy? How do I know which is the right vitamin for me?

There are many brands of bariatric vitamin and mineral supplements on the market, but not all of them meet the specific recommendations of the MWC. Our recommendations rely on peer-reviewed research, consultation with other bariatric nutrition experts from all over the country and more than twenty years of experience in our own clinic. Vitamin and mineral deficiencies do occur in some people who have had bariatric surgery. Taking vitamins that meet the recommended guidelines should help prevent them. Your dietitian or medical provider can assist you with any questions you have about bariatric post-op vitamins and make sure the ones you choose will meet your nutrition needs.

Bariatric multivitamin*

Calcium**

Vitamin B12

Iron**

*A bariatric-formulated multivitamin is required.

** Usually as calcium citrate. Calcium and iron supplements must be taken at least two hours apart to maximize absorption.

There are a few things to remember when speaking with your dietitian about which vitamin is right for you:

Vitamin D

Vitamin D is a common deficiency both before and after surgery. It is important you take in enough vitamin D. However, it is possible to get too much. Vitamin D is found in fortified foods, multivitamins, calcium supplements and in vitamin D supplements. You should take no more than 3000 IU vitamin D total per day for daily maintenance. If you are treating a vitamin D deficiency, you may need to take more than that for a specified length of time and then reduce intake to 1000–3000 IU daily.

Calcium

A calcium supplement will be taken in addition to your multivitamin because multivitamins do not generally contain the full recommended daily amount of calcium. You can also take in calcium from calcium-rich foods. Some people are able to take in a great deal of calcium from the foods they choose after surgery, however most people still need to take a supplement as well. Remember, no more than 500–600 mg of calcium should be taken at a time. We recommend the calcium citrate form for best absorption.

Iron

After bariatric surgery, your ability to absorb iron is reduced. This means that after surgery you will need to take more iron than you did before surgery. For best tolerance, we recommend the iron you take be Vitron C, a carbonyl iron, add this along with the ferrous fumarate. For best absorption, we recommend that iron be taken at least two hours before or after any calcium supplements, calcium-rich foods and any decaf coffee or tea. Iron supplementation may cause constipation. You may need to take a stool softener with your iron supplementation.

Vitamin B12

Having a bariatric surgery reduces your ability to absorb B12 with your digestive system. For this reason, we recommend you take either a sublingual (dissolved under the tongue) or an injected form of vitamin B12.

ALWAYS REMEMBER:

The risk of vitamin deficiencies increase over time. Scheduling your labs every year on time helps identify and stop the progression of vitamin and mineral deficiencies.

MICRO-NUTRIENT SUPPLEMENT	CONSIDERATIONS	HOW MUCH TO TAKE	SUGGESTED BRANDS
Bariatric Formulated Multivitamin	Supplements may be in capsule, tablet or chewy form.	Look at the label to determine the full daily serving size. Most post-op multivitamins need to be taken one to four times per day.	We recommend your multivitamin always come from one of these two brands: Bariatric Advantage and Celebrate. You and your dietitian will determine specific multivitamin options.
Calcium	Doses should be 500–600 mg (milligrams). Needs to be from calcium citrate.	Women should aim for a total of 1500 mg (three doses) daily from supplements and food sources. Men should aim for a total of 1200 mg (two doses) daily from supplement and food sources.	There are many tablet and soft-chew forms of calcium citrate available over-the-counter (OTC) and from bariatric companies. Make sure you read the labels too.
Iron	Ferrous Fumarate or Carbonyl iron is best tolerated by most people, however there are several acceptable forms. Make sure to separate from calcium-rich foods, calcium supplements and coffee/tea by at least two hours. Taking vitamin C with iron improves absorption.	Menstruating women should aim for 60 mg iron daily. Women who do not menstruate and men should aim for 60 mg iron five days a week.	Bariatric Advantage or Celebrate chewable iron. Bariatric Advantage/ Celebrate soft-chew (look at dosage) Vitron-C. Ferretts (look at dosage), take with 500 mg vitamin C.
B12	Needs to be either sublingual or injected	1000 mcg (micrograms) each week if taken sublingually. 1000 mcg taken each month if injected.	There are many OTC brands of sublingual vitamin B12. Injectable form is available by prescription only.

Vitamin Contract

- I agree to use only a bariatric formulated multi-vitamin as prescribed by the Memorial Wellness Center dietitian. I understand that after bariatric surgery a higher level of micronutrients are needed that non-bariatric formulated multivitamins do not provide.

- I understand that because weight loss surgery decreases the amount of food eaten and reduces absorption of nutrients, lifelong vitamin and mineral supplementation is needed for optimal health.

- I understand that if I do not take vitamin and mineral supplementation as prescribed by the Memorial Wellness Center dietitian, I could develop deficiencies within months or years after surgery that can be serious, irreversible and potentially life-threatening and include but are not limited to:
 - Fatigue, weakness and headaches
 - Hair loss and skin changes
 - Poor wound healing
 - Anemia
 - Neuropathy
 - Bone fractures
 - Seizures
 - Visual problems
 - Impaired immunity

- I agree to complete lab work to monitor for potential deficiencies two weeks prior to my appointment with a Memorial Wellness Center medical provider and/or dietitian.

- If I want to change my vitamins or my vitamin schedule, I will discuss desired changes with the Memorial Wellness Center dietitian first.

- I understand my iron supplement cannot be taken within two hours of calcium rich foods, calcium supplements, coffee or tea, because it can reduce absorption of iron.

- I understand that my calcium supplement should be taken in divided doses throughout the day to promote the best absorption.

- I agree to read the entire handout: Daily Dose on Vitamins and Minerals.

- I agree to notify the Memorial Wellness Center medical staff or dietitian if I develop any signs or symptoms of vitamin deficiency as listed in the Daily Dose on Vitamins and Minerals.

Bariatric Surgery Knowledge Assessment Test

This test is not intended to be an exhaustive review of bariatric surgery information, but it does provide a review and helps ensure you have read and understand the education material provided to you prior to surgery.

The following statements are either TRUE or FALSE. Please circle the correct answer.

1	There are multiple different bariatric surgeries available for treatment of obesity	True	False
2	Blood clots and pulmonary embolism are two possible complications from bariatric surgery.	True	False
3	A gastrointestinal leak is one possible complication of bariatric surgery.	True	False
4	Bariatric surgery guarantees lifelong weight loss.	True	False
5	Exercise should begin before surgery and continue daily for the rest of your life.	True	False
6	In order to stay healthy after bariatric surgery, you will need to take bariatric formulated daily vitamins and mineral supplements for the rest of your life.	True	False
7	Following surgery, you can take any over-the-counter medications. There is no need to consult the bariatric team first.	True	False
8	Long- term follow-up is required for long-term success. It is the patient's responsibility to ensure postoperative visits with the entire bariatric team are scheduled and attended.	True	False
9	Serious complications may occur following bariatric surgery. These may require additional surgery, a longer stay in the hospital or a move to the intensive care unit. Complications may mean additional financial costs to the patient.	True	False
10	Drinking plenty of fluids after surgery may prevent or decrease postoperative dehydration and/or constipation.	True	False
11	Nausea is a common problem after surgery.	True	False
12	Weight loss during the first 12–18 months after bariatric surgery is rapid, but patients who do not follow recommendations and follow-up as recommend may eventually regain their weight.	True	False
13	Bariatric surgery is a cure for obesity—not just a tool.	True	False
14	Depression never occurs after bariatric surgery.	True	False
15	Postoperative vitamins are an out-of-pocket lifelong expense to the patient.	True	False

The following questions each contain only one correct answer. Please circle it.

- 16 Which medications must be avoided after bariatric surgery?
- a) Prescription or over-the-counter medications recommended by your physician.
 - b) Medications for hypertension
 - c) Medications for anxiety or depression
 - d) Codeine, Vicodin, muscle relaxers and other prescribed pain medications
 - e) Aspirin, Motrin (ibuprofen) and /or another non-steroidal anti-inflammatory (NSAIDS)
- 17 Keys to long-term success with bariatric surgery are:
- a) Commitment to lifestyle changes
 - b) Daily exercise for the rest of your life
 - c) Bariatric formulated multivitamins and mineral supplements for the rest of your life.
 - d) Adequate water intake and high-quality protein diet
 - e) All of the above
- 18 Which of the following life-threatening complication(s) can occur during or after bariatric surgery:
- a) Heart attack
 - b) Stroke
 - c) Lung failure/pneumonia
 - d) Blood clots
 - e) Any of the above

I understand this assessment is part of my informed consent and certify I have answered these questions on my own. I also understand I may be asked to retake this assessment and may be required to attend further educational activities if it is found I do not fully understand the risks, complications, requirements and concept of bariatric surgery. I am willing to pursue additional education as recommend by Memorial Wellness Center team in order to reduce risks and to increase my opportunity for long-term success and health.

Patient Signature:

Date:

Reviewer Signature:

Date:

What Should I Do to Prepare for Surgery?

STAY PSYCHED UP

- Keep focused on the reasons you want to have surgery.
- Weight plateaus happen.
- Keep a record of your journey (pictures, measurements, ups and downs).
- Write a letter to yourself at the start of your journey to remind yourself of the reasons that you are making these changes.
- Keep a log of your successes.

FAMILY AFFAIR

- Once you decide to have the surgery, talk this over with your children and family.
- Identify the reasons you want surgery.
- Outline what they can do to help.
- Provide a list of chores/activities for each family member when you return home.
- Consider how things will be different while making lifestyle changes.
- Allow the family to have some control over tasks and meals.

PREPARE YOUR HOME

- Stock your kitchen. Think sugar-free, carbonation-free and caffeine-free. Do not forget the popsicles!
- Create a relaxing environment.
- Use the reclining chair.

TIE UP LOOSE ENDS

- Pay outstanding bills and, if possible, pay a few ahead of time.
- Have medication and vitamins ready.
- Clean your house and do laundry before you go.
- Stock up on activities like books, puzzles, movies and crafts.
- Have a family member come and stay or help with cleaning and laundry.
- Prepare meals for your family ahead of time.
- Order your medical ID bracelet.



Instructions for Proper Preoperative Skin Preparation

Memorial Health Infection Prevention and Surgical Services departments are partnering with your physician to help prevent infections that could occur as a result of surgery.

One way you can be proactive in preventing an infection is to adequately prepare your skin. The Centers for Disease Control and Prevention (CDC) strongly recommend that patients shower or bathe with an antiseptic agent (a special soap) such as Hibiclens the day before and the morning of their scheduled procedure.

WARNINGS

- DO NOT USE if you are allergic to Hibiclens or chlorhexidine.
- DO NOT USE on the head or face; keep out of the eyes and ears.
May cause serious eye or ear injury. Rinse eyes, ears or mouth with cold water right away should contact occur.
- DO NOT use on open wounds.
- Hibiclens is for topical use only; do not ingest.
- If skin irritation occurs with the first use, use Lever 2000 or Dial soap in place of the Hibiclens for morning bath or shower.

Hibiclens binds with skin to provide a layer of protection against bacteria.

- You will need to use the provided Hibiclens soap two times:
 - One packet for an evening bath or shower (the night before surgery)
 - One packet for a morning bath or shower (the morning of surgery)
- First, wash your body with your own soap and shampoo and rinse thoroughly.
- Next, wash your body using the Hibiclens soap. (Remember, one packet is for the evening bath or shower and one packet is for the morning bath or shower.)
 - Start at the area where the surgery will be and then use on the rest of your body from the neck down. Do not use Hibiclens on your face or head.
 - Keep the Hibiclens soap on your body for a full two minutes before rinsing. Step out of the water stream if necessary.
 - Ask for help if you can't reach your back.
 - Rinse off thoroughly.
- Gently dry with a clean towel.
 - Do not use powder, deodorant, perfumes or lotions after your bath or shower.
 - Wear freshly laundered pajamas to bed and sleep on freshly laundered sheets. Do not allow pets on the fresh bed. Wear freshly laundered clothes to the hospital.

QUESTIONS?

Email the Memorial Health Infection Prevention department at mhsinfectionprevention@mhsil.com or contact your surgeon.

Incentive Spirometer Instructions

Your doctor has prescribed for you an incentive spirometer to help you perform deep-breathing exercises.

The incentive spirometer will expand your lungs and can help prevent serious complications, such as pneumonia or a collapsed lung.

Instructions

- Sit up and fully exhale.
- Close your lips tightly around the mouthpiece while holding the device upright.
- Inhale as much air as you can through the mouthpiece (like you are sucking through a straw).
- Inhale deeply and slowly.
 - You know you are inhaling at the correct strength if you keep the yellow indicator piece located on the left side in the lower area labeled “best.”
- Once you have inhaled as much as you can, hold your breath for at least 5 seconds then slowly exhale to allow the piston to fall to the bottom. Use the yellow marker (on the right) to keep track of how high you can raise the white piston.
- Remove the mouthpiece from your lips and exhale.
- Rest for a few seconds and repeat. Repeat 10 times every waking hour.
- After 10 deep, slow and steady breaths, cough to make sure your lungs are clear. Wear your abdominal binder and hold a pillow to your abdomen to support your incisions when coughing.



DON'T FORGET

Use this device at least 10 times every hour while you are awake.

Stop using the incentive spirometer after your Bari 500 class unless otherwise instructed by your healthcare provider.



Questions?

It is OK to ask the nurse taking care of you.

Checklist of Items to Bring to Hospital

NURSING STAFF RECOMMEND:

- CPAP machine (if applicable)
- Incentive spirometer
- List of all medications, herbal supplements, vitamin/mineral supplements
- Copy of your living will and/or Durable Power of Attorney for Healthcare

PREVIOUS PATIENTS RECOMMEND:

- Underwear
- Personal hygiene toiletries
- House slippers (with non-slip soles)
- Lip balm (such as Chapstick)
- Pen and paper or notebook
- Protein supplements (if desired)
- Sugar-free drink mix sticks (such as Crystal Light)
- Books or magazines
- Slip-on walking shoes
- Knee-length robe
- Form of payment for copayment for new medications and bedside delivery (such as pain medicine)
- Cellphone charger

REMEMBER:

Do NOT bring large sums of cash.
Label your personal possessions with your name.

Two-Week Presurgical Diet

In order to maintain energy and feel your best while on this diet, we encourage you to evenly space out protein, carbohydrates, fluid and non-starchy vegetables throughout each day.

Daily Requirements

P Drink four servings of protein supplements each day.

Supplement companies may change their formulas frequently, so make sure to check the labels of your chosen protein supplements to make sure they meet the following criteria. If you have questions about a specific protein supplement, ask your dietitian for clarification:

- At least 20 grams of protein per serving if choosing a powdered protein
 - **TIP:** do not mix protein powders into food or fluids that are warmer than 130 degrees Fahrenheit as this could cause the powder to clump.
 - If you do not tolerate milk and choose not to use soy milk, you should add a fifth serving of protein powder daily to meet the protein goal.
- If you choose a premixed protein drink, it should have at least 25 grams of protein.
- Less than 6 grams of sugar per serving
- Avoid products that contain caffeine. If a product does contain caffeine, it should be listed on the product packaging. Make sure to check coffee-flavored protein products for caffeine!

C Include a total of six servings each day from the foods listed below:

These foods provide most of the carbohydrates on this diet. It is important to include all six servings each day to provide your brain and body with enough energy!

- ½ cup cooked Cream of Wheat or oatmeal or grits (less than 10 grams sugar if packaged). One individual packet of these foods will make 1 cup prepared and will count as 2 servings.
- 8 ounces of low-fat milk (cow or soy)
- 1 cup sugar-free pudding
- 6 ounces light yogurt. Yogurt should contain less than 120 calories per serving.
- ½ cup no sugar added applesauce, ½ cup canned fruit in light syrup or juice, 1 cup cut fresh or frozen fruit, or 1 cup canned fruit packed in water
- ½ cup cooked or canned beans (pinto, kidney, black, etc.), green peas, corn or potato
 - Read ingredient lists of these foods to make sure there are no sources of added fat. Look for the words oil, butter and cream.

V Include as many raw or steamed non-starchy vegetables as you like to help with fullness:

- | | | |
|--------------------|--------------------|---------------|
| • Artichoke | • Bean sprouts | • Carrots |
| • Artichoke hearts | • Beets | • Cauliflower |
| • Asparagus | • Broccoli | • Celery |
| • Baby corn | • Brussels sprouts | • Chayote |
| • Bamboo shoots | • Cabbage | |

- Coleslaw *packaged, no dressing*
- Cucumber
- Eggplant
- Gourds
- Green beans
- Green onions
- Greens
- Hearts of palm
- Jicama
- Kohlrabi
- Leeks
- Lettuce *all varieties*
- Mixed vegetables without peas, corn or pasta
- Mushrooms
- Okra
- Onions
- Oriental radish or daikon
- Pea pods
- Peppers *all varieties*
- Radishes
- Rutabaga
- Sauerkraut
- Soybean sprouts
- Spinach
- Squash *summer, crookneck, zucchini*
- Sugar snap peas
- Swiss chard
- Tomato
- Tomato juice
- Tomato sauce
- Turnips
- Vegetable juice
- Water chestnuts

These are some—but not all—of the many non-starchy vegetables available to you during the presurgical diet. If you have questions about a specific vegetable, ask your dietitian.

F Drink 64–80 ounces of fluid during the day.

Acceptable fluids include any sugar-free, caffeine-free, carbonation-free, alcohol-free fluids such as:

- Water
- Decaf tea or coffee
- Broth
- Unsweetened plant-based milks (such as almond, cashew, rice, etc.)

Other

- You may add additional seasonings/spices as desired (i.e., pepper, sugar-free flavored syrups, sugar substitutes, cinnamon, dried or fresh herbs, garlic/onion powders, etc.).
- Maintain current scheduled meal/snack structure.
- Continue with daily over-the-counter multivitamin, calcium and vitamin B12 supplements during presurgical diet process.
- Sugar-free gum is acceptable.
- If you have diabetes, please refer to “Special Considerations for People with Diabetes” section on treatment of low blood sugar during presurgical diet.
- If you have problems with constipation while on this diet, you may use a fiber supplement with at least 3 grams of fiber per serving.

Protein mixing ideas

WITH MILK

- Add one scoop of chocolate or vanilla protein powder to 8 ounces of skim milk. For lactose intolerance, use soy or lactose-free milk. Shake or stir for 15–20 seconds.
- Freeze this mixture for an ice cream like texture.

NON-MILK

- Add one scoop of fruit-flavored protein powder to 8 ounces of water or acceptable clear liquid choice. Shake or stir for 15–20 seconds.
- Add one scoop of chicken soup flavor protein powder in 8 ounces of nicely warm water (not too hot, approximately 130 degrees or less). Stir until dissolved.
- Add one scoop of protein powder to decaffeinated coffee or a ready to drink protein shake.

Special Considerations for People with Diabetes

- Talk to your primary care physician or endocrinologist about the two-week presurgical diet. This diet is low in carbohydrates (125 grams per day) and may need adjustments to your medication regimen during these two weeks.
- Monitor your blood glucose levels frequently throughout the day.
- Maintain current scheduled meal/snack schedule to assist with glycemic control.
- Include acceptable carbohydrate foods at each meal or snack (sugar-free/fat-free pudding, light/fat-free yogurt, applesauce).

Know the signs/symptoms of hypoglycemia.

- Sweating
- Hunger
- Weakness
- Shakiness
- Dizziness or lightheadedness
- Headache
- Heart palpitations
- Blood sugar less than 70 mg/dL

If you have a low blood sugar, treat it!

- Check blood sugar levels.
- If blood sugar is less than 70 mg/dL, consume 15 grams of a carbohydrate food.
 - ½ cup fruit juice
 - 2–3 teaspoons sugar
 - 3–4 glucose tabs, available for purchase at most drug stores
 - Hard candy (not sugar-free). Check label for serving size.
- If blood sugar is less than 55 mg/dL, you will need to treat with 30 grams of carbohydrate. In that case, double the amounts of foods listed above.
- Wait 15 minutes.
- Recheck blood sugar levels to reassess; if levels remain less than 70mg/dL, repeat previous steps.
- Once blood glucose levels are normal (80–120mg/dL), resume normal meal/snack pattern.
- Return to presurgical diet.
- Any foods or fluids used to treat low blood sugar do not count toward daily food intake.
- If you have more than one episode of low blood sugar while following the presurgical diet, please contact your primary care physician or endocrinologist for guidance.

**IF YOU HAVE
QUESTIONS,
ASK YOUR
DIETITIAN.**

Exercise During the Presurgical Diet



Practice deep breathing technique.

Inhale through your nose and fill your lungs downward and toward your back by expanding your ribs. Control the exhale through your nose or mouth and fully empty your lungs. This is to help prevent gas pains after surgery. Also, anesthesia can sometimes make it difficult to take a deep breath after surgery. Practicing deep breathing before surgery can help prevent this.

Start practicing blood clot prevention exercises.

Exercise instruction is located on pages 36–37.

Discontinue high-intensity aerobic exercise.

Exercise that makes you breathe hard or sweat profusely, such as elliptical, jogging, fast outdoor biking or spin class, should be discontinued due to low caloric intake during the presurgical diet. But continue with walking program, seated chair aerobics or bike riding at a moderate pace until the day of surgery. Continue to exercise at least 10 minutes per day to keep in the habit of exercise.

Frequently Asked Questions about the Presurgical Diet

Can I have chicken, beef, eggs, tofu, etc., on the presurgical diet?

No. The only sources of concentrated protein are to come from protein supplements alone. While these foods are certainly nutritious, they often contain fats that may reduce the liver-reducing properties of this diet as it is written.

Do I need to start my post-op vitamins now?

No. Please continue with your current vitamin regimen. You will start your post-op vitamins when you start eating food following bariatric surgery.

Do I have to have all six servings of the carbohydrate foods?

Yes, please do eat all six servings! These foods provide most of the easy to use energy for your muscles and brain during the two week presurgical diet. Eating all six servings should help prevent headaches, mood swings and energy slumps.

Can I have fruit?

Yes! Fruit is one of the carbohydrate choices allowed while following the presurgical diet. One serving is ½ cup fruit canned in light syrup or juice, 1 cup fresh, frozen, or fruit canned in water.

Can I use seasonings?

Yes, please do, as long as the seasoning is sugar-free and fat-free. It will not affect the liver-reducing properties of this diet as written. If you currently have sodium restrictions, please continue to follow your physician's recommendations.

Can I put dip on my vegetables?

You may make a dip from yogurt and approved seasonings. It is unlikely that a pre-made dip will fit into the criteria of the presurgical diet.

RANCH DIP

- 2 cup plain, fat-free Greek-style yogurt
- 1 package ranch dressing mix

FRENCH ONION DIP

- 2 cup plain fat-free Greek-style yogurt
- 1 package French onion soup mix

Presurgical Diet

Meal Plan Example

MORNING MEAL	
<input type="radio"/> One premade protein shake of choice	P
<input type="radio"/> ½ cup cooked oatmeal (<i>made with water</i>) sprinkled with Cinnamon and Splenda® flavor blends	C
SNACK	
<input type="radio"/> ½ cup refried beans mixed with low-sodium taco seasoning	C
<input type="radio"/> Raw carrots, celery and broccoli	V
MIDDAY MEAL	
<input type="radio"/> One serving strawberry-flavored protein powder mixed with 8 ounces sugar-free lemonade beverage	P F
<input type="radio"/> 6 ounces light vanilla yogurt	C
SNACK	
<input type="radio"/> ½ cup unsweetened applesauce	C
EVENING MEAL	
<input type="radio"/> One serving chicken soup flavored protein mixed with warm water and 1 cup tomato juice	P F V
<input type="radio"/> 1 cup tomato, ¼ cup black beans, ¼ cup corn, taco seasoning	C
BEDTIME SNACK	
<input type="radio"/> One serving chocolate protein powder mixed with 8 ounces skim milk, frozen	P C

NUTRITIONAL INFORMATION BASED ON MEAL PLAN EXAMPLE

Total calories
approximately 1,000 per day

Total protein
approximately 115 grams per day
(*may be lower if milk is not used*)

Total carbohydrates
approximately 125 grams per day

REMINDER



This diet does not meet the daily requirements for adequate vitamins and minerals.

Continue your daily over-the-counter calcium and/or multivitamin regimen.

Presurgical Diet Seven-Day Meal Plan Examples

C Carbohydrate
(6 servings daily)

F Fluid
(64–80 ounces daily)

P Protein
(4 servings daily)

V Vegetable
(unlimited daily)

Day 1

MORNING MEAL

- | | |
|------------------------------------------------------------------------------------------------------------|----------|
| <input type="radio"/> One serving of vanilla protein mixed with 8 ounces of sugar free drink mix of choice | P |
| <input type="radio"/> ½ cup cooked cream of wheat (made with water) | C |
| <input type="radio"/> 1 cup of tomato juice | V |

SNACK

- | | |
|------------------------------------------------|----------|
| <input type="radio"/> 1 cup sugar-free pudding | C |
|------------------------------------------------|----------|

MIDDAY MEAL

- | | |
|-----------------------------------------------------------------------------------------|------------|
| <input type="radio"/> One serving of protein mixed with 8 ounces of sugar-free beverage | P F |
| <input type="radio"/> 6 ounces of light yogurt | C |

SNACK

- | | |
|-----------------------------------------|----------|
| <input type="radio"/> Sugar-free Jell-O | F |
| <input type="radio"/> ½ cup raspberries | C |

EVENING MEAL

- | | |
|---------------------------------------------------------------------------------------------------------------------|------------|
| <input type="radio"/> One serving of chicken soup flavored protein mixed with 8 ounces warm water or fat-free broth | P F |
| <input type="radio"/> 1 cup tomato juice | V |
| <input type="radio"/> ½ cup unsweetened applesauce | C |
| <input type="radio"/> Raw vegetables: lettuce, cucumbers and tomatoes with lemon juice and pepper | V |

BEDTIME SNACK

- | | |
|-----------------------------------------------------------------------------------|------------|
| <input type="radio"/> One serving chocolate protein mixed with 8 ounces skim milk | P C |
|-----------------------------------------------------------------------------------|------------|

Day 2

MORNING MEAL

- | | |
|-----------------------------------------------------------------|----------|
| <input type="radio"/> Premade protein shake of choice | P |
| <input type="radio"/> ½ cup of cooked oatmeal (made with water) | C |
| <input type="radio"/> 1 cup tomato juice | V |

SNACK

- | | |
|------------------------------------------------------------------|----------|
| <input type="radio"/> Sugar-free Jell-O | F |
| <input type="radio"/> ½ cup canned peaches in light or own juice | C |

MIDDAY MEAL

- | | |
|------------------------------------------------------------------------------------------|------------|
| <input type="radio"/> One serving of protein mixed with 8 ounces of sugar-free beverage | P F |
| <input type="radio"/> 1 cup green peas | C |
| <input type="radio"/> Raw vegetables: raw broccoli and cauliflower with lemon juice only | V |

SNACK

- | | |
|------------------------------------------------|----------|
| <input type="radio"/> 6 ounces of light yogurt | C |
|------------------------------------------------|----------|

EVENING MEAL

- | | |
|----------------------------------------------------------------------------------------------------|------------|
| <input type="radio"/> One serving of chicken soup flavored protein mixed with warm water | P F |
| <input type="radio"/> 1 cup sugar-free pudding | C |
| <input type="radio"/> 1 cup tomato juice | V |
| <input type="radio"/> Raw vegetables: lettuce, tomatoes, broccoli and cauliflower with lemon juice | V |

BEDTIME SNACK

- | | |
|------------------------------------------------------------------------------------|------------|
| <input type="radio"/> One serving of vanilla protein mixed with 8 ounces skim milk | P C |
|------------------------------------------------------------------------------------|------------|

Day 3

MORNING MEAL

- One serving of strawberry protein mixed with 8 ounces skim milk **P**
- 6 ounces light yogurt **C**

SNACK

- 1 cup celery **V**
- ½ cup Greek yogurt dip with French onion seasoning **C**

MIDDAY MEAL

- One serving cherry protein mixed with 8 ounces sugar-free lemonade beverage (blended together with ice) **P F**
- Lettuce salad (3 cups) with broccoli, cauliflower, lemon juice and pepper **V**
- 6 ounces light yogurt (any flavor) **C**

SNACK

- ½ cup unsweetened cinnamon applesauce **C**
- Raw tomatoes, cucumber, green onions (dressing: red wine vinegar, lemon juice, pepper and artificial sweetener) **V**

EVENING MEAL

- One serving chicken soup flavored protein mixed with 8 ounces fat-free chicken broth **P F**
- ½ cup corn **C**
- Raw lettuce salad with mushrooms and green onions and lemon juice **V**

BEDTIME SNACK

- Protein smoothie: one serving vanilla protein mixed with 6 ounces light yogurt, blended with ice **P C**
- Sugar-free Jell-O **F**

Day 4

MORNING MEAL

- ½ cup cooked oatmeal + one serving vanilla protein (made with water) **P C**
- Orange sugar-free beverage (8 ounces or more as desired) **F**

SNACK

- 6 ounces plain yogurt "dip" (6 ounces low-fat Greek-style yogurt mixed with minced garlic, lemon juice, dill weed, salt and pepper to taste) **C**
- Assorted raw vegetables for dipping (i.e., broccoli, cauliflower, carrots, celery) **V**

MIDDAY MEAL

- Protein smoothie: one serving chocolate protein mixed with ½ cup sugar-free pudding, blended together with ice **P C**
- Raw lettuce (3 cups) salad with tomatoes and cucumbers (lemon juice, vinegar, pepper and sweetener) **V**

SNACK

- Sugar-free Jell-O **F**
- 6 ounces light yogurt **C**

EVENING MEAL

- 1 cup tomato juice (heated) mixed with one serving unflavored or chicken soup flavored protein **P V**
- ½ cup of potatoes **C**
- "Coleslaw" (raw assorted cabbage mixed with vinegar, salt, pepper, lemon juice and sweetener) **V**

BEDTIME SNACK

- One serving cherry protein mixed with 8 ounces sugar-free lemonade beverage (blended with ice) **P F**
- Sugar-free Jell-O **F**
- 1 cup cut fresh fruit **C**

Day 5

MORNING MEAL

<input type="radio"/> One serving vanilla protein + 6 ounces light blueberry yogurt + 8 ounces skim milk and blended with ice	P C
-------------------------------------------------------------------------------------------------------------------------------	------------

<input type="radio"/> Sugar-free Jell-O	F
-----------------------------------------	----------

SNACK

<input type="radio"/> 1 cup sugar-free chocolate pudding	C
----------------------------------------------------------	----------

<input type="radio"/> Tomato cucumber salad <i>(dressing: lime juice, vinegar and Mrs. Dash Lemon & Garlic spice)</i>	V
------------------------------------------------------------------------------------------------------------------------------	----------

MIDDAY MEAL

<input type="radio"/> One serving protein mixed with 8 ounces decaffeinated coffee	P F
------------------------------------------------------------------------------------	------------

<input type="radio"/> Lettuce salad with broccoli, mushrooms, and onions with lemon juice and Mrs. Dash <i>(any variety)</i>	V
------------------------------------------------------------------------------------------------------------------------------	----------

<input type="radio"/> ½ cup unsweetened applesauce	C
----------------------------------------------------	----------

SNACK

<input type="radio"/> 1 cup raw carrots	V
-----------------------------------------	----------

<input type="radio"/> ½ cup Greek yogurt dip with ranch seasoning	C
-------------------------------------------------------------------	----------

EVENING MEAL

<input type="radio"/> One serving chicken soup flavored protein mixed with fat-free beef broth	P F
------------------------------------------------------------------------------------------------	------------

<input type="radio"/> ½ cup black beans	C
-----------------------------------------	----------

<input type="radio"/> Raw zucchini, summer squash and carrots <i>(sliced julienne)</i> with Mrs. Dash Lemon Pepper seasoning and fresh lime juice	V
---------------------------------------------------------------------------------------------------------------------------------------------------	----------

BEDTIME SNACK

<input type="radio"/> One serving Fuzzy Navel protein mixed with sugar-free lemonade beverage and blended with ice	P F
--------------------------------------------------------------------------------------------------------------------	------------

<input type="radio"/> Sugar-free Jell-O	F
-----------------------------------------	----------

<input type="radio"/> ½ cup canned fruit in light syrup or juice	C
------------------------------------------------------------------	----------

Day 6

MORNING MEAL

<input type="radio"/> One serving vanilla protein powder mixed with 8 ounces skim milk, add dash of cinnamon	P C
--------------------------------------------------------------------------------------------------------------	------------

<input type="radio"/> 8 ounces orange-flavored sugar-free beverage	F
--------------------------------------------------------------------	----------

SNACK

<input type="radio"/> Sugar-free Jell-O	F
-----------------------------------------	----------

<input type="radio"/> ½ cup of pineapple in light or own juice	C
----------------------------------------------------------------	----------

MIDDAY MEAL

<input type="radio"/> One serving chicken soup flavored protein powder mixed with 1 cup tomato juice	P V
------------------------------------------------------------------------------------------------------	------------

<input type="radio"/> Raw vegetables: celery, carrots and green peppers	V
-------------------------------------------------------------------------	----------

<input type="radio"/> ½ cup of potatoes	C
-----------------------------------------	----------

SNACK

<input type="radio"/> 1 cup sugar-free pudding	C
------------------------------------------------	----------

EVENING MEAL

<input type="radio"/> One serving chocolate-flavored protein mixed with 8 ounces skim milk	P C
--------------------------------------------------------------------------------------------	------------

<input type="radio"/> Lettuce salad: lettuce, carrots, celery, cauliflower and tomatoes. Drizzle with mix of apple cider vinegar, Splenda or other artificial sweetner, and Mrs. Dash	V
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------

BEDTIME SNACK

<input type="radio"/> Cappuccino-flavored protein powder mixed with 8 ounces warm water	P F
-----------------------------------------------------------------------------------------	------------

<input type="radio"/> 1 cup cut fresh fruit	C
---------------------------------------------	----------

Day 7

MORNING MEAL

- | | |
|--------------------------------------------------------------------------------------------------------------------------|----------|
| <input type="radio"/> One premade protein shake of choice | P |
| <input type="radio"/> ½ cup cooked oatmeal (<i>made with water</i>) sprinkled with Cinnamon and Splenda® flavor blends | C |

SNACK

- | | |
|--------------------------------------------------------------------------------|----------|
| <input type="radio"/> ½ cup refried beans mixed with low-sodium taco seasoning | C |
| <input type="radio"/> Raw carrots, celery and broccoli | V |

MIDDAY MEAL

- | | |
|-----------------------------------------------------------------------------------------------------------------------|------------|
| <input type="radio"/> One serving strawberry-flavored protein powder mixed with 8 ounces sugar-free lemonade beverage | P F |
| <input type="radio"/> 6 ounces light vanilla yogurt | C |

SNACK

- | | |
|----------------------------------------------------|----------|
| <input type="radio"/> ½ cup unsweetened applesauce | C |
|----------------------------------------------------|----------|

EVENING MEAL

- | | |
|--------------------------------------------------------------------------------------------------------------|--------------|
| <input type="radio"/> One serving chicken soup flavored protein mixed with warm water and 1 cup tomato juice | P F V |
| <input type="radio"/> 1 cup tomato, ¼ cup black beans, ¼ cup corn, taco seasoning | C |

BEDTIME SNACK

- | | |
|--------------------------------------------------------------------------------------------------|------------|
| <input type="radio"/> One serving chocolate protein powder mixed with 8 ounces skim milk, frozen | P C |
|--------------------------------------------------------------------------------------------------|------------|

REMEMBER:
Drink 64–80 ounces
of water and/or
caffeine-free/sugar-free
beverages
during the day.



Outpatient Bariatric Surgery

- You will be one of the first surgery cases for the day.
- A wellness provider will see you in recovery to ensure it is safe to send you home and review discharge instructions.
- You will be discharged home with scheduled pain medication, as-needed pain medication and nausea medications. A pain patch will also be applied near your incisions.
- You will be sent home with an IV in your arm.
- You will need someone to drive you home from the hospital and spend the night with you.
- You will need someone to drive you back to the Wellness Center the day after surgery. During this appointment, which will last several hours, you will:
 - See the bariatric nurse
 - Have labs drawn
 - Receive fluids in your IV
 - See your surgeon
 - See the bariatric dietitian



What Should I Expect Each Day At the Hospital?

NURSING STAFF

- Will check on you hourly to answer questions and help with needs.
- Early morning: Bariatric team rounds. The bariatric team (surgeons, advanced practice providers, dietitian, social worker, pharmacist and nursing staff) will conduct rounds to check on you and conduct teaching, typically at 7 a.m.
- Blood thinner will be given to prevent blood clots.
- Monitor heart rate, breathing, oxygen levels and blood pressure every four hours.
- Monitor blood sugar levels four times per day.
- Bandage removed prior to shower.
- Pain medicine will continue to help with pain.
- Blood draws and continuous monitoring.

PAIN MANAGEMENT

- Remember to let staff know if you are uncomfortable.
- Everyone experiences pain differently.
- Don't delay taking pain medication. Adequate pain control will help you have a smooth recovery.

DAILY CHECKLIST

- Only way to know how much fluid is being consumed.
- Helps to prevent dehydration.
- Decreases postsurgical complications.
- Gives you more control over your healing process and recovery.

GET OUT OF BED

Practice at home prior to surgery:

- Turn over on your right side and cross your left arm over in front of you.
- Use your left arm to push yourself up so you can swing your legs down.
- As you start to lift, use your right arm to push yourself up into a sitting position.

SUPPORT PEOPLE

A few things your family member or friend can help with:

- Record intake of fluids.
- Help with putting on and taking off leg compression boots.
- Walk halls at a minimum of five minutes every four hours; more minutes and frequency, if tolerated.
- Request medication you may need.
- Keep you company.
- Make sure you follow recommendations with walks, sips and incentive spirometer.
- Remind you to perform blood clot prevention exercise 10–15 times each hour you are awake.



SPEED UP YOUR RECOVERY:

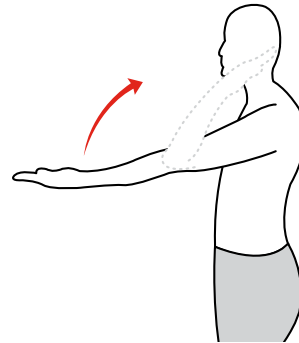
- Walk! Walk! Walk!
 - Sip! Sip! Sip!
 - Use Incentive Spirometer
 - Keep Track
-

Exercises to Help Prevent Blood Clots

ELBOW:

Elbow Up

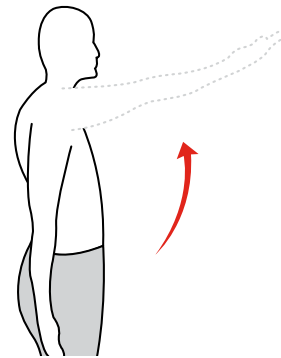
Stand or sit with one arm out in front, palm up. Slowly bend elbow and raise forearm toward shoulder. Relax arm. Repeat with other arm. Repeat 10 times each arm.



SHOULDER:

Range of Motion: Flexion

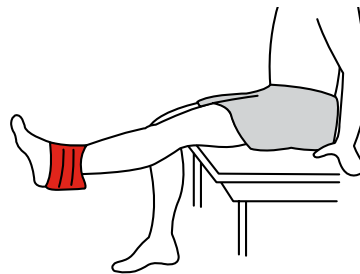
From standing or sitting position, place arms at side. Slowly raise arms up until stretch is felt. Repeat 10 times each side.



HIP/KNEE:

Knee Extension (Sitting)

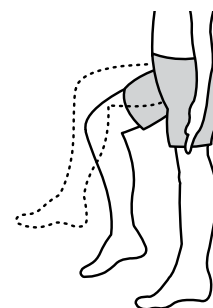
While sitting at edge of bed or in a chair, straighten knee, then let down slowly. Repeat 10 times per leg.



HIP:

Knee Lift

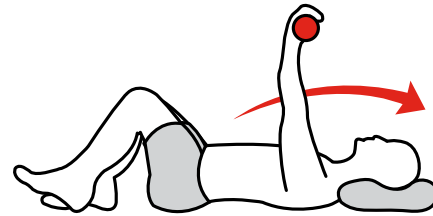
Using a chair if necessary, march in place 10 times each leg.



SHOULDER:

Arm Raises

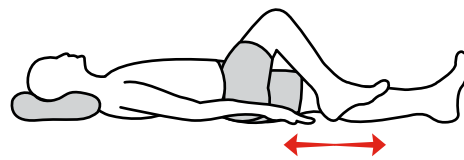
Raise arms over head, and go as far as possible without pain. Repeat 10 times per arm.



HIP/KNEE:

Self Mobilization—Heel Slide (Supine)

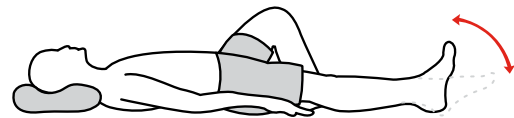
Slide right heel toward buttocks until a gentle stretch is felt, then straighten leg again. Repeat with other leg. Repeat 10 times each leg.



ANKLE /FOOT:

Range of Motion—Plantar/Dorsiflexion

With leg straight, gently flex and extend ankle. Move through full range of motion. Repeat 15 times per set.



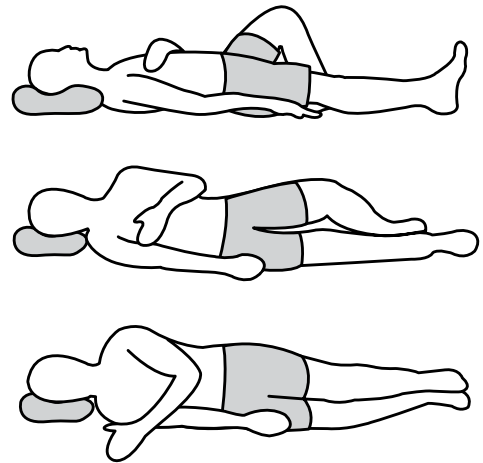
While in the hospital continue to perform all exercises 10–15 times each, every hour you are awake.

Getting Out of Bed Post-Operation

MOVEMENT:

Log Roll

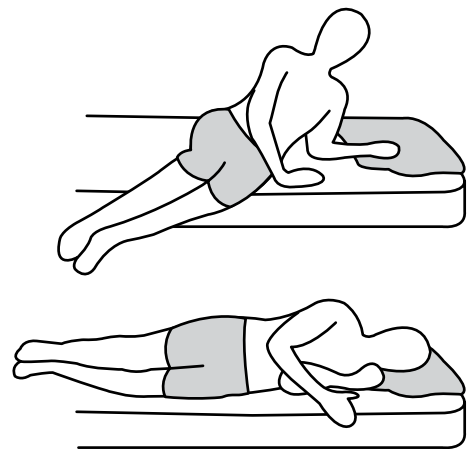
Lying on back, bend left knee and place left arm across chest. Roll all in one movement to the right. Reverse to roll to the left. Always move as one unit.



MOVEMENT:

Get Into/Out of Bed

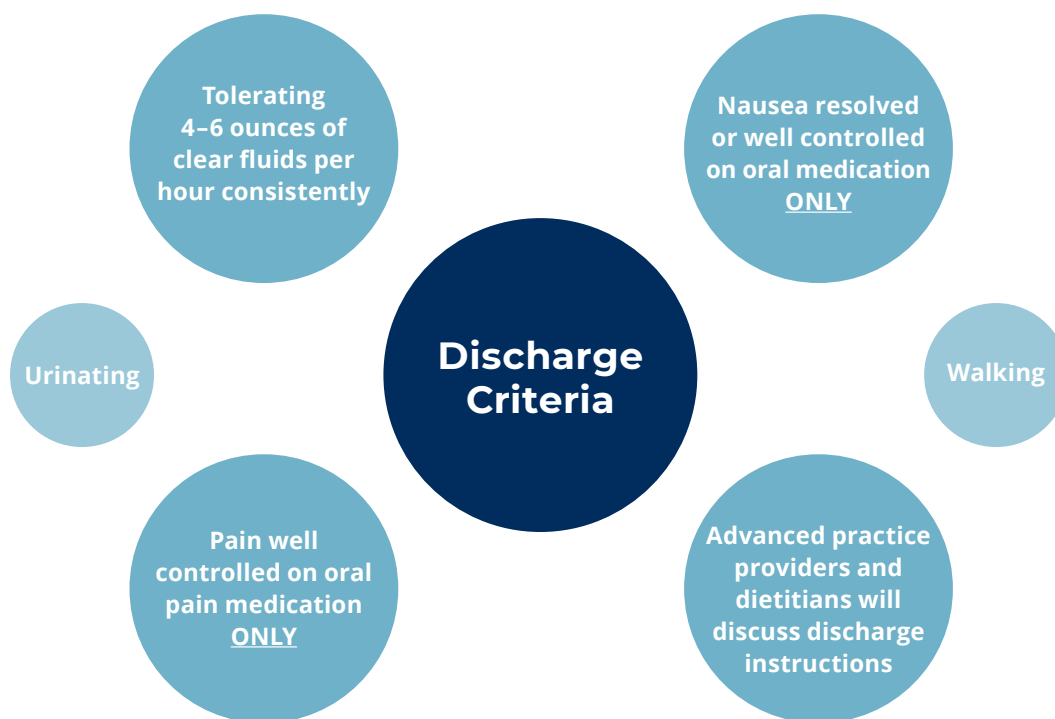
Lower self to lie down on one side by raising legs and lowering head at same time. Use arms to assist moving without twisting. Bend both knees to roll onto back if desired. To sit up, start from lying on side, and use same movement in reverse. Keep trunk aligned with legs.



Post-Operation Exercise Schedule

	ARM EXERCISES		LEG EXERCISES	
	EXERCISE #1	EXERCISE #2	EXERCISE #1	EXERCISE #2
8 a.m.				
10 a.m.				
Noon				
2 p.m.				
4 p.m.				
6 p.m.				
8 p.m.				
10 p.m.				

Patient Discharge Criteria



TIPS FOR HEADING HOME

- Wear loose-fitting clothing.
- Time your pain medication so you take a dose just before leaving the hospital.
- Have a pillow in the car so that you can hold it against your abdomen for support.
- Take a bottle of water with you so that you can sip all the way home.
- Do ankle exercise while in the car (if traveling for several hours).
- For longer car rides, get out of the car and walk 5-10 minutes every two hours.

Bariatric Nutrition

After Hospital Stay

Bari Liquid Diet

Clear liquids are essential to keep you hydrated during this phase of your diet progression. This stage consists of liquids that are free of sugar, carbonation and caffeine..

- When starting this stage of the diet progression, begin to sip 1 ounce over a 15-minute timeframe.
- Stop drinking if you feel overfull, uncomfortable or nauseous.
- Some patients tolerate different types of liquids at various temperatures after surgery, so you may have to try several to see what works for you. For example, warm vs. cold vs. room temperature.

REMEMBER:

- Sip small amounts slowly.
- No straws.
- When beginning this stage, allow 15 minutes to sip 1 ounce (30 cc medicine cup) for a total of 4 ounces per hour (120 cc or 4 medicine cups per hour). Doing this will help prevent distress to your new pouch, intestinal discomfort, excess gas and bloating.

Once you are able to comfortably drink 1 ounce over 15 minutes, advance as you tolerate to drinking 1 to 2 ounces of clear liquids over 15 minutes to start working towards your goal of 64–80 ounces of fluid per day.

ASK

Ask any questions you may have about your care at home.



While at home continue to perform the blood clot prevention exercise 10–15 times each time, every other hour you are awake until you attend Bari 500.

Postoperative Bariatric Diet Advancement

Bari Clear

Liquids are essential to keep you hydrated during this phase of your diet progression. This consists of fluids that are free of sugar, carbonation and caffeine.

Start by sipping 1 ounce every 15 minutes.

- Water
- Sugar-free gelatin
- Decaf tea or coffee
- Sugar-free drink mix
- Broth
- Sugar-free popsicles

Bari Liquid

When you reach your clear liquid goal, then you add other liquid options including protein shakes. **Start by sipping 1-2 ounces every 15 minutes and work up to 6-8 ounces per hour.** This helps to reduce feeling overfull, bloated, nauseous and uncomfortable.

- Protein shakes
- Lactose-free milk
- Skim/1% milk
- Light soy milk

When you reach your goal protein shake amount, aim to drink them as “meals.” For example, if your goal is three protein shakes per day, try to drink them as breakfast, lunch and dinner. This will help you return to structuring your meals.

Once you are home and tolerating fluids well, you may also add in the following:

- Light yogurt
- Grits
- Cream of Wheat
- Low-fat cream soups
- Oatmeal
- Sugar-free pudding

Tips

- Stop drinking if you feel overfull, uncomfortable or nauseous.
- Patients may tolerate different types of liquids at various temperatures after surgery.

You may have to try several different temperatures to see what works for you.

For example, warm versus cold versus room temperature.



Remember

Stop drinking 15 minutes before eating and wait 30 minutes to start drinking again.

Early Postoperative Priorities (Discharge until seen by dietitian at 500 class.)

1 Fluids

2 Protein

3 Vitamins

Fluids

- Fluid goal is 64–80 ounces daily.
- Journal all your fluids daily.
- Dehydration is the number one reason post-bariatric surgery patients are readmitted to the hospital. If you are drinking 40 ounces or less of fluid daily, please call the Memorial Wellness Center or your surgeon's office.

Protein

- If you are not tolerating liquid protein, it is OK to reduce the amount or take a break. Focus on drinking clear liquids and try to restart protein later.
- Lactose intolerance can happen after bariatric surgery. If you are drinking low-fat or fat-free regular milk and you develop any gassiness, bloating or diarrhea, try switching to light soy milk or lactose-free milk.

Vitamins

- Start your vitamins one week after surgery when you start eating food. Take them as recommended on your vitamin schedule.

Exercise

- At minimum, do some sort of activity every hour (blood clot prevention exercises or slow walking) for a continuous five minutes every hour. As your energy level allows, increase your duration of exercise up to 15 minutes without stopping, twice a day.
- Continue breathing exercises. Practice controlled inhalation through the nose and out through the mouth, filling the lungs to prevent pneumonia and to provide fresh oxygen to the surgery site to promote healing. Continue using your incentive spirometer as directed once you are home.
- No lifting more than 10 pounds or as the doctor directs. This includes laundry, heavy cooking pots/pans, children, animals, etc. If it hurts, stop immediately!
- If you must take a long, continuous car ride in the first three months after surgery, you will need to get out every 45 minutes to an hour to take a short walk.
- No forward bending/crunching, twisting or rotation of spine to protect the surgery site and promote healing. If it hurts, stop immediately!



Patient Discharge Instructions

Procedure: Weight-Loss Surgery

Discharge Date

Discharge To

DIET/NUTRITION

- Continue diet as directed by your dietitian. Do not advance until directed to do so by your surgeon or dietitian.
- Begin vitamin/mineral supplements after you have been home from the hospital for a week. Follow regimen given to you by the dietitian.
- Please drink at least 64-80 ounces of fluid per day. Aim for one to two cups per hour, small frequent sips.

ACTIVITY/SHOWER/BATHING/INCISION CARE

- Shower daily and as needed. Please ensure incisions are patted dry.
- Leave steristrips alone. They will fall off or surgeon will remove.
- There are no sutures or staples to be removed for laparoscopic surgery patients.
- You may place ice packs on incisions as needed to help with pain relief during first week following surgery.
- No driving if taking pain medication.
- You must walk at least once every two hours (during waking hours) for the next four weeks.
- For longer car rides, in addition to ankle pumping, get out of the car and walk for five minutes every one to two hours.
- Expect to be off work two–four weeks. If you need a return-to-work note, that can be provided at the one week follow-up visit with your surgeon.
- Your stamina following surgery is often less than prior to surgery. The loss of stamina depends upon your age, general health and the complexity of the operation. It takes time to recover from surgery.

PAIN MANAGEMENT

- You will be given a prescription for oral pain medication. If more is needed, please call your surgeon's office. DO NOT drive or perform activities which require close attention while taking oral pain medication.
- Constipation: Milk of Magnesia or Miralax—follow instructions on bottle.

TREATMENTS

- Use incentive spirometry device (10 breaths four times per day) for one week after surgery.
- If diabetic, monitor your blood sugar fasting in the morning and at bedtime or as directed if more frequent monitoring is needed.
 - Call your surgeon if it is greater than 250 or less than 70.
- If you have high blood pressure, monitor your blood pressure at least twice daily. Record in your diary and bring to your surgeon's visit.
 - Call your surgeon for greater than 150/90 or less than 90/50.

MEDICATION RESOLUTION

- Take medications ordered by your surgeon (refer to list at discharge).
- **DO NOT TAKE** anti-inflammatory drugs (NSAIDS), such as ibuprofen, Motrin, Advil, Aleve, naproxen, meloxicam, toradol, nabumentone and Pepto-Bismol.
- You will be given a plan by your physician about when aspirin or blood-thinning medication can be safely restarted. Examples of these medications include aspirin, coumadin, Eliquis, Pradaxa and Xarelto prior to surgery. Aspirin must be enteric-coated.

CT SCAN/NASOGASTRIC TUBE PRECAUTIONS

- Limit oral contrast to 30–50 cc test.
- Nasogastric tube placement only by fluoroscopy.

REASONS TO CALL YOUR SURGEON

- Any questions regarding your recent bariatric surgery
- Severe nausea, vomiting or dry heaves for longer than two hours
- If you vomit blood or have bloody diarrhea
- Severe pain (abdomen, chest, back, shoulder, leg or arm)
- Trouble breathing (if severe, call 911)
- Any abnormal feeling or concern
- Wound infection: Signs and symptoms such as temperature greater than 101°F, reddened or warm-to-the-touch around incision, any drainage other than clear, swelling, odor or pain at the site
- Trouble drinking adequate fluid intake (minimum of 40 ounces per day)
- Chest pain or rapid heartbeat (more than 100 beats per minute)
- Leg pain or swelling
- Any pain not relieved by pain medication
- Urine output less than four times in 24 hours
- Any emergency room visit during first 12 months after surgery
- Should it be necessary to go to emergency room in the first year after surgery, make sure the ER staff notifies your bariatric surgeon upon your arrival. Locally, please go to Springfield Memorial Hospital Emergency Department.

Follow-Up Visits

Prior to leaving hospital, you will be given information for your 500 class, two week follow-up visit with your primary care provider, 3–4 week follow-up visit with your surgeon and one month follow-up visit with the dietitian, behavioral health and physical therapists.

Normal Postsurgical Symptoms

SWELLING AND BRUISING

- Moderate swelling and bruising is normal after any surgery.
- Severe swelling and bruising may indicate bleeding or possible infection. Notify your surgeon if this occurs.

DISCOMFORT AND PAIN

- Mild to moderate discomfort or pain is normal after any surgery.
- If the pain becomes severe and is not relieved by pain medication, please contact your surgeon.

NUMBNESS

- Small sensory nerves to the skin surface are occasionally cut when the incisions are made or interrupted by undermining of the skin during surgery. The sensation in those areas gradually returns, usually within two to three months, as the nerve endings heal spontaneously.
- Because of some postoperative numbness, avoid heating pads until you heal.

ITCHING

- Itching and occasional small shooting electrical sensations within the skin frequently occur as the nerve endings heal. These symptoms are common during the recovery period. Ice, skin moisturizers, vitamin E oil and massage are often helpful.

REDNESS OF SCARS

- All new scars are red, dark pink or purple and take about a year to fade.
- We recommend you protect your scars from the sun for a year after surgery. Even through a bathing suit, sunlight can reach the skin and cause damage. Wear a sunscreen with an SPF of at least 15 when out in sunny weather.

IMPORTANT TELEPHONE NUMBERS

Lincoln Memorial Hospital	217-732-2161
Decatur Memorial Hospital	217-876-4249
Memorial Wellness Center	217-788-3948 Toll-free: 866-205-7915
Jacksonville Memorial Hospital	217-245-9541
SIU School of Medicine	217-545-8000
Springfield Clinic surgeon's office	217-528-7541 x 24200 Toll-free: 800-444-7541

EMERGENCY CONTACT

Springfield Memorial Hospital	217-788-3000
SIU School of Medicine	217-545-8000
Springfield Clinic TeleNurse	217-528-7541 Toll-free: 800-444 7541

MEDICAL ID BRACELETS AND NECKLACES

Be sure to make doctors, nurses and EMTs aware you have had bariatric surgery. Knowledge of your condition will help ensure safe treatment. Your medical alert bracelet or medical ID necklace will alert doctors, nurses and EMTs of your medical history so time is not wasted. We recommend including your name, bariatric procedure, physician or surgeon name and contact numbers.

Helpful sites:

- LaurensHope.com
- AllegroMedical.com
- American Medical ID: 800-363-5985
or AmericanMedical-ID.com
- MedicalIDAlertBracelet.com

Recommended engraving:

Your Name

Weight-Loss Procedure

Your Primary Care Physician
or Bariatric Surgeon

Your Primary Care Physician
or Bariatric Surgeon Number

AFTER DISCHARGE	TASK	DATE	TIME	INSTRUCTIONS
24 Hours	<ul style="list-style-type: none"> • Phone call from surgeon's office nurse 			
1 Week	<ul style="list-style-type: none"> • Bari 500 Class • This visit will be scheduled upon discharge from the hospital. 			
1 Month	<ul style="list-style-type: none"> • Surgeon Visit • Nutrition Visit • Physical Therapy Visit • Psychosocial Visit • Labs 			<p>Call surgeon's office if you need lab orders.</p> <p>Bring food logs to nutrition visit.</p>
3 Months	<ul style="list-style-type: none"> • Advanced Practice Provider Visit (91 days after surgery) • Nutrition Visit • Physical Therapy Visit • Psychosocial Visit 			Bring food logs to nutrition visit.
6 Months	<ul style="list-style-type: none"> • Advanced Practice Provider Visit • Nutrition Visit • Physical Therapy Visit • Psychosocial Visit • Labs 			<p>Complete labs at least two weeks prior to your visits to ensure they will be resulted by the time of your visits.</p> <p>Call MWC if you need lab orders.</p> <p>Bring food logs to nutrition visit.</p>
12 Months	<ul style="list-style-type: none"> • Advanced Practice Provider Visit • Nutrition Visit • Physical Therapy Visit • Psychosocial Visit • Labs 			<p>Complete labs at least two weeks prior to your visits to ensure they will be resulted by the time of your visits.</p> <p>Call MWC if you need lab orders.</p> <p>Bring food logs to nutrition visit.</p>
18 Months	<ul style="list-style-type: none"> • Advanced Practice Provider Visit • Nutrition Visit • Psychosocial Visit 			
Bari Annual Visit	<ul style="list-style-type: none"> • Advanced Practice Provider Visit • Nutrition Visit • Psychosocial and Physical Therapy as needed. • Labs 			<p>Complete labs at least two weeks prior to your visits to ensure they will be resulted by the time of your visits.</p> <p>Call MWC if you need lab orders.</p> <p>Bring food logs to nutrition visit.</p>

Common Complaints after Bariatric Surgery

NAUSEA

Nausea can be related to poor chewing of food, overeating, under-eating, increased sensitivity to odors or tastes, pain medication, post-nasal drip or dehydration. Medications, called anti-emetics, are sometimes given. In rare cases, nausea can lead to repeated vomiting. Dehydration can result. If dehydration is severe, the patient may be readmitted to the hospital.

Call the surgeon's office if nausea lasts more than 12 hours and/or there is persistent vomiting.

- Odors can sometimes lead to nausea after surgery. Post-op patients report that putting a few drops of peppermint essential oil, available at many health food stores, on a handkerchief can be very helpful if you are bothered by odors after surgery. Avoid perfumes and scented lotions. If food odors bother you, try to have someone else prepare your meals or prepare bland foods. Other patients have found relief by sucking on a cinnamon stick.
- If nausea is interfering with your drinking of fluids, you may want to try ginger, peppermint tea, fennel tea, decaffeinated green tea or water with lemon (hot or cold).
- If you develop nausea shortly after taking a dose of pain medication, call the surgeon's office to discuss whether you should have a change in your pain medication.
- Stay hydrated—fluids should be continuously sipped all day long to prevent dehydration. You need a minimum of 64–80 ounces of fluids per day. Increase this amount in hot weather.

VOMITING

Postoperative vomiting is usually due to poor eating technique and/or eating too much. It can take several weeks to adjust to your new pouch and to new eating habits. In the beginning, it can be difficult to gauge how much food will fill your pouch. (Fullness is experienced as a pain or pressure behind your breastbone.) Chew your food to the consistency of baby food. Use a baby fork or toothpick to eat, as this will help you slow down. Measure your food carefully before meals as this will help you avoid overeating.

REMEMBER, VOMITING IS USUALLY CAUSED BY:

- Eating too fast
- Not chewing food properly
- Eating food that is too dry
- Eating too much food at once
- Eating solid foods too soon after surgery
- Drinking liquids either with meals or right after meals
- Drinking with a straw
- Lying down after a meal

If vomiting occurs in the first few weeks after surgery, stop eating solid foods and sip clear liquids (water, sugar-free drink mixes, broth, decaffeinated tea, etc.) for 24 hours before resuming solid foods.

If vomiting continues for more than 24 hours, contact your surgeon's office.

DEHYDRATION

Dehydration will occur if you do not drink enough fluids. This is particularly important in the first and second weeks after surgery. Symptoms include fatigue, dark-colored urine, dizziness, fainting, nausea, low back pain (a constant dull ache across the back) and a whitish coating on the tongue.

- Dehydration may lead to other complications. Contact your surgeon if you believe you may be dehydrated. In some cases, you will require admittance to the hospital so fluids can be administered. You may need to go to the infusion unit for outpatient intravenous fluid.
- If you have difficulty drinking fluids due to nausea, suck on ice chips.

Mild to moderate dehydration is likely to cause:

- Dry, sticky mouth
- Sleepiness or tiredness
- Thirst
- Decreased urine output
- Few or no tears when crying
- Muscle weakness
- Headache
- Dizziness or light-headedness

Severe dehydration, a medical emergency, can cause:

- Extreme thirst
- Irritability and confusion
- Very dry mouth, skin and mucous membranes
- Lack of sweating
- Little or no urination—any urine produced will be dark yellow or amber
- Sunken eyes
- Shriveled and dry skin that lacks elasticity and doesn't "bounce back" when pinched into a fold
- Low blood pressure
- Rapid heartbeat
- Fever
- In the most serious cases, delirium or unconsciousness

Postoperative Bariatric Surgery Constipation

Constipation is very common after bariatric surgery. After surgery, the use of pain medications and vitamin supplements, decreased fluid intake, higher protein intake and decreased movement may contribute to constipation.



Do not stop vitamins due to constipation.

Ideas to start with:

Hydrating adequately is very important.

Make sure you are staying hydrated with clear fluids. Adequate hydration is consuming 64–80 ounces of clear fluids per day. If you are not able to drink at least 40 ounces of clear fluids in a day, please contact Memorial Wellness Center or your surgeon's office.

Physical activity is essential for regular bowel movements.

- Activity helps move food through the bowel and decreases the amount of water the body absorbs from the stool.
- Aerobic exercise will increase breathing and heart rate to assist with moving the stool out of the bowel quicker.
- The best time for activity is at least an hour after eating.
 - Activity right after eating will redirect blood flow to the heart and muscles instead of the stomach, which can affect comfort and digestion.
- Aim to walk 10–15 minutes several times per day to maintain regular bowel movements.
- Stretching and yoga can also be helpful to assist movement of stool through the bowel.
- Position in the bathroom during a bowel movement can also help.



After bariatric surgery, some patients do not have a bowel movement for three days. If you are unable to have a bowel movement or find yourself struggling to have a bowel movement, medications can help.

Medications to take for constipation postoperatively:

- **Colace (docusate) 100 mg, 1 capsule once to twice a day as needed/or daily.** This medication can be found over the counter. This medication is a stool softener and can be used to help prevent constipation, especially when taking pain medications. This medication is safe to take daily.
- **Milk of magnesia 30–60 mL, once daily as needed.** This medication can be found over the counter. This medication is a laxative and should only be used as needed to treat acute constipation. This medication works best when taken with 8 ounces of sugar-free clear fluids.
 - We recommend using this medication for the first few weeks after surgery only if needed. If you have not had a bowel movement three days after surgery, you can take this medication once daily until you have a bowel movement. If you have taken this medication for two days in a row and have not had a bowel movement, please contact Memorial Wellness Center or your surgeon's office.
- **Miralax 17 grams of powder, once daily as needed.** This medication can be found over the counter. This medication needs to be dissolved in 4–8 ounces of sugar-free clear fluids. This medication is a laxative.
- **Benefiber 2 teaspoons, as needed (up to 3 times daily).** This medication can be found over the counter. Dissolve 2 teaspoons into 4–8 ounces of sugar-free clear fluids. Do not start this medication until you are at least four weeks postoperative. This medication is a plant-based fiber supplement to prevent constipation. This medication is safe to take daily.

If the above doesn't work, try these:

Daily probiotic supplement

Choose a probiotic that has 50% or more of its CFUs from Bifidobacterium.

Change brand or type of iron supplement.

Ask your dietitian for approved forms of iron.

How do I treat...

SNEEZING, RUNNY NOSE, ITCHY/WATERY EYES

You may need an antihistamine.

Oral options include:

- Desloratadine (Clarinet)
- Diphenhydramine (Benadryl, Banophen)
- Cetirizine (Zyrtec, Children's Aller-Tec)
- Fexofenadine (Allegra, Aller-Ease, Wal-Fex Allergy)
- Levocetirizine (Xyzal)
- Loratadine (Claritin, Alavert, AllerClear)

Avoid products that also contain decongestants—these will be delayed-release formulations. Avoid capsules if there is a tablet option. Liquids may be high in sugar or alcohol.

STUFFY NOSE/ CONGESTION

You may need a decongestant.

Oral options include:

- Pseudoephedrine (Sudafed, Contact)
- Phenylephrine (Sudafed PE)
- Coricidin HBP (This is recommended if you have high blood pressure.)

Avoid 12-hour formulations.

Nasal options include:

- Oxymetazoline (Afrin, Neo-Synephrine)
- Phenylephrine (Vicks Sinex).

Do not use for more than three consecutive days.

ACHES, PAINS, FEVER

- Acetaminophen (Tylenol) tablet form only

If fever is 102.2 or greater, seek medical attention.

Consider eye drops for red/itchy/watery eyes.

- Ketotifen (Zaditor, Alaway, Claritin Eye, Zyrtec Itchy Eye)
- Olopatadine (Pataday, Patanol, Pazeo)

You may need a steroid nasal spray.

- Fluticasone (Flonase Allergy, Veramyst)
- Triamcinolone (Nasacort Allergy)

RASH

- Diphenhydramine (Benadryl) use tablet form or cream
- Hydrocortisone topical cream

CHEST CONGESTION

You may need an expectorant.

- Guaifenesin (Mucinex, Robitussin) available in many different dosage forms.

Avoid 12-hour formulations. Liquids may be high in sugar or alcohol; look for sugar-free options.

COUGH

You may need a cough suppressant.

- Dextromethorphan (Robitussin DM, Delsym) available in many different dosage forms.

Avoid 12-hour formulations. Liquids may be high in sugar; look for sugar-free options.

Daily Dose on Vitamins and Minerals

Multivitamin

A multivitamin is recommended during certain stages of life including during weight loss and if experiencing certain disease states.

General health/preoperative guidelines:

- 100–200% Recommended Dietary Intake (RDI)
- Menstruating women: 18 mg iron
- Non-menstruating women: 8 mg iron
- No gummies, energy formulas or extra herbal supplements
- Suggested options: Centrum, One a Day, Nature Made or generics of these brands

Postoperative bariatric surgery:

- Choose multivitamin from either Celebrate or Bariatric Advantage brands.

Calcium

Many people do not consume adequate amounts of calcium in their food. The recommended daily calcium citrate intake is 1000–2000 mg in divided doses. Common food sources include dairy products, dark leafy greens, fortified cereals and soy products. Other forms of calcium that are not recommended include calcium carbonate, Tums and coral calcium, due to the lower absorption content of these forms.

Common reasons for calcium deficiency:

- Low intake of calcium-rich foods
- Surgeries that affect absorption of nutrients
- Low vitamin D levels
- Long-term use of acid-reducing drugs

General health/preoperative guidelines:

- Anyone less than 50 years old: aim for 500 mg twice daily for a total of 1000 mg
- Women older than 50 or pregnant: aim for 600 mg twice daily for a total of 1200–1500 mg

Postoperative bariatric surgery:

- Men: aim for 600 mg twice daily for a total of 1200 mg
- Women: aim for 500 mg three times daily for a total of 1500 mg

Common name brand forms of calcium citrate include Citrical and its generics.

Iron

Iron is a mineral in your body that is important for building red blood cells, carrying oxygen, proper immune system function, detoxification and growth and development. When your iron becomes too low, you may develop iron deficiency/anemia, which means your body does not have enough iron to make blood cells normally. Common foods that are high in iron include meat, beans, nuts and broccoli.

Common reasons for iron deficiency include:

- Long-term use of acid-reducing drugs
- Heavy menstrual cycles
- Limited intake of iron-rich foods
- Bleeding inside your body
- Bariatric surgery

Four tests make up an iron panel:

- Iron: measures iron circulating in your blood stream
- TIBC: searches for extra iron in the body and accessibility of iron stores
- Ferritin: measures iron stored in your liver
- Percent saturation: measures amount of iron bound to red blood cells

Symptoms of iron deficiency may include:

- Shortness of breath
- Feeling dizzy/lightheaded
- Feeling cold
- Headache
- Brittle nails
- Hair loss

If iron deficiency persists, it can increase the risk for developing an infection and heart problems.

Do not take iron and calcium supplements together as they compete for absorption; take them two hours apart. Also, do not take iron with any coffee or tea products.

Vitamin D

Vitamin D is fat-soluble and is found in calcium-rich foods such as milk, yogurt and fatty fish like salmon and tuna. Your skin can also make it after sun exposure. Vitamin D helps the body absorb calcium from food and supplements. Also, it is important for immunity, growth and development.

Common reasons for vitamin D deficiency:

- Excess weight
- Limited exposure to sunlight
- Having a darker skin tone
- Gastrointestinal surgeries
- Kidney disease

Symptoms of vitamin D deficiency may include:

- Muscle tics, twitches or spasms
- Unexplained fractures
- Seizure
- Depression (seasonal affective disorder)
- Loss of balance/increased falling
- Arrhythmia/hypertension
- Fatigue

Thiamine (B1)

Thiamine, also known as B1, is one of eight B vitamins. Thiamine is important because it takes energy from carbohydrates from the food you eat and breaks it down into energy for your brain, nerves and heart. Your body stores very little thiamine, so deficiencies can happen very quickly, especially if you are not eating much or if you are vomiting. Food sources high in thiamine include whole grains, cereals and beans.

Common reasons for thiamine deficiency:

- Persistent vomiting
- Poor dietary intake including high intake of refined carbohydrates and highly processed meats
- Inconsistencies in taking daily multivitamin/minerals

Symptoms of thiamine deficiency may include:

- Loss of appetite
- Fatigue
- Difficulty concentrating
- Weakness
- Sleepiness
- Leg and foot cramping
- Burning feet
- Headache
- Constipation
- Confusion
- Difficulty talking/swallowing

Vitamin B12

Vitamin B12 is water-soluble and one of eight B vitamins. It is important for the function of your nerves and for the production of energy in your cells. B12 also works with folic acid to make red blood cells. It is common for people with a B12 deficiency to develop anemia. B12 is commonly found in animal products such as meat and eggs.

Common reasons for B12 deficiency:

- Prolonged use of Metformin
- Bariatric surgery or other procedures that effect absorption
- Long-term use of acid-reducing drugs
- Heavy alcohol use
- Vegetarian or vegan diet
- Conditions affecting the small intestine like Crohn's or celiac disease

Symptoms of B12 deficiency may include:

- Fatigue
- Dizziness or heart palpitations
- Shortness of breath
- Numbness and tingling of hands and feet
- Sore/swollen tongue
- Poor appetite
- Memory issues/neurological issues

Zinc

Zinc is a mineral involved in numerous body functions including immune function, digestion, growth, development, skin and hair health and wound healing. Because zinc affects so many systems, there is no single distinct symptom of deficiency. Good sources of zinc include red meat, nuts, beans and oysters.

Common reasons for zinc deficiency:

- Inconsistency with multivitamin supplementation
- Persistent diarrhea
- Vegetarian or vegan diet
- Taking large doses of iron or copper for prolonged periods of time

Signs of zinc deficiency may include:

- Diminished smell and taste
- Poor wound healing
- Hair loss
- Roughness of skin/rashes
- Low libido
- Canker sores
- Deformed nails

Copper

Copper is a mineral involved in the production of red blood cells and keeping the immune system healthy. It is primarily absorbed in the stomach. Good sources of copper include chocolate, organ meats, nuts and beans.

Symptoms of copper deficiency may include:

- Low body temperature
- Bone fractures
- Low white blood cell count
- Irregular heartbeat
- Loss of pigment in skin
- Thyroid problems
- Poor response to iron repletion
- Zinc deficiency
- Numbness/tingling in lower extremities

NOTE:

Existing zinc and copper deficiencies can contribute to ineffective iron repletion or lowering iron levels. Repletion of these two minerals should be accomplished under the supervision of a healthcare professional as excess amounts can mineralize in the liver and cause toxic levels.

Reasons for deficiency include:

- Interactions with zinc, calcium and iron supplements
- Low vitamin A levels
- Surgeries causing malabsorption
- Intestinal diseases such as Crohn's or celiac sprue
- Kidney disease

Multivitamin: _____

Calcium: _____

Iron: _____

B12: _____

Other: _____

Other: _____

TIME OF DAY	VITAMIN/MINERAL
5 a.m.	
6 a.m.	
7 a.m.	
8 a.m.	
9 a.m.	
10 a.m.	
11 a.m.	
12 p.m.	
1 p.m.	
2 p.m.	
3 p.m.	
4 p.m.	
5 p.m.	
6 p.m.	
7 p.m.	
8 p.m.	
9 p.m.	
10 p.m.	
11 p.m.	

Daily protein needs (in grams): _____ Grams of protein/day: _____

Daily fiber needs (in grams): _____ Daily calorie needs: _____

COMMONLY REPORTED PSYCHOSOCIAL CONCERNS AFTER BARIATRIC SURGERY	WEEKS 1-4	MONTHS 1-3	MONTHS 3-6	MONTHS 6-12	MONTHS 12+
Pain from surgery	✓				
Regret —"Why did I do this to myself?"	✓	✓			
Fatigue	✓	✓			
Medication malabsorption —symptoms of depression or anxiety return, discontinuation symptoms (see handout on Discontinuation Syndrome)	✓	✓			
Boredom with bariatric diet —not much variety in the pre-op diet and first month post-op	✓	✓			
Time management —difficulty prioritizing vitamins, fluids, meals, appointments when returning to work	✓	✓			
Food grief/loss —experiencing a sense of loss or sadness about food you are no longer able to eat or cannot eat at this time, not being able to turn to food for comfort	✓	✓	✓		
A feeling of disappointment when "everything will be okay after surgery" doesn't happen	✓	✓	✓		
Too much exercise and not enough calorie intake	✓	✓	✓		
Social gatherings with food - ambivalence or resistance from others to adjust to your new dietary needs	✓	✓	✓	✓	✓
Increased attention from others - others making comments about your weight loss, asking about your weight loss, asking about surgery, others making insensitive remarks	✓	✓	✓	✓	✓
Depression - sadness, tearfulness, worthlessness, hopelessness, loss of motivation, loss of pleasure, irritability	✓	✓	✓	✓	✓
Anxiety - jitteriness, irritability, agitation, worry, obsessive thoughts, difficulty sleeping, "pit" in your stomach	✓	✓	✓	✓	✓
Distorted self-image - not seeing weight loss when looking in the mirror or not "feeling" like you are losing weight		✓	✓	✓	✓
"Testing the waters" with alcohol, caffeine, unhealthy food choices			✓	✓	✓

Timeline for Food Reintroduction after Surgery

	DESCRIPTION	TYPICAL FOODS TO INCLUDE:
Bari Liquid DAY 0-6	Sugar-free, carbonation-free, caffeine-free, alcohol-free fluids and the select soft foods as listed	<ul style="list-style-type: none"> <input type="radio"/> Broth <input type="radio"/> Sugar-free pudding <input type="radio"/> Light yogurt <input type="radio"/> Oatmeal <input type="radio"/> Cream of wheat <input type="radio"/> Grits <input type="radio"/> Low-fat cream soups <input type="radio"/> Popsicles <input type="radio"/> Sugar-free gelatin <input type="radio"/> Protein shakes <input type="radio"/> Milk <input type="radio"/> Water <input type="radio"/> Decaf tea or coffee
Bari Soft WEEK 2	Foods that can be squished with a fork. Once tolerating food, start vitamins.	<ul style="list-style-type: none"> <input type="radio"/> Minced chicken or fish <input type="radio"/> Cooked starchy and non-starchy vegetables <input type="radio"/> Canned and peeled soft fruits <input type="radio"/> Deli meats <input type="radio"/> Ground meats <input type="radio"/> Soft protein bars <input type="radio"/> Avoid nuts and seeds.
Bari Solids WEEK 3	Foods that are firmer in texture than the previous stage; requires significant chewing.	<ul style="list-style-type: none"> <input type="radio"/> Raw vegetables <input type="radio"/> Solid cuts of poultry or meat <input type="radio"/> Healthy fats <input type="radio"/> Continue to avoid nuts and seeds.
Bari Balanced Plate WEEK 4	No restriction on texture.	Follow up post-op balanced plate.  <p>Continue mindful eating principles (<i>chew well, eat slowly, small bites</i>).</p>

If you do not tolerate your diet advancement, go back to the previous stage and try again in a few days.

Bari Soft

Foods that can be squished with a fork. Once tolerating food, start vitamins.

Time Interval: Week 2

(Typically after first post-op visit with surgeon/Bari 500)

- Amount per meal: no more than $\frac{1}{4}$ cup. Note: $\frac{1}{4}$ cup is equal to 4 tablespoons.
- You may be able to only tolerate a few tablespoons at each meal initially.

REMEMBER:

- Introduce one new food at a time.
- Avoid introducing multiple textures at a time.
- Take small bites, the size of a pencil eraser, and chew thoroughly.
- Avoid drinking fluids with meals/snacks.
- Take your time while eating, 20–30 minute meal times are recommended.
- Wait 30 minutes after a meal before drinking.
 - Do not drink fluids with your meals.
 - Stop drinking 15 minutes before a meal.
- Amount per meal: no more than $\frac{1}{4}$ cup.
 - Note: $\frac{1}{4}$ cup is equal to 4 tablespoons.
- You may be able to only tolerate a few tablespoons at each meal initially.
- A high-protein diet is crucial, especially the first few weeks and months after surgery.
 - Aids in wound healing
 - Essential for maintaining muscle during weight loss
- The amount of protein you need depends on your lean body mass and your goal will be personalized for you by your dietitian.
- Drink protein shakes between your meals as your “scheduled snacks” to assist you in meeting your calorie and protein needs.

Good Choices to Start:

- Ground turkey moistened with tomato sauce (90 percent or leaner; without skin)
- Ground chicken moistened with tomato sauce (without skin)
- Baked fish (such as salmon, tuna, tilapia or cod)
- Lean deli meats (such as deli turkey or chicken)
- Lean or extra-lean ground beef, venison or bison with tomato sauce (90 percent or leaner)
- Textured soy proteins (such as Boca crumbles or soy sausage)

SOURCES OF PROTEIN

High-Protein Choices:

- Egg or egg substitute
- Minced/chopped skinless chicken or fish
- Tuna fish (*water-packed only*)
- Deli meats
- Ground meats
- Tofu
- Cottage cheese (*low-fat/fat-free*)
- Light yogurt, Greek yogurt or Kefir
- No fruit or seeds
- Cheese (*low-fat/fat-free*)
- Cooked beans, bean soups (*black, cannellini, fava, garbanzo, lima, navy, pinto, red, chickpeas, lentils*)

Low-Protein Choices for Variety:

- Hot cereal, such as oatmeal or Cream of Wheat
- Cooked starchy and non-starchy vegetables
- Canned and peeled soft fruits
- Sugar-free, fat-free pudding
- Unsweetened applesauce (*Splenda-sweetened is acceptable*)
- Thin slice of whole grain toast with crust removed (*i.e., Healthy Life bread toasted, sandwich thin, whole grain tortilla toasted*)
- Whole grain cracker (*i.e., Wheat Thins, Kashi, Wasa, Triscuits*)

Cooked Vegetables and Fruits

- Reintroduce soft, well-cooked vegetables into your diet and soft and/or well-peeled fruits.
- Try one new vegetable/fruit per day to assist in identification of food intolerance.
- Begin with 1 tablespoon and gradually increase to 2 tablespoons at one or two meals per day.

Good Choices to Start:

- Steamed carrots
- Steamed green beans
- Cooked peas
- Soft, ripe bananas
- Low-sodium tomato sauce
- Canned peaches (*packed in own juice; rinsed and drained*)
- Canned pears (*packed in own juice; rinsed and drained*)
- Cooked sweet potato (*without skin*)
- Canned mandarin oranges (*drained*)
- Salsa

Tips

- Start with above vegetables and fruits to establish tolerance. Once tolerance is established, try more cooked cruciferous vegetables (*like broccoli and cauliflower*).
- Always consume protein foods first.
- Avoid trying a new fruit and new vegetable at the same meal.
- Be creative. Add additional seasonings/spices as desired (*i.e., pepper, sugar-free flavored syrups, sugar substitutes, cinnamon, dried or fresh herbs, garlic/onion powders, etc.*).
- If gas occurs with cruciferous vegetables, you can try Beano to assist in tolerance.

Breakfast Ideas

High-Protein Oatmeal or Cream of Wheat

Make ¼ cup of oatmeal (according to the directions on the package), mix in 1 to 2 tablespoons of vanilla or unflavored protein powder.

Note: you can add sugar-free coffee syrups, PB2 (powdered peanut butter) or Splenda and cinnamon to flavor the oatmeal.

Cream of Wheat

Protein: 10 grams | Calories: 70

Eggtastic Omelet

Make an omelet with one egg and 1 tablespoon of 2 percent reduced-fat cheese of your choice.

With whole egg - Protein: 11 grams | Calories: 125

With Egg Beaters - Protein: 9 grams | Calories: 65

Eggtastic Eggs

Scramble an egg or cup of Egg Beaters. Add one wedge of flavored Laughing Cow cheese to add additional moisture.

Note: try scrambling eggs in microwave for softer, more moist scrambled eggs.

With whole egg - Protein: 9 grams | Calories: 135

With Egg Beaters - Protein: 7 grams | Calories: 65

Cottage Cheese and Fruit

Mix 2 tablespoons of sugar-free applesauce with 3 tablespoons of cottage cheese.

Protein: 6 grams | Calories: 60

Greek Yogurt Cream Cheese

Line a colander with a dish towel and place it over a bowl. Spoon Greek yogurt into the towel and fold the towel over the top. Let drain overnight.

In the morning, it will be cream cheese that can be flavored with Stevia, fruit, chives or spices.

Lunch and Dinner Ideas

Crackers and Cheese

One slice of 2 percent cheese and four Wheat Thins. *Note: try different flavors and varieties of cheese and Wheat Thins to add variety.*

Protein: 4 grams | Calories: 95

High-Protein Tuna/Chicken Salad

Combine 2 or 3 tablespoons of low-fat Greek yogurt, one can of tuna or chicken and onion powder, garlic powder, salt and pepper to taste.

Protein: 15 grams | Calories: 115 per ¼ cup serving

High-Protein Egg Salad

Combine four large hard-boiled eggs (cooled and shelled), ½ cup mayonnaise, a cup of fat-free plain yogurt and salt and pepper to taste.

Note: you can add pickle juice or other spices to season. Remember to chop eggs into tiny pieces to avoid frothing.

Protein: 8 grams | Calories: 130 per ¼ cup serving

Tiny Tuna Melt

Toast one piece of Healthy Life bread. Trim crust off and cut bread into four pieces.

Make high-protein tuna salad. Place 1 to 2 tablespoons of tuna salad on ¼ piece of toast, top with slice of 2 percent cheese and top with another ¼ piece of toast.

Hummus Among Us

Place two 15.5 ounce cans of garbanzo beans, rinsed and drained, and two crushed garlic cloves in a food processor. Pulse five times or until chopped. Add cup of water, ¼ cup tahini, 3 tablespoons of fresh lemon juice, 2 tablespoons of extra virgin olive oil, ½ teaspoons of salt and 1 teaspoon of black pepper. Pulse until smooth, scraping down the sides as needed. Refrigerate for at least one day after preparing. Let stand at room temperature for 30 minutes prior to serving.

Protein: 1.5 grams

Calories: 44 per 2 tablespoon serving

For an added protein punch, add 1 tablespoon of Greek yogurt to 2 tablespoons of hummus for an added creamy texture and 3 grams of protein. Or add 1 tablespoon of non-flavored or chicken-soup-flavored protein powder to add an additional 6 grams of protein.

			CALORIES	PROTEIN
DAY 1	Breakfast	¼ cup high-protein oatmeal	70	10
	Snack	1 protein shake with 8 oz milk*	200	30
	Lunch	3 tbsp cottage cheese with 4 Wheat Thins	65	6
	Snack	1 protein shake with 12 oz milk*	245	34
	Dinner	¼ cup high-protein egg salad ¼ piece of whole grain toast	140	8
	Snack	1 cup milk*	90	8
	TOTAL			810
DAY 2	Breakfast	1 egg omelet with 1 tbsp cheese	125	11
	Snack	1 protein shake with 8 oz milk*	200	30
	Lunch	Tiny tuna melt	110	11
	Snack	1 protein shake with 8 oz milk*	200	30
	Dinner	3 tbsp high-protein hummus with 4 melba crackers	90	7
	Snack	1 sugar-free hot chocolate made with 6 oz milk*	90	8
	TOTAL			815
DAY 3	Breakfast	Light and Fit Greek yogurt	80	12
	Snack	1 protein shake with 12 oz milk*	245	34
	Lunch	1 2% cheese stick and 4 whole grain crackers	105	6
	Snack	1 protein shake with 12 oz milk*	245	34
	Dinner	¼ cup bean soup with 1 tbsp unflavored protein added	100	9
	Snack	2 tbsp no-added-sugar applesauce	30	0
	TOTAL			805

*Skim milk or fat-free/low-fat lactose-free milk

Exercise

- For exercise at 1–2 weeks post-op, you may begin to exercise up to 15 minutes per session, 2 times a day, slow and easy, not in target heart zone, do not get short of breath and do not sweat.
- If you have to breathe through your mouth to keep up with exercise, you need to slow down. If you are walking and talking, you are more than likely breathing through your mouth, which can cause intense gas pain. Keep your speed slow. You should not be sweating, feel weak or unsteady after exercise.
- Listen to your body. Your body can tell you more than anyone can. If you are extremely fatigued, decrease the duration of your next walk and try to take a longer walk later. Don't skip activity. You will just need to adjust your duration of activity.
- Remember the risk of developing a blood clot is increased for three months after surgery, so we discourage airplane travel.



Bari Solids

Foods that are firmer in texture and require significant chewing.
(Solid Meats, Raw Vegetables, Healthy Fats)

Time Interval: 3 weeks post-op

- Reintroduce raw vegetables and solid meats into your diet.
- Begin with 1 to 2 tablespoons.
- Avoid dry meats/protein sources.
- Try only one new type of meat/textured protein source per day.
- Do not introduce any new vegetables/fruits in the same meal you are trying a new meat/textured protein source.
- Use moist cooking methods such as baking, poaching, stewing, steaming or slow cooking. Avoid grilling, pan sautéing or other dry cooking methods.
- Small bites (approximately the size of a pencil eraser) are key.
- Chew food 20 to 30 times, to an applesauce consistency, before swallowing.

Meat Preparation Tips

- Pound thick cuts to ½ inch thick.
- Use meat tenderizer when preparing lean animal proteins to assist with tolerance.
- Cook meats/textured proteins in low-fat cream soups, tomato sauces or broths.
- Do not overcook meat/textured protein sources.
- Tent baking pan with foil to maintain moisture.

Weeks 3–4 Postsurgery

- Log your fluid, protein and caloric intake. If your energy level allows, take a 20-minute walk twice a day. If you cannot tolerate taking a 20-minute walk twice a day, you will want to continue taking short walks 3–4 times a day. You should be walking fast enough to breathe deeply, but not gasping for air. You do not need to push for speed.
- At 4–6 weeks post-op, the ultimate goal would be for you to take a slightly faster-paced walk or moderate bike ride for 30 minutes daily. You are not exercising to promote weight loss because you need to allow your body time to heal. You are exercising for blood flow. There will be plenty of time to progress your exercise later.
- If you are dehydrated, your weight loss will be slower and your body will be working harder to function, making you fatigued. Keep up with your fluid intake.
- Remember, your metabolism will be at its best with consistent exercise and optimal nutrition.
- No lifting more than 10 pounds or as doctor directed.
- A slow recumbent bike speed is about equal to low-level walking in terms of intensity, so you may substitute a slow bike ride if preferred to walking.



Bari Balanced Plate

No restrictions on texture

Time Interval: Week 4

- Lean protein should make up the top half of the plate
- Bottom ¼ is non-starchy vegetables
- Bottom ¼ whole grains/starchy vegetables/fruit

Fiber

- Fiber also slows digestion and is more work for the gut. High-fiber foods can be more difficult to tolerate in the early postoperative period.
- Fiber is an essential part of a healthful diet and weight maintenance.
- At this point, you can begin incorporating more high-fiber foods back into your diet. Use the “Plate Model” as your guide for balance, just as you did preoperatively. Only now, the plate is on a smaller scale.

Good Choices:

- Whole grains: Low-sugar cold cereals, whole wheat pasta (*such as Smart Taste*), whole grain flat bread (*such as Flatouts*), whole grain crackers
- Beans
- Legumes
- Nuts, seeds
- Lentils
- Raw fruits: Peels and/or seeds removed if needed
- Chia seeds, flax seeds
- Raw vegetables: Peels removed if needed; introduce cruciferous vegetables (*such as cabbage, cauliflower, broccoli*) last

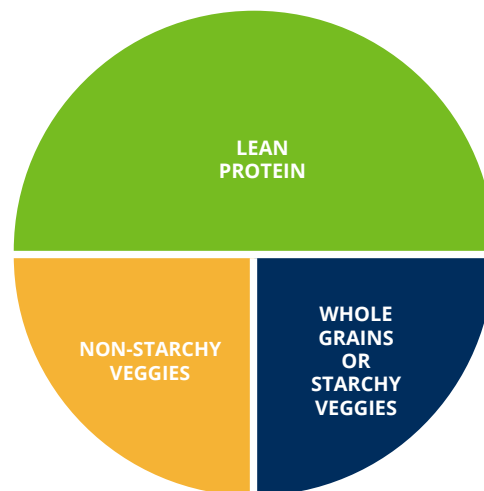
Healthy Fats

At this point, you may begin to reintroduce healthy fats into your diet. Fat is slower to empty from the stomach, and high-fat foods can sometimes cause nausea in the early postoperative period. May better tolerate if servings are spaced throughout the day.

- Aim for a total of less than 35 grams of fat/day.
- Choose mono- and polyunsaturated fats and avoid saturated and/or trans fats.
- Start with 1 to 2 teaspoons per day.

Good Choices:

- Peanut butter and/or nut butters (*smooth*)
- Avocado
- Olive oil
- Canola oil
- Peanut oil
- Flax seed oil
- Olive oil based salad dressings



MEAL TOTAL BY TIME FRAME

- 1 month: approximately ¼ cup
- 3–6 months: approximately ½ cup
- 6–12 months: approximately 1 cup
- 12–18 months: approximately 1–1½ cup

¼ CUP TOTAL =

- 2 tbsp protein
- 1 tbsp non-starchy vegetables
- 1 tbsp grains/starches/fruit

½ CUP =

- ¼ cup protein
- 2 tbsp non-starchy vegetables
- 2 tbsp grains/starches/fruit

Be Aware of Common Problem Foods/Textures:

- Dry meats
- Greasy foods
- Hard-boiled eggs
- Rice
- Fibrous vegetables
- Celery
- Asparagus
- Nuts
- Coconut
- Seeds and skins of fruits or vegetables
- Membranes from citrus fruits
- Corn
- Dried fruit
- Untoasted bread or doughy bread

Don't Forget:

- Maintain your meal structure.
- Eat protein foods first.
- Eat slowly and take small bites.
- Use a teaspoon, toothpick or baby fork to assist in small bites.
- Chew food (approximately 20 to 30 times) until it is of pureed consistency.
- Stop eating or drinking with the first sensation of satiety.
- Protein supplements will be used initially as your scheduled snacks.
- Take your vitamin or mineral supplements as directed by your surgeon or dietitian.
- Do not drink fluids with meals. Wait 15 minutes before and 30 minutes after eating to drink.
- Drink acceptable/hydrating fluids between meals. Aim for one to two cups per hour.
- Make each bite count. Fill your pouch with quality foods high in nutrients (such as turkey bacon instead of high-fat pork bacon) or lower-fat protein food sources.
- Log your intake, now and always!

Troubleshooting

If nausea or vomiting occurs, particularly after a food is reintroduced, go back one step on your diet for the next 24 hours.

PAY ATTENTION TO:

- Fluid needs—"Am I meeting my fluid goal?"
- Eating slowly—"Did I eat too quickly?"
- Chewing foods thoroughly—"Was my food chewed down to applesauce consistency before I swallowed?"

If nausea or vomiting persists, call your surgeon.

Weeks 5–6 Postsurgery

- Attend follow-up appointment with physical therapist. Wear appropriate footwear to appointment. Be prepared to exercise.
- Exercise will be adjusted according to nutritional intake, energy levels and weight-loss parameters.
- Daily exercise program will be progressed. You will be working harder with exercise now that you are healed.
- Strengthening exercises may be added to cardiovascular/walking program.
- Lifting restrictions are usually removed, per surgeon approval.
- At this point after surgery, an individualized exercise program will be designed for you. No two exercise programs are the same.



Success after Surgery

Losing and maintaining weight can be challenging. Research has shown us certain principles can help you be successful. Colleen Cook describes these in more detail in her book, “The Success Habits of Weight-Loss Surgery Patients.” Here are some of those principles so you can continue to monitor your progress.

Personal Accountability

- Weigh yourself. Weighing yourself once a week is ideal: more often becomes a little obsessive; less often makes it too easy to slip!
- Keep a food diary. The best way to know how much you are consuming is to log your food. If you are not able to do this every day, then try to at least three to four times a week.

Portion Control

One of the main goals of bariatric surgery is to drastically reduce the size of the stomach so that you can feel full on a smaller amount of food. Yet some people who have had weight-loss surgery still find ways to regain their lost weight. This is done in three main ways: eating until totally stuffed, thereby stretching and enlarging the small stomach; eating nothing but high-calorie, high-fat foods; and grazing/snacking. Steps must be taken to ensure the preservation of that built-in portion control mechanism bariatric surgery patients have.

- Know how big (or small) your new stomach is and how much food it can hold. Measure and weigh your foods to ensure you meet your nutrition goals and don't overstuff your pouch.
- Eat slowly enough to recognize the feeling of fullness, and stop eating when full. Try to make each meal last 20 minutes. Put your fork down between bites, and chew your foods thoroughly.
- Aim for satiety. Satiety is the feeling of being full and satisfied after eating.

Nutrition

- Schedule meals and snacks.
- Eat nutrient-dense foods. Make every bite count! Foods that are nutrient-dense include lean meats, poultry and fish, low-fat dairy products, fruits and vegetables, and high-fiber breads and cereals. Read Nutrition Facts panels to find foods that will give you more bang for your buck nutritionally.
- Ensure adequate protein intake. Adequate protein intake is critical for weight-loss surgery patients. There should be at least 2 ounces of a high-protein food at all three meals every day, and the high-protein portion of the meal should be eaten first before moving on to any other kinds of food.
- Eat breakfast. This will help you to choose lower-calorie foods throughout the rest of the day.
- Avoid carbonation, caffeine, alcohol and high-sugar beverages.
- Adequate fluids—make them a priority! Water helps maintain proper muscle tone, prevents dehydration, improves skin and hair and removes excess toxins from the body. It increases our energy level, suppresses our appetite and helps to maintain our body weight.

Physical Activity

Physical activity is a critical component in the ability to maintain significant weight loss. Research demonstrates consistent correlations between physical activity, self-monitoring behaviors and maintenance of weight loss. People who exercise, weigh themselves regularly and keep track of what they eat tend to maintain their weight loss.

Vitamin and Mineral Supplements

Weight-loss surgery success is not only measured by weight and body composition changes but by good nutritional health. Commit to making your post-op vitamin and mineral supplementation a top priority. Post-op supplementation ensures all of your vitamin/mineral needs will be met after surgery, as well as aid with an efficient metabolism.



Challenges after Surgery

In this section, we are going to address some challenges that you might have faced or are currently facing and how to address them so you can be healthy—both mentally and physically.

While most patients report positive changes in their lives after having bariatric surgery, there are also some negative experiences that may happen with dramatic weight loss. Some of the most commonly reported challenges are:

Loose Skin.

With weight gain, the skin stretches to accommodate underlying excess muscle and fat. After weight loss, skin tries to recoil or bounce back. The amount of skin bounce-back essentially determines how much loose skin you will have. There are multiple factors that determine if your skin will be able to tighten up, including the age and elasticity of the skin. The age of the skin is complicated by increased risk factors such as smoking, sun damage, malnutrition, poor vitamin intake and genetics. Some patients choose to have reconstructive surgery while others do not.

Still Feeling “Big.”

Even after losing a significant amount of weight, some patients feel the same size as before. This can be for several reasons, including losing weight so rapidly that your mind hasn't been able to catch up with your body. If you struggled with weight your entire life, it might take a little longer for you to accept the thinner you. Give yourself some time. If you notice these thoughts are impacting your decisions to eat, exercise or socialize with others, please contact us immediately.

Change in Relationships.

Dramatic weight loss is not only going to affect you, it will also impact the relationships you have with others. Spouses, children, parents, friends, siblings and co-workers—even the relationship you have with yourself. This change does not have to be negative; however, preparing for it is important. Make sure you are communicating your needs and feelings with others if you start to notice changes.

Switch Addiction.

For some, food was calming. It was used to celebrate and commiserate. After bariatric surgery, you may still want to do these things, so how are you going to handle it? Make sure you have healthy ways to cope with your emotions. If you feel there is a behavior that has started taking control over you, please contact our office immediately.

Possible Long-Term Complications

Absence of Menstrual Periods

Irregular periods are very common in women experiencing rapid weight loss. Less frequent and lighter periods are most common, but in some it is also common to have a heavy period. You may need extra iron supplementation to accommodate for the blood lost.

Pregnancy

Women of childbearing years should have a birth control plan in place before surgery. We recommend you avoid pregnancy for at least 12 months after any bariatric surgery. Your focus needs to be on healthy weight loss, and pregnancy will certainly complicate your weight-loss results. You will also be at greater risk of nutritional problems during pregnancy. Oral contraceptives are NOT recommended in women who have had bariatric surgery (due to decreased absorption by the intestine). Women will want to have a thorough discussion with their physician about which birth control method is best for them. If you become concerned that you are pregnant, it is imperative you receive a urine pregnancy test as soon as you are suspicious. If you do become pregnant, you must call your surgeon's office right away. We will refer you to the program dietitian and also collaborate with your family practice physician or OB/GYN to ensure proper prenatal care.

Transient Hair Loss/Skin Changes

Hair loss is expected after rapid weight loss and is temporary. Your body is going through tremendous change and hair loss or hair thinning is a frequent effect of the stress that occurs with the body. For some, skin texture and appearance may change. It is not uncommon for patients to develop acne or dry skin after surgery. Minimize changes to your hair and skin by taking your multivitamins daily and making sure you consume the recommended amount of protein per day.

Gallstones

The development of gallstones is related to the rapid and significant amount of weight loss and therefore is highest in the first six months after surgery. Gallstones are not a complication of surgery, but rather a complication of rapid weight loss. Obese persons have a very high rate of gallstone formation compared to normal weight persons. By age 50, nearly 50 percent of morbidly obese women have developed gallstones.

Bowel Obstruction

This complication involves a blockage caused by postoperative swelling, adhesions (scar tissue) or twisting affecting the intestine. This can occur after any abdominal surgery. This condition requires emergency surgery. Signs of a bowel obstruction may include dehydration, vomiting, abdominal pain, fever and absence of bowel movement; however, in the case of a partial bowel obstruction diarrhea may result.

Peptic Ulcer

Any type of stomach surgery leaves one more susceptible to the development of an acid-peptic ulcer. Tobacco smoking, aspirin and non-steroidal anti-inflammatory drugs (NSAIDS) and alcohol increases the risk of a peptic ulcer. All bariatric patients are instructed to avoid aspirin, NSAIDS (ibuprophen, Advil, Motrin, naproxen sodium, Aleve) for life after surgery. Former smokers must not resume smoking after surgery as their risks increase dramatically.

Stenosis/Outlet Obstruction

Postoperative swelling or chunks of food can lead to a blockage of the opening between stomach and intestine. Symptoms may include pain and vomiting of undigested food. If untreated, nutritional problems can result. Diagnosis is usually done with endoscopy. Treatment may be done with an endoscopic procedure.

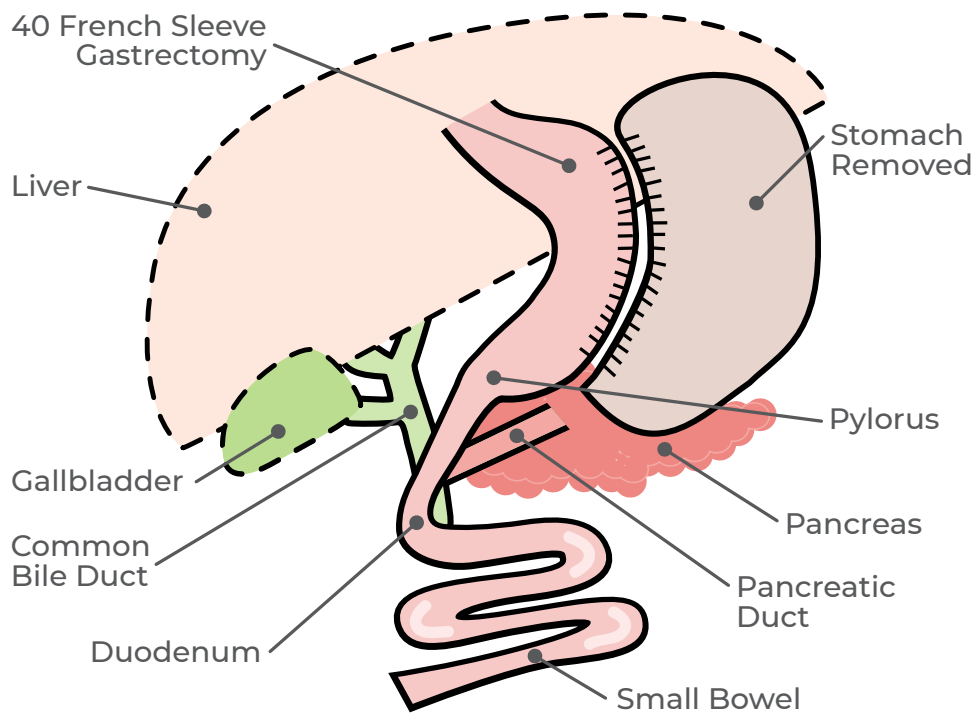
Vitamin and Mineral Deficiency

Follow-up monitoring by your surgeon, physician and dietitian is critical to prevent and treat vitamin and mineral deficiencies. These can be very subtle at first.

Approximately 11 percent of bypass patients experience some form of vitamin deficiency, with close to 50 percent experiencing a mineral deficiency. These sorts of deficiencies may not emerge or may not become symptomatic until months, even years after surgery. For that reason, lifelong nutrition monitoring and lifelong vitamin and mineral supplementing is critical.

Excess Skin

After rapid, substantial weight loss, patients may experience problems with excess skin. Skin irritation, even infection can result. Removal of excess skin (plastic surgery) is often desired by patients.



LAPAROSCOPIC VERTICAL SLEEVE GASTRECTOMY

Restrictive/Neurotransmitter Reduction

- The sleeve gastrectomy is a restrictive procedure.
- The stomach is restricted by stapling and dividing it vertically. The portion of the stomach that receives food 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 (pylorus) remain intact, thereby preserving the functions of the stomach while drastically reducing the volume. The small intestine remains intact. Therefore, there is no dumping or malabsorption.
- The vertical sleeve gastrectomy is sometimes used as the first step in a two-staged procedure for very high-risk patients. The sleeve gastrectomy is performed first and, after several months of significant weight loss (thereby reducing risk), a second bariatric procedure (such as duodenal switch or Roux-en-Y sleeve gastrectomy) can be performed.
- Typical hospital stay after the vertical sleeve gastrectomy is one day.
- As with any bariatric procedure, follow-up care is critical to long-term, safe weight loss. Postsurgery appointments with the bariatric team will be needed to monitor healing and progress.

Laparoscopic Vertical Sleeve Gastrectomy

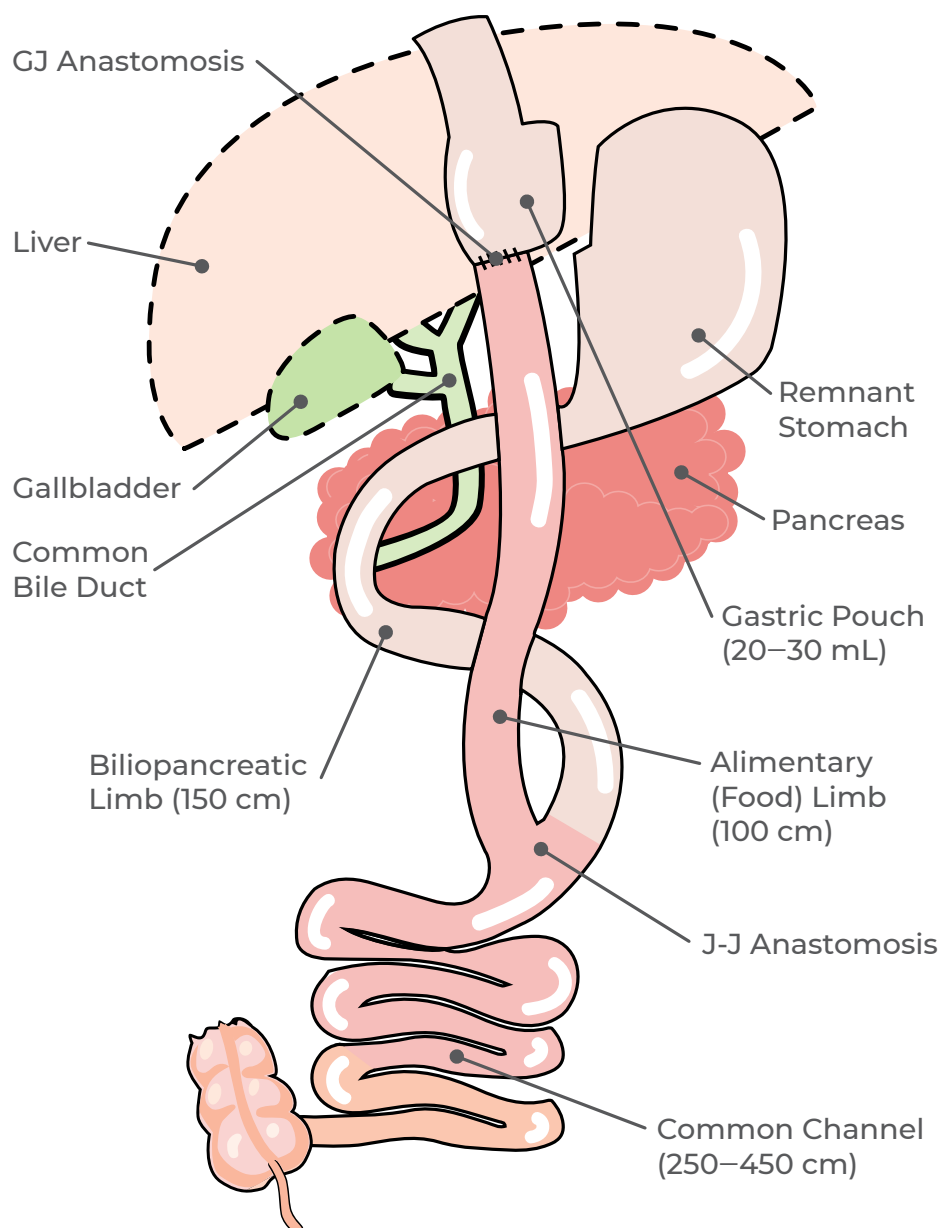
BENEFITS

- It does not require the implantation of a foreign body such as a gastric band.
- The procedure mechanically decreases the size of the stomach but also decreases the secretion of the hormone ghrelin, which results in the feeling of satiety (fullness) sooner.
- The procedure offers the benefit of initially decreasing the body weight in the severely obese patient to prepare the patient for a staged procedure or other surgery at a later time.
- It can offer significant and sustained weight loss, similar to the gastric bypass.
- Patients experience no dumping syndrome or malabsorption.
- The procedure can also improve weight-related comorbid conditions.
- Vertical sleeve gastrectomy is less invasive compared to the gastric bypass or duodenal switch and it is technically easier to perform the vertical sleeve gastrectomy. There are no anastomosis (sewing/connecting of two parts).

RISKS

- Limited long-term data showing durability.
- Blood clots affecting the legs are more common in overweight patients and carry the risk of breaking off and being carried to the lungs as a pulmonary embolus. This is the reason we follow a standardized clinical pathway to help prevent blood clots, including having patients quit smoking and remain smoke-free for at least three months, early ambulation after surgery, use of compression boots during the procedure and hospital stay, use of a blood thinner after surgery and anti-embolic exercises.
- There are the complications to which any obese patient having surgery is prone, including degrees of lung collapse (atelectasis) which occur because it is hard for the patient to breathe deeply when in pain. In consequence, a great deal of attention is paid in the postoperative period to encourage deep breathing, use of an incentive spirometer and patient activity to try to minimize the problem.
- Your age can increase your risk from surgery, as well as excess weight. Certain diseases can increase your risk from surgery. There are also risks that come with the medications and the methods used in the surgical procedure.

Because there is a large staple line, there is a risk of developing a leak or bleeding at this site. Excessive bleeding could result in the need for blood transfusion.



GASTRIC BYPASS (ROUX-EN-Y)

- The procedure involves surgically separating the stomach into two sections using parallel rows of titanium staples.
- The small upper segment of the stomach, which connects to the esophagus, continues to receive food much as it did prior to surgery, while the lower portion, or “remnant stomach,” no longer comes in contact with food.
- A portion of the small intestine is disconnected, allowing the surgeon to reroute food directly from the newly created small stomach pouch directly into the remaining intestine for digestion.
- Gastric bypass is typically performed laparoscopically and requires a hospital stay of one to two days followed by two to four weeks of restricted activity.
- Follow-up care is an important component and several postsurgery appointments will be needed to monitor healing and progress.

Laparoscopic Gastric Bypass

It is important you understand the benefits as well as the risks associated with the procedure you choose. We encourage you to discuss your questions and/or concerns with your bariatric team.

Benefits

- Most patients lose weight rapidly and continue to lose for 18 to 24 months postoperatively.
- Can offer significant and sustained weight loss.
- Offers restriction and malabsorption to aid in weight loss.
- Overall weight loss tends to be greater compared to restrictive procedures such as the sleeve gastrectomy or laparoscopic adjustable gastric banding procedure. On average, patients achieve an average of 60–75 percent excess weight loss (EWL).
- Improves or eliminates most obesity-related conditions such as type 2 diabetes, sleep apnea, hypertension and gastroesophageal reflux disease.
- Blood sugar levels for most patients with type 2 diabetes can improve nearly immediately after surgery and may normalize within a year after surgery.
- Currently the gold standard for bariatric procedures with long-term experience and outcome data.
- It may be more difficult to “cheat” due to dumping syndrome. This occurs when high-sugar foods are eaten. The undigested, high-sugar food contents of the stomach are emptied, or “dumped,” into your small intestine too rapidly. Common symptoms include abdominal cramps, sweating, fast heart rate and nausea, which are negative reminders when eating foods high in sugar.

Possible Risks

The complications of gastric bypass are typically noted in two phases: those which occur shortly after surgery and those which take a longer time to develop.

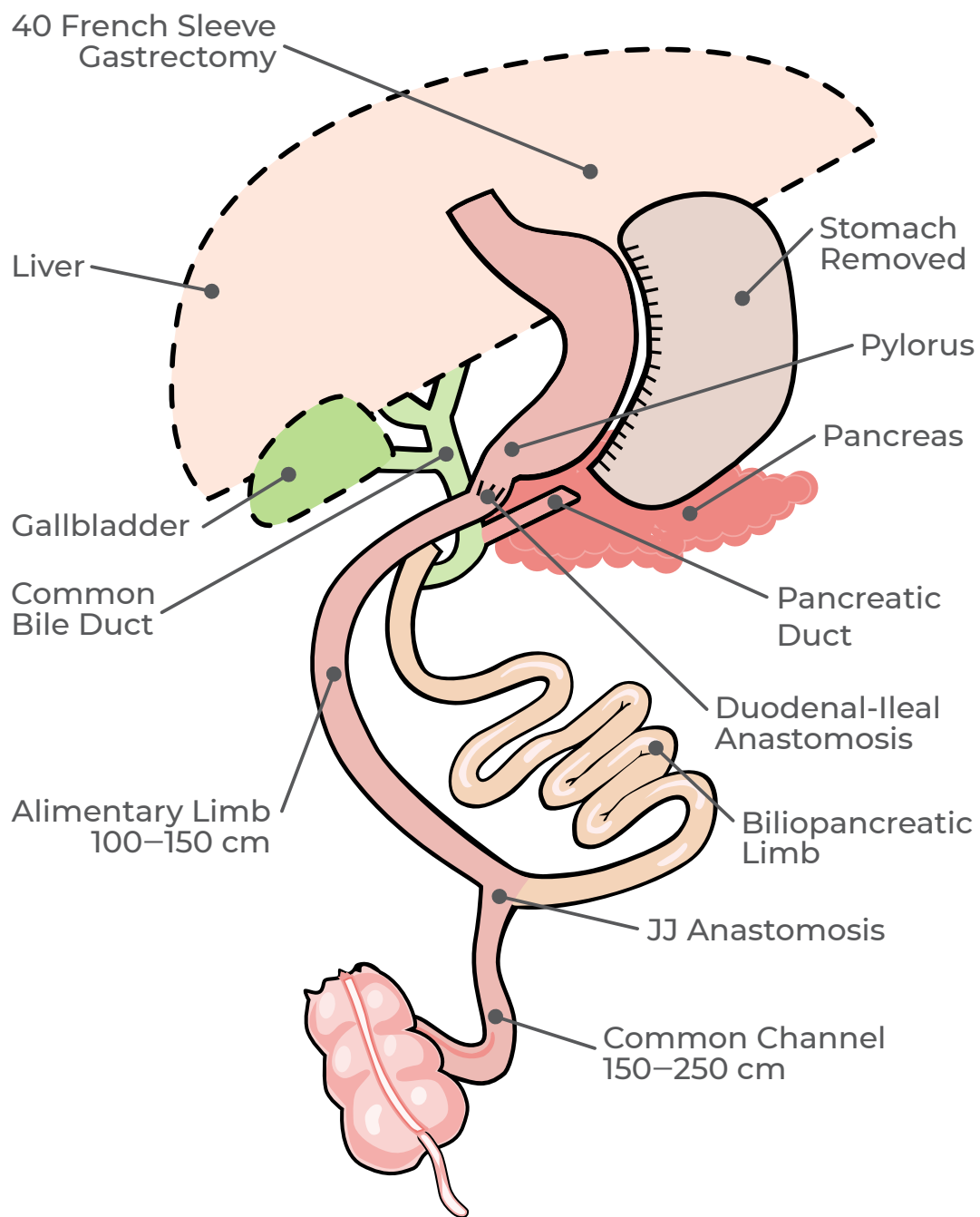
The most serious acute complications include leaks at the junction of the stomach and small intestine. This dangerous complication usually requires the patient be returned to surgery on an urgent basis, as does the rare acute gastric dilatation, which may arise spontaneously or secondary to a blockage occurring at the Y-shaped anastomosis or jejunostomy (or the new connection made between sections of the small bowel after surgery).

- There are certain complications to which any obese patient having surgery is prone, including degrees of lung collapse (atelectasis) which occur because it is difficult for the patient to breathe deeply when in pain. A great deal of attention is paid in the postoperative period to encourage deep breathing, use of an incentive spirometer and patient activity to try to minimize the problem.
- Blood clots affecting the legs are more common in overweight patients and carry the risk of breaking off and being carried to the lungs as a pulmonary embolus. This is why we follow a standardized clinical pathway to help prevent blood clots, including having patients quit smoking and remain smoke-free for at least three months, speedy operations (usually between one and one-and-a-half hours), early ambulation after surgery, use of compression boots during the procedure and hospital stay, use of blood thinner after surgery and anti-embolic exercises.
- Stricture is a narrowing of the stoma (the junction between the stomach pouch and intestine), which results from scar tissue development. This opening has been made smaller. With a smaller opening, even a little scarring will squeeze the opening down to a degree that affects the patient’s eating. Vomiting that occurs during weeks four through twelve may be a sign of a stricture. The problem can be resolved by stretching the opening to the correct size by endoscopic balloon dilatation, which involves minor procedures to correct the problem.

- Intestinal obstruction occurs in approximately 2 percent of patients, an occurrence rate similar to that following any general surgical abdominal procedure.
- One possible postoperative complication following bariatric surgery is an internal hernia. This complication is only seen in patients with a Roux-en-Y gastric bypass. An internal hernia is when a loop or portion of the small bowel herniates through a gap created during surgery. During the procedure this gap is closed using non-absorbable sutures; however, the rapid weight loss after surgery will sometimes cause these sutures to unravel or come apart. It is also possible for a new gap to form.

This internal hernia occurs as a result of the rapid weight loss and new arrangement of the anatomy. The risk of having an internal hernia increases with more drastic weight loss. Most commonly, it occurs greater than three months postoperatively, but there is not definitive timeliness of this complication. Signs/symptoms of an internal hernia can vary, but often patients present with abdominal pain in the left upper quadrant underneath the rib cage. The pain can radiate through to the mid-back region. There can be a decrease in oral intake. Leaning forward will sometimes help alleviate the symptoms, while standing up straight can exacerbate the symptoms. The symptoms can be intermittent or constant depending on the severity of the hernia. If a patient has concern for an internal hernia an appointment/evaluation by a bariatric medical provider is the first step to diagnosis. Depending on the history and exam findings a CT scan may be ordered. If an internal hernia is visualized on that CT scan the patient will be admitted to the hospital and taken to surgery. A laparoscopy is performed, the hernia is reduced and the gap is closed with non-absorbable sutures. This may be done as an outpatient procedure or may require a short hospitalization (usually less than two days). After the procedure the patient is allowed to go back to their current diet regimen. There is a small risk that an internal hernia could occur more than once.

- Another common problem after gastric bypass, especially in menstruating women, is anemia. Since the stomach is involved in iron and vitamin B12 absorption, these may not be absorbed adequately following bypass. As a result anemia may develop. The patient feels tired and listless, and blood tests show low levels of hematocrit, hemoglobin, iron and vitamin B12. The condition can be prevented and treated, if necessary, by taking extra iron and vitamin B12. Since the food stream bypasses the duodenum, the primary site of calcium absorption, the possibility of calcium and vitamin D deficiency exists. All patients should take supplemental vitamin and mineral products as recommended by the program dietitians.
- Dumping is often mentioned as a complication of gastric bypass, but it really is a side effect of the procedure caused by the way the intestine is attached. Dumping occurs when the patient eats refined sugar following gastric bypass causing rapid heartbeat, nausea, tremors and faintness, and is sometimes followed by diarrhea.
- Your age can increase your risk from surgery as well as excess weight. Certain diseases can increase your risk from surgery. There are also risks that come with the medications and methods used in the surgical procedure.



DUODENAL SWITCH

RESTRICTIVE AND MALABSORPTIVE

Duodenal Switch Procedure Overview

- The duodenal switch procedure removes 80 percent of the stomach and reroutes a portion of the small intestine.
- In performing the duodenal switch, a sleeve gastrectomy is performed to reduce the size of the stomach. The stomach is restricted by stapling and dividing it vertically. The portion of the stomach that receives food is shaped like a very slim banana or a sleeve (150 cc).
- The first part of the intestines, the duodenum, is left connected to the new stomach sleeve. The valve at the outlet of the stomach (pylorus) remains in place and provides normal stomach-emptying. This allows for the feeling of fullness, regulates emptying and glucose homeostasis.
- Further down the duodenum, the intestine is divided just before the area where bile and digestive juices from the pancreas enter the digestive tract. The lower end of the small intestines is also divided and then brought up to connect to the duodenum. This creates the “alimentary limb.”
- The other end of the bypassed small intestines that will carry the digestive juices (called the biliopancreatic limb) is reconnected to the small intestine further down the digestive tract (common channel) 100–125 cm from the colon.
- The DS procedure provides restriction while significantly reducing the absorption of nutrients.

Benefits

- Following duodenal switch procedure, most patients lose weight extremely rapidly and continue to lose over the next 24 months postoperatively.
- Patients lose, on average, more than 80 percent of excess weight or 40 percent of total body weight—a higher rate of weight loss than other bariatric procedures.
- DS is also associated with lower rates of weight regain (6%).
- DS can be done as a single procedure (a complete DS) or in two stages.
- DS can be used as a revisional procedure for weight regain in patients who have undergone vertical sleeve gastrectomy, adjustable gastric banding and roux-en-y gastric bypass.
- This procedure has the highest level of improvement and resolution in type 2 diabetes mellitus, at 97 percent remission.
 - Patients on insulin less than 10 years: 88 percent remission.
 - Patients on insulin more than 10 years: 66 percent remission.
- After this procedure, patients require significantly more calories compared to other bariatric procedures, which leads to higher calorie consumption with greater weight loss.

Possible Risks

Complications of duodenal switch can occur shortly after surgery or develop over time.

- Blood clots affecting the legs are more common in overweight patients and carry the risk of breaking off and being carried to the lungs as a pulmonary embolus (DVT/PE). This is why we follow a standardized clinical pathway to help prevent blood clots, including having patients quit smoking and remain smoke-free for at least three months, speedy operations, early ambulation after surgery, use of compression boots during the procedure and hospital stay, use of blood thinner after surgery and anti-embolic exercises.
- The most serious early complications include leaks at the suture line of the sleeve and junctions where the small intestines are bypassed and reconnected, forming a new connection or anastomosis. This dangerous complication usually requires emergency surgery. Duodenal switch is a longer operation than other bariatric surgical procedures, which is also associated with increased risks.

- Bleeding can occur in 1–2 percent of patients at the time of surgery or early post-op. Blood transfusion, reoperation or endoscopic procedures may be warranted.
- Intestinal obstruction—a blockage in the intestine—occurs in approximately 2 percent of patients, an occurrence rate similar to that following any general surgical abdominal procedure.
- Any obese patient having surgery is at risk for certain complications, including degrees of lung collapse (atelectasis) which occur because it is difficult for the patient to breathe deeply when in pain. A great deal of attention is paid in the postoperative period to encourage deep breathing, use of an incentive spirometer and patient activity to try to minimize the problem.
- Stricture is a narrowing at the anastomosis (the junction where the small bowel is reconnected), which results from scar tissue development. With a smaller opening, even a little scarring will squeeze the opening down to a degree that affects the patient’s eating. This may cause vomiting and is more likely to occur between meals.
- Over the age of 45, certain diseases, such as congestive heart failure (CHF), chronic renal insufficiency (CRI), chronic obstructive pulmonary disease (COPD) and severe morbid obesity (BMI > 50), type 2 diabetes, and excess weight can increase your risk for surgery. Male gender is also a risk factor. There are also risks that come with the medications and methods used in the surgical procedure.
- Malnutrition is another problem after duodenal switch, due to deficiencies in calories, protein, vitamins and minerals. There are multiple problems that can occur due to vitamin and mineral deficiencies, especially over time.

Risks

- Mortality rate: 0.5%
- Highest risk of complications among bariatric surgeries. Thirty-day complication rate is 10–30 percent.
- Longer surgery time (2.5 hours) and longer hospital stay (2–3 days)
- Highest risk for diarrhea and malabsorption
- Foul-smelling stools/gas/diarrhea, especially with sweets and/or fat

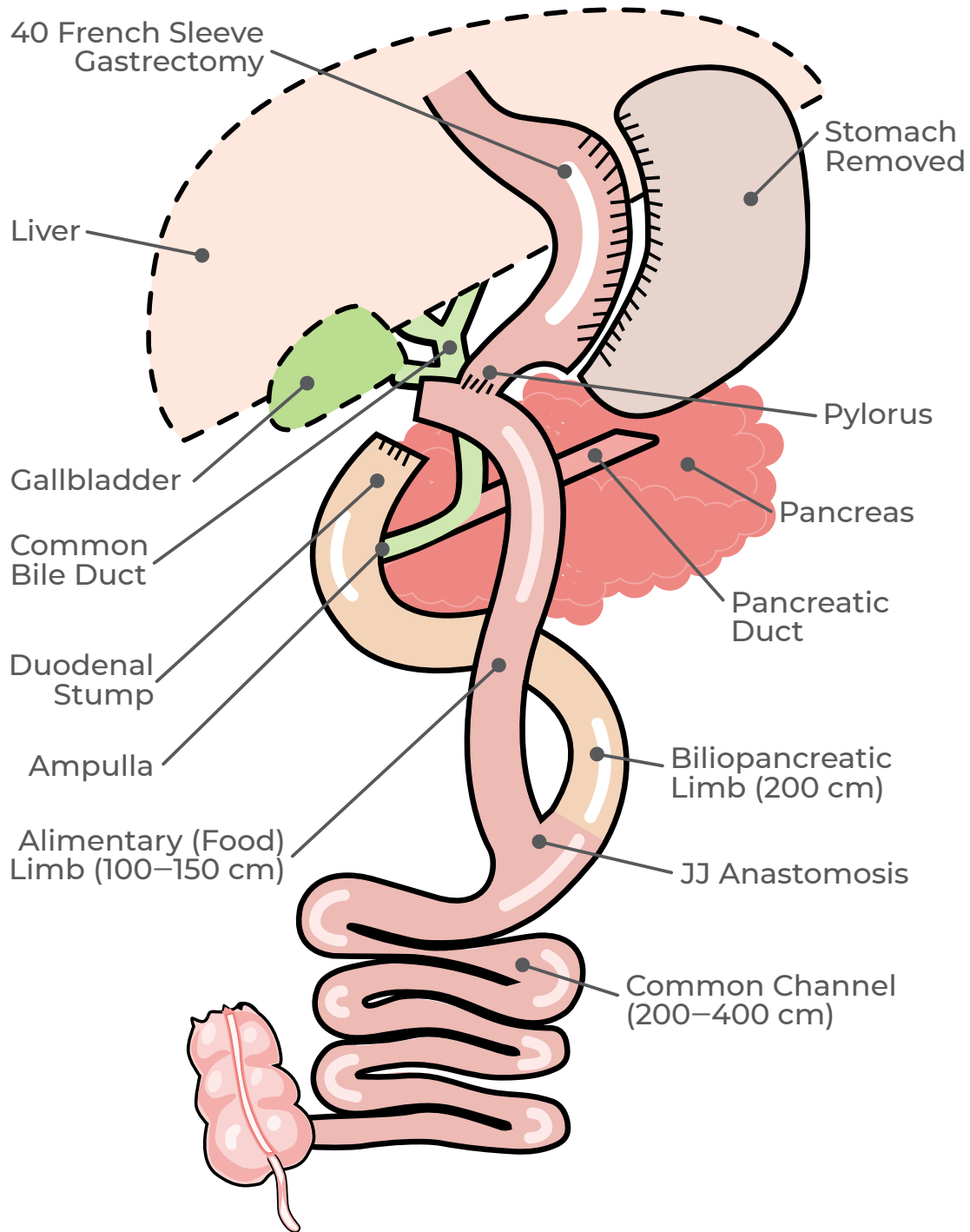
More common deficiencies following the duodenal switch include iron, B12, calcium and fat soluble vitamins (A, D, E and K). Vitamin and mineral deficiencies and complications from them are more common after duodenal switch compared to other bariatric surgical procedures due to the amount of malabsorption following this procedure. Some of these problems are extremely serious and can be irreversible. These include, but are not limited to, metabolic bone disease, anemia, fatigue, cognitive changes, hair loss and numbness and tingling in extremities (neuropathy).

Lifelong follow-up and vitamin mineral supplementation is required after duodenal switch. All patients should take supplemental vitamin and mineral products as recommended by the program dietitians.

- Gas and diarrhea are common side effects after duodenal switch. Excessive and foul-smelling gas can be related to one’s dietary intake. High-sugar foods, certain carbohydrates, artificial sweeteners, fiber, high-fat foods and carbonation can all cause or increase excessive flatulence. Oily, loose diarrhea, known as steatorrhea, can occur as a result of eating high-fat foods.

It is important to differentiate between excessive flatulence and loose stools with the inability to control bodily functions or incontinence. Incontinence may be caused by an unrelated surgical problem with a different cause which would need further attention. Issues with increased flatulence and loose bowel movements are typically managed by changes to the diet and the addition of probiotics to help control these side effects. Studies have reported the average number of bowel movements per day post-op to be approximately three. With persistent frequent loose stools, there may be an increased risk for dehydration, electrolyte imbalances and malnutrition.

- Risk of excessive weight loss
- Protein calorie malnutrition (PCM) with excess weight loss occurs in 5 percent of patients and is usually related to poor compliance with nutrition recommendations.
- Vitamin/mineral deficiencies (mild, moderate to severe), especially with poor compliance with life-long supplementation
- Risk of kidney stones



DUODENAL JEJUNAL BYPASS
WITH SLEEVE GASTRECTOMY

Duodenal Jejunal Bypass with Sleeve Gastrectomy

It is important you understand the benefits as well as the risks associated with this procedure. We encourage you to discuss your questions and/or concerns with your treatment team.

- The DJB-S procedure removes 80 percent of the stomach and reroutes a portion of the small intestine.
- In the DJB-S procedure, a sleeve gastrectomy is performed to reduce the size of the stomach. The stomach is restricted by stapling and dividing it vertically. The portion of the stomach that receives food is shaped like a very slim banana or a sleeve (150 cc).
- The first part of the intestines, the duodenum, remains connected to the new stomach sleeve. The valve at the outlet of the stomach (pylorus) remains in place and provides normal stomach-emptying. This allows for the feeling of fullness and regulates emptying and glucose homeostasis.
- Further down the duodenum, the intestine is divided just before the area where bile and digestive juices from the pancreas enter the digestive tract. The lower end of the small intestines is also divided and then brought up to connect to the duodenum. This creates the alimentary limb.
- The other end of the bypassed small intestines that will carry the digestive juices (called the biliopancreatic limb) is reconnected to the small intestine further down the digestive tract (common channel) 400–450 cm from the colon.
- The DJB-S procedure provides restriction while significantly reducing the absorption of nutrients.

Benefits

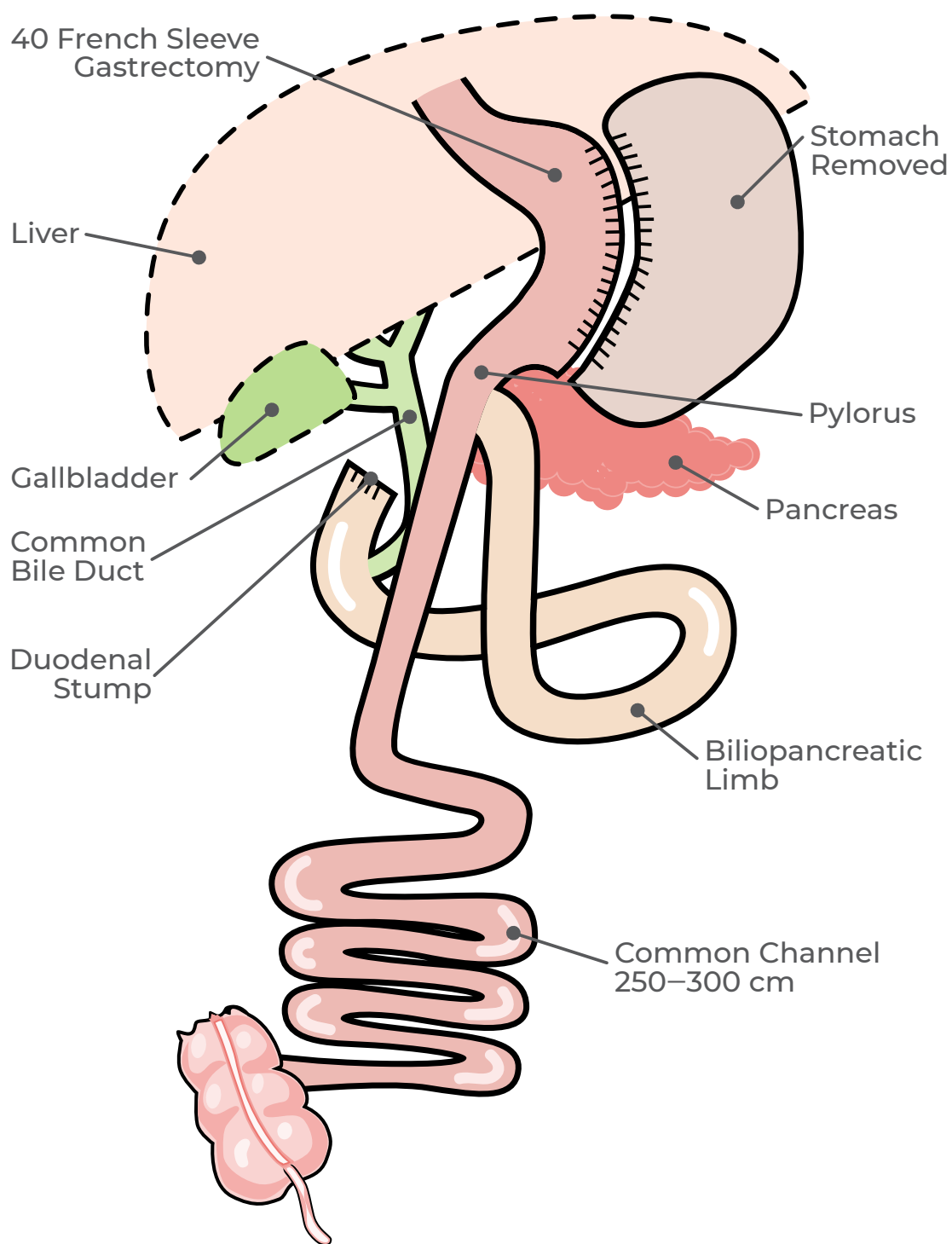
- Following the DJB-S procedure, most patients lose weight extremely rapidly and continue to lose over the next 24 months postoperatively.
- Patients lose, on average, more than 70–80 percent of excess weight or 35–40 percent of total body weight—a higher rate of weight loss than other bariatric procedures.
- DJB-S can be used as a revisional procedure for weight regain in patients who have undergone vertical sleeve gastrectomy, adjustable gastric banding and roux-en-y gastric bypass.
- This procedure has the highest level of improvement and resolution in type 2 diabetes mellitus, at 97 percent remission.
 - Patients on insulin less than 10 years: 88 percent remission.
 - Patients on insulin more than 10 years: 66 percent remission.

Possible Risks

Complications of DJB-S can occur shortly after surgery or develop over time.

- Blood clots affecting the legs are more common in overweight patients and carry the risk of breaking off and being carried to the lungs as a pulmonary embolus (DVT/PE). This is why we follow a standardized clinical pathway to help prevent blood clots, including having patients quit smoking and remain smoke-free for at least three months, speedy operations, early ambulation after surgery, use of compression boots during the procedure and hospital stay, use of blood thinner after surgery and anti-embolic exercises.
- The most serious early complications include leaks at the suture line of the sleeve and junctions where the small intestines are bypassed and reconnected, forming a new connection or anastomosis. This dangerous complication usually requires emergency surgery. DJB-S is a longer operation than other bariatric surgical procedures, which is also associated with increased risks.

- Bleeding can occur in 1–2 percent of patients at the time of surgery or early post-op. Blood transfusion, reoperation or endoscopic procedures may be warranted.
- Intestinal obstruction—a blockage in the intestine—occurs in approximately 2 percent of patients, an occurrence rate similar to that following any general surgical abdominal procedure.
- Any obese patient having surgery is at risk for certain complications, including degrees of lung collapse (atelectasis) which occur because it is difficult for the patient to breathe deeply when in pain. A great deal of attention is paid in the postoperative period to encourage deep breathing, use of an incentive spirometer and patient activity to try to minimize the problem.
- Stricture is a narrowing at the anastomosis (the junction where the small bowel is reconnected), which results from scar tissue development. With a smaller opening, even a little scarring will squeeze the opening down to a degree that affects the patient’s eating.
- Over the age of 45, certain diseases, such as congestive heart failure (CHF), chronic renal insufficiency (CRI), chronic obstructive pulmonary disease (COPD) and severe morbid obesity (BMI > 50), type 2 diabetes, and excess weight can increase your risk for surgery. Male gender is also a risk factor. There are also risks that come with the medications and methods used in the surgical procedure.
- Malnutrition is another problem after DJB-S, due to deficiencies in calories, protein, vitamins and minerals.
- Vitamin and mineral deficiencies are another potential problem following the DJB-S. Probable common deficiencies following this procedure include iron, B12, calcium and vitamin D. There is also a likely risk of other fat-soluble vitamin deficiencies (A, E and K); however, the risk may be lower compared to the traditional duodenal switch (DS). Some of these problems are extremely serious and can be irreversible. These include, but are not limited to, metabolic bone disease, anemia, fatigue, cognitive changes, hair loss and numbness and tingling in extremities (neuropathy).
Lifelong follow-up and vitamin\mineral supplementation is required after DJB-S. All patients should take supplemental vitamin and mineral products as recommended by the program dietitians.
- Higher risk of DVT/PE compared to gastric bypass and sleeve due to longer operative time
- Four areas for potential leak
- Does not eliminate risk of internal hernias
- Unknown short- and long-term results
- Protein calorie malnutrition (PCM) with excess weight loss occurs in 5 percent of patients and is usually related to poor compliance with nutrition recommendations.
- Vitamin/mineral deficiencies (mild, moderate to severe), especially with poor compliance with lifelong supplementation
- Risk of kidney stones



**SINGLE ANASTOMOSIS DUODENAL-ILEAL BYPASS
WITH SLEEVE GASTRECTOMY (SADI-S)**

Single Anastomosis Duodenal-Ileal Bypass with Sleeve Gastrectomy (SADI-S)

It is important you understand the benefits as well as the risks associated with this procedure. We encourage you to discuss your questions and/or concerns with your treatment team.

- The SADI-S procedure removes 80 percent of the stomach and reroutes a portion of the small intestine.
- In the SADI-S procedure, a sleeve gastrectomy is performed to reduce the size of the stomach. The stomach is restricted by stapling and dividing it vertically. The portion of the stomach that remains is shaped like a very slim banana or a sleeve (150 ml) and receives food.
- The valve at the outlet of the stomach (pylorus) remains in place and provides normal stomach-emptying. This allows for the feeling of fullness and regulates emptying and glucose homeostasis. Just below the pylorus is the duodenum, this is the first part of the small intestine. The small intestine is measured out and then divided and shaped into a loop that is connected just below the pylorus. This is the only connection performed.
- The SADI-S procedure provides restriction while reducing the absorption of nutrients.

Benefits

- Following the SADI-S procedure, most patients lose weight extremely rapidly and continue to lose over the next 24 months postoperatively.
- Patients lose, on average, more than 70–80 percent of excess weight or 35–40 percent of total body weight—a higher rate of weight loss than other bariatric procedures.
- SADI-S can be used as a revisional procedure for weight regain in patients who have undergone vertical sleeve gastrectomy and adjustable gastric banding.
- This procedure is highly effective for resolution of type 2 diabetes mellitus and other comorbid conditions.

Possible Risks

- Complications of SADI-S can occur shortly after surgery or develop over time.
- Blood clots affecting the legs are more common in overweight patients and carry the risk of breaking off and being carried to the lungs as a pulmonary embolus (DVT/PE). This is why we follow a standardized clinical pathway to help prevent blood clots, including having patients quit smoking and remain smoke-free for at least three months, speedy operations, early ambulation after surgery, use of compression boots during the procedure and hospital stay, use of blood thinner after surgery and anti-embolic exercises.
- The most serious early complications include leaks at the suture line of the sleeve and area where the small intestine is looped and connected just below the pylorus, forming a new connection or anastomosis. This dangerous complication usually requires emergency surgery. SADI-S is a longer operation than other bariatric surgical procedures, which is also associated with increased risks.
- Bleeding can occur in 1–2 percent of patients at the time of surgery or early post-op. Blood transfusion, reoperation or endoscopic procedures may be warranted.
- Intestinal obstruction—a blockage in the intestine—occurs in approximately 2 percent of patients, an occurrence rate similar to that following any general surgical abdominal procedure.
- Any obese patient having surgery is at risk for certain complications, including degrees of lung collapse (atelectasis) which occur because it is difficult for the patient to breathe deeply when in pain. A great deal of attention is paid in the postoperative period to encourage deep breathing, use of an incentive spirometer and patient activity to try to minimize the problem.
- Stricture is a narrowing at the anastomosis (the junction where the small bowel is reconnected), which results from scar tissue development. With a smaller opening, even a little scarring

- will squeeze the opening down to a degree that affects the patient's eating.
- Over the age of 45, certain diseases, such as congestive heart failure (CHF), chronic renal insufficiency (CRI), chronic obstructive pulmonary disease (COPD) and severe morbid obesity (BMI > 50), type 2 diabetes, and excess weight can increase your risk for surgery. Male gender is also a risk factor. There are also risks that come with the medications and methods used in the surgical procedure.
 - Malnutrition is another problem after SADI-S, due to deficiencies in calories, protein, vitamins and minerals.
 - Vitamin and mineral deficiencies are another potential problem following the SADI-S. Probable common deficiencies following this procedure include iron, B12, calcium and vitamin D. There is also a likely risk of other fat-soluble vitamin deficiencies (A, E and K); however, the risk may be lower compared to the traditional duodenal switch (DS). Some of these problems are extremely serious and can be irreversible. These include, but are not limited to, metabolic bone disease, anemia, fatigue, cognitive changes, hair loss and numbness and tingling in extremities (neuropathy).
 - Lifelong follow-up and vitamin/mineral supplementation is required after SADI-S. All patients should take supplemental vitamin and mineral products as recommended by the program dietitians.
- Higher risk of DVT/PE compared to gastric bypass and sleeve due to longer operative time
 - Does not eliminate risk of internal hernias
 - Unknown short- and long-term results
 - Protein calorie malnutrition (PCM) with excess weight loss occurs in 5 percent of patients and is usually related to poor compliance with nutrition recommendations.
 - Vitamin/mineral deficiencies (mild, moderate to severe), especially with poor compliance with lifelong supplementation
 - Risk of kidney stones
 - Blood Clot (PE/DVT) Prevention
 - No smoking; must be smoke-free for three months prior to surgery
 - Stop hormone replacement therapies (estrogen/ birth control pill, patch or ring) one month prior to surgery
 - Compression boots during surgery and during hospital stay (when in bed)
 - Stop steroids for 90 days
 - Early ambulation (anticoagulation)
 - Blood thinner during hospital stay
 - Anti-embolic exercises (exercises to prevent blood clots)

Bariatric Surgery Risks

A description of possible risks includes but is not limited to the following:

COMPLICATION	DESCRIPTION
1. Marginal ulcers	Bariatric surgery increases the susceptibility for ulceration when irritants are introduced. NSAID, steroid and nicotine use significantly increases risk of developing marginal ulcers. This can lead to strictures, bleeding and perforation requiring further surgery.
2. Protein caloric malnutrition	Some patients may become markedly deficient in protein and calories. That would require intervention including nutritional support and possible revisional surgery.
3. Vitamin and mineral deficiencies	After bariatric surgery, there may be some malabsorption of vitamins and minerals. Patients must take vitamin and mineral supplements for life to help protect themselves from these problems. Vitamin and mineral supplementation is a lifelong out-of-pocket expense to the patient.
4. Hair loss	Occasionally, patients develop hair loss for a short period of time following any surgery involving anesthesia. This usually resolves with time.
5. Medications	Medication absorption changes.
6. Side effects of drugs	All drugs have inherent risks and, in some cases, can cause a wide variety of side effects including death.
7. Allergic reactions	From minor reactions, such as a rash, to sudden overwhelming reactions that in rare circumstances could lead to death.
8. Anesthetic complications	Anesthesia used to put you to sleep for the operation can be associated with a variety of complications up to and including the rare possibility of death.
9. Bile duct injury	Injury to the duct system draining the liver could occur, requiring repair or replacement of the duct with a portion of your bowel. This is a rare injury.
10. Bleeding	From minor to massive bleeding that can lead to the need for emergency surgery, blood transfusion or, very rarely, death.
11. Blood clots	Also called deep vein thrombosis and pulmonary embolism; could lead to death.
12. Bowel obstruction	Any operation in the abdomen can leave behind scarring that can put the patient at risk for blockage.
13. Hernia	Incisions through abdominal wall can lead to hernias after surgery.
14. Infection	Including wound infections, bladder infections, pneumonia, skin infections and deep abdominal infections that can sometimes lead to prolonged hospitalization and, rarely, death.
15. Laparoscopic surgery risk	Laparoscopic surgery uses punctures to enter the abdomen and can lead to an unlikely injury, bleeding and/or death.
16. Leak	After operations on the stomach, the new connections or staple lines can leak stomach acid, bacteria and digestive enzymes, causing a severe abscess and infection. This can require repeated surgery, intensive care, prolonged recovery, disability and the unlikely event of death.
17. Narrowing (stricture)	Narrowing or stricture can occur. This could require procedures such as endoscopic dilatation or revisional surgery if medication and endoscopic procedures fail.

18. Psychiatric complications	Although most people experience improvements in their mood, some will have worsening states of depression, which could lead to suicide. Patients taking psychiatric medications should have the dosage and effectiveness of these medications monitored carefully by their prescribing physician.
19. Weight regain	Weight regain may occur. This may occur for a number of reasons. No weight-loss method is foolproof. Weight regain may require revisional bariatric surgery.
20. Procedure abortion or amendment	Under very rare circumstances, the surgeon may determine that the procedure should be aborted altogether due to the safety of the patient. This decision is made at the time of surgery under the discretion of the surgeon. The surgeon may also determine the procedure should be amended due to safety.
21. Gallbladder disease	Patients may experience gallbladder disease after weight loss experienced with bariatric surgery. Between seven and ten percent of patients require gallbladder removal six months to two years after their bariatric surgery.
22. Periodontal disease	Patients may experience periodontal disease after bariatric surgery. Patients are recommended to have routine care (every six months) with a dentist.
23. Long-term follow-up	Long-term follow-up is required to maintain safe surgical outcomes and long term success. There are long-term risks of vitamin and mineral deficiencies, metabolic complications and postoperative complications. In order to decrease these risks, a routine postoperative follow-up schedule is in place. This schedule includes routine postoperative visits with the bariatric team at one week, one month, three months, six months, 12 months, 18 months, 24 months and annually. Routine lab work is expected to be completed routinely postoperatively.
24. Risks of pregnancy	Women of childbearing age or who have suffered from infertility prior to bariatric surgery have the ability to become pregnant in the early stages post-operatively due to improvement in hormone regulation or failure to implement a contraception plan. Increased risks exist to the mother and fetus during this time of rapid weight loss. Patients are recommended to avoid pregnancy for two years after bariatric surgery.
25. Other	Major abdominal surgery, including bariatric surgery, is associated with a variety of other risks and complications both recognized and possibly unrecognized that occur both soon after, or possibly long after, the operation.

Risks of Specific Bariatric Surgeries

COMPLICATION	DESCRIPTION
GERD/gastroparesis <i>Laparoscopic sleeve gastrectomy patients only</i>	Possible risk for new or worsening GERD following sleeve gastrectomy surgery. GERD signs and symptoms can become severe despite medication leading to revisional bariatric surgery. Gastroparesis can cause delayed emptying. Signs and symptoms include nausea, vomiting and belly discomfort.
Internal hernia <i>Laparoscopic Roux-En-Y gastric bypass (RYGB), Laparoscopic duodenal-jejunal Bypass (DJB-S), Laparoscopic duodenal switch (DS)</i>	Weight-loss surgery can alter and change the anatomy of the intestines and create mesenteric defects. This may lead to intestinal ischemia and/or obstruction potentially requiring surgery to correct the problem.
Postprandial hypoglycemia and dumping syndrome <i>Laparoscopic Roux-En-Y gastric bypass (RYGB)</i>	Patients may experience symptoms of low blood sugar or dumping syndrome after eating. These are side effects of the procedure caused by rerouting of the intestines. Patients are recommended to follow all dietary recommendations in order to avoid these side effects.
Increased bowel movements/diarrhea <i>Laparoscopic duodenal-jejunal Bypass (DJB-S), Laparoscopic duodenal switch (DS)</i>	DJB-S or DS may cause increased risk of malabsorption. This can cause more frequent bowel movements and diarrhea. Foul-smelling stools and foul-smelling flatulence can also be noted.



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