



RICHMOND METABOLIC & BARIATRIC SURGERY

Vancouver Coastal Health
Richmond, British Columbia

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**RICHMOND METABOLIC AND
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Welcome message

Dear Participant,

We would like to welcome you to the Richmond Metabolic and Bariatric Surgery Clinic.

Our bariatric clinic is one of the only two comprehensive multidisciplinary bariatric surgery programs in British Columbia. All our surgeries are done using laparoscopic techniques, also known as minimally invasive surgery.

We offer you this valuable manual to help you through the process of navigating bariatric surgery. Your decision will start a new chapter in your life, and we will be part of your care team from the very beginning up to until 2 years post operatively in most cases.

We are hoping that this manual will act as a valuable resource for the life-long process that you have started. We are honored to be a part of your journey and look forward to providing you with the best care possible.



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Sincerely yours,

Bariatric Team

P.S. Additional information is available at www.rmbsurgery.com.

Managing expectations

How much weight will you lose?

The rate of weight loss depends on a number of factors, including your baseline weight, weight lost thus far, activity, hydration and diet. Each person's weight loss pattern is different. If you lose weight too quickly, you are at risk for muscle loss, hair loss, and nutritional deficiencies.

On average, weight loss will continue for 12 to 18 months after surgery. The expected excess weight loss goal for each surgical procedure ranges from 55 to 80%, more specifically:

- 55% for sleeve gastrectomy
- 70% for gastric bypass
- 70-80% for single anastomosis duodeno-ileal bypass with sleeve gastrectomy (SADI-S)
- 80% for biliopancreatic diversion – duodenal switch with sleeve gastrectomy (BPD-DS)

Once you have reached your lowest weight after surgery, it is normal to re-gain some weight. For most people, their weight will stabilize at about 10% higher than their lowest post-surgery weight.

It is normal to experience weight plateaus where your weight may not change for a few weeks. During this time, your body is adjusting to the amount of food and exercise. Continue to follow your nutritional guidelines and exercise routine to facilitate weight loss.

Will the weight loss be permanent?

For 70-80% of patients, the majority of their weight loss is maintained for many years. However, up to 30% of patients will regain weight. As with other methods of managing weight, weight loss will not be permanent without lifestyle changes. You will likely regain weight if you do not maintain healthy eating habits, exercise regularly, monitor your intake and manage stress.

What are the expectations of you?

You will be required to participate in an assessment to determine if surgery is the right option for you. It is important to take time to work on lifestyle changes and determine if surgery is the correct step for you. At any point, you may opt out of the program if you decide surgery is not suitable for you.

The assessment process consists of several appointments with our multi-disciplinary team. You are encouraged to ask questions and find out as much about surgery as possible.

Our team consists of a group of health-care professionals dedicated to educating and helping you adopt healthy lifestyle changes and coping strategies – both before and after surgery. The team consists of surgeons, dietitians, nurses, internists, endocrinologists, respirologists, and a social worker. We also have a psychiatrist who can be consulted if needed. They are excellent resources in helping you achieve your weight loss goals!

What you can do starting now

Please start researching bariatric surgery as soon as possible following orientation to prepare yourself for what to expect both before and after this life altering surgery. Having a good understanding and reasonable expectations of bariatric surgery and how it will impact your life is essential for successful and long term surgical outcomes. Bariatric surgery is just a tool and to use the tool effectively, it's essential to make a commitment to lifelong lifestyle modifications which involve eating regular small nutritious meals, daily exercise, daily supplements, follow up appointments with your bariatric team, and healthy coping mechanisms for stress. Please use the following resources to educate yourself about bariatric surgery so you are well prepared for the changes that will impact all aspects of your life.

Websites

- Our program website: <http://www.rmbsurgery.com>
- <https://asmbs.org/patients/bariatric-surgery-procedures>
- Canadian Obesity Network (Public website): <http://www.obesitynetwork.ca/>
- <https://www.mayoclinic.org/tests-procedures/bariatric-surgery/about/pac-20394258>
- <http://www.obesityhelp.com/>
- <http://www.obesityaction.org/>
- Misconceptions about bariatric surgery: <http://www.theglobeandmail.com/life/health-and-fitness/health-advisor/weight-loss-surgery-is-anything-but-an-easy-way-out/article20306480/>

Books

- Weight Loss Surgery for Dummies: <http://www.amazon.ca/Weight-Loss-Surgery-For-Dummies/dp/0764584472>
- Weight Loss Surgery Workbook: <http://www.amazon.ca/The-Weight-Loss-Surgery-Workbook/dp/1572248998>
- The Complete Weight Loss Surgery Guide and Diet Program: <http://www.amazon.ca/Complete-Weight-Loss-Surgery-Guide-Program/dp/0778802736>

No show & cancellation policy

We require a minimum 24 hours' notice if you are unable to attend a scheduled appointment, unless an EMERGENCY (death in the family, sudden illness, hospitalization, etc.) occurs. You will be discharged from the program if you have two no-shows **or** cancelled appointments (less than 24 hours' notice), which were non-emergency.

Weight gain

Weight gain through the pre-operative stage may be associated with poor outcomes and surgical risks. Therefore, we encourage our patients to gradually lose weight prior to the surgery. We understand this is difficult for many patients, and weight stability may be a more feasible goal. This will be reviewed on an individual basis.



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Patient contract

1. I have attended the RMBS orientation and understand the risks and benefits of this program.
2. I understand that by signing this contract, I acknowledge that my objective is to have bariatric surgery, and not solely for access to resources of a multidisciplinary obesity management program. Signing up for the program however will not automatically guarantee that I will have bariatric surgery.
3. I understand that I must demonstrate competency with the necessary lifestyle changes to be offered a surgery. Lack of significant progress or patient initiative will result in discharge from the program.
4. I understand that it is my responsibility to attend all appointments with healthcare professionals on the team and to complete all necessary tests and investigations. Two missed appointments will equal automatic discharge. Rescheduling 3 times for the same appointment will equal automatic discharge. Exceptional circumstances (death of a family member, emergencies, etc...) will be considered on a case by case basis.
5. I understand that I need to journal my dietary intake and activity habits comprehensively, for the rest of my life. I understand that I am to start immediately after the orientation and that I must bring this journal to all appointments with members of the team. This includes appointments with my physicians and surgeons. No journal equals no appointment.
6. I understand that I need 30 minutes of sustained physical activity per day for long term weight loss success. I will stay within my limitations and consult with a Qualified Exercise Professional. I understand that it will be a very gradual process for me to reach these goals.
7. I understand that I must be smoke-free for 6 months minimum prior to surgery. I understand that I may be randomly tested with carboximetry and/or nicotine/cotinine urinalysis and hereby consent to this testing. Bariatric surgery is an *elective* surgery to improve my health. Smoking increases the risks of blood clots, wound infections, and is a proven carcinogen and contributor to heart disease.

8. I understand post-operative complications that may arise, including, but not limited to: nausea, vomiting, dumping syndrome, hair-loss, re-hospitalization, dehydration and malnutrition, worsening of mental health, changes in personal relationships, or even death. These may be exacerbated by not following the guidelines.
9. I understand that I'm at increased risk of cross-addiction post-surgery (alcoholism, drug abuse, binge-eating, gambling, etc...). As such, it is in my best interest to be free of recreational drug or alcohol use, and if I've had an addictions history, to ensure that I find supports before and after the surgery (counselling, psychiatry, support groups, etc...). I understand that I must be sober of any substance abuse for a period of 12 to 18 months to be eligible for the RMBS program.
10. I understand that significant weight loss will result in excess skin. This may require body-contouring (plastic) surgery, which will be an additional cost to me.
11. I understand that it is crucial for me to be compliant with all guidelines and lifestyle changes in order to have optimal outcomes from the program and surgery. These outcomes may include: weight-loss, diabetes resolution, increased mobility, decreased medications, improved comfort, etc.
12. I understand that surgery times vary by person and I cannot expect to have a surgery date within a pre-determined time. I understand that to qualify for the surgery, there are 2 main factors: (1) Logistics – is there a surgical time available, am I physically fit for surgery, have I completed all necessary investigations, etc. (2) Proficiency - I must prove and demonstrate to the multidisciplinary team that I am compliant *and* competent with life-long lifestyle change (problem solving around nutritional, activity, mental health challenges).
13. I understand that the team has made all attempts to minimize the costs of the program. However, there may be costs related to the required travel, accommodations while staying in the Lower Mainland, and cost of supplements.
14. I understand that the use of aggressive or abusive language or actions towards team members, whether verbally or in written communication, will result in immediate and permanent discharge from the program.
15. I understand that if I have questions, I will take initiative to investigate and/or consult with the appropriate health professionals within the VCH-Richmond team. I will troubleshoot and research on my own prior to contacting the team. Resources available to me include the RMBS Bariatric Manual, www.rmbsurgery.com, and HealthLink BC: www.healthlinkbc.ca or dial 811.

16. I understand it is my responsibility to inform the bariatric team about any changes in my medical conditions or if there are complications, pre or post-operatively.

17. I understand that I will be provided with the tools to facilitate behaviour change and to optimize my health. Though I have access to these supports and tools, I am expected to take initiative to educate myself about the surgery and lifestyle changes, i.e. surgery specifics, new recipes, learning how to read food labels, etc. For optimal surgical outcomes, I am expected to problem solve around the maintenance of these lifestyle changes throughout my lifetime. Ultimately, my health and well-being is my responsibility.

18. I understand that the Richmond Metabolic and Bariatric Surgery Program may need to request information related to my medical and/or mental health from various health care providers/organizations in order to assess my eligibility and optimize my health for bariatric surgery and authorize the program to do so.

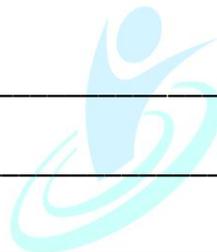
Full legal name (print): _____

Signature: _____

Date: _____

Witness name (print): _____

Witness signature: _____



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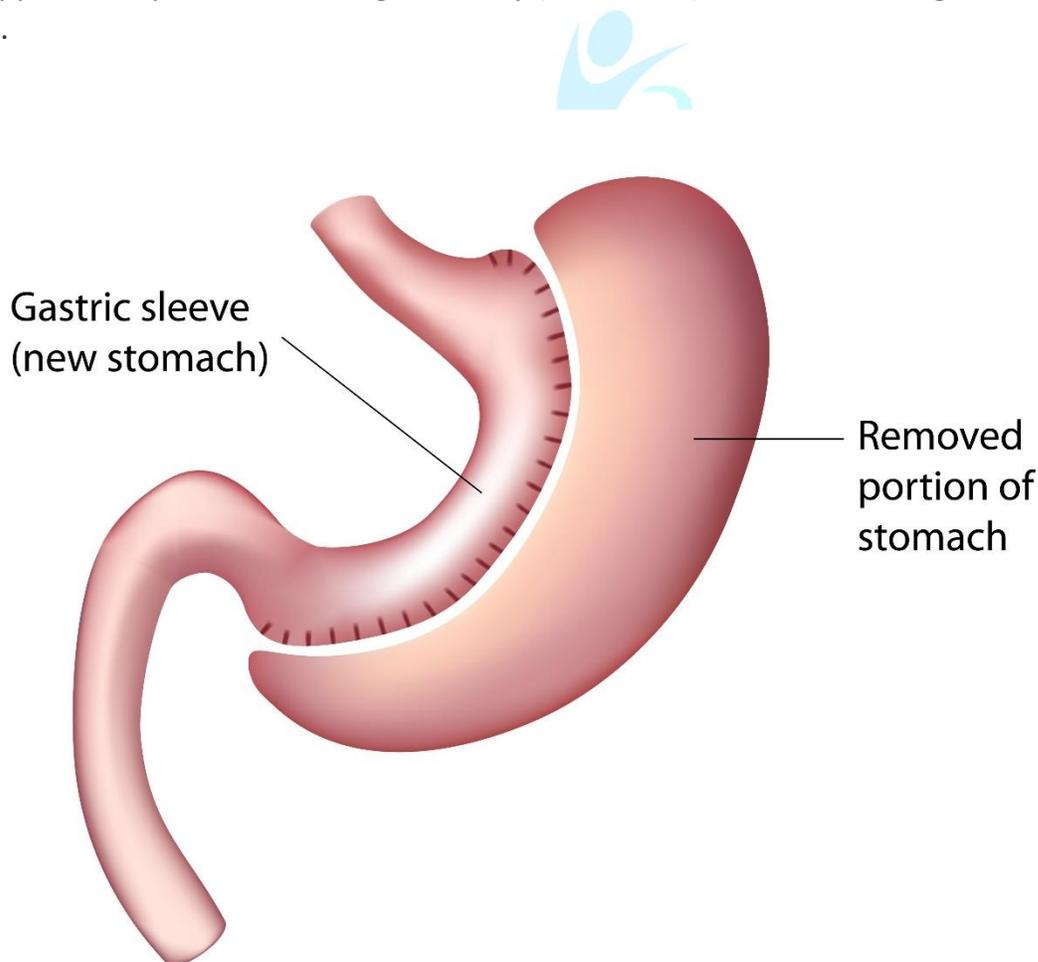
NOTE: The multidisciplinary team provides comprehensive support to a very large group of patients. The team makes all attempts to address questions and concerns in a timely manner. We cannot respond to persistent inquiries about surgery dates and expedition of appointments. Harassment will result in discharge from the program.

Bariatric surgery options

The following are summaries of the four bariatric surgeries we do at RMBS; for more information, please refer to the references at the end of manual, including <https://asmbs.org/patients>.

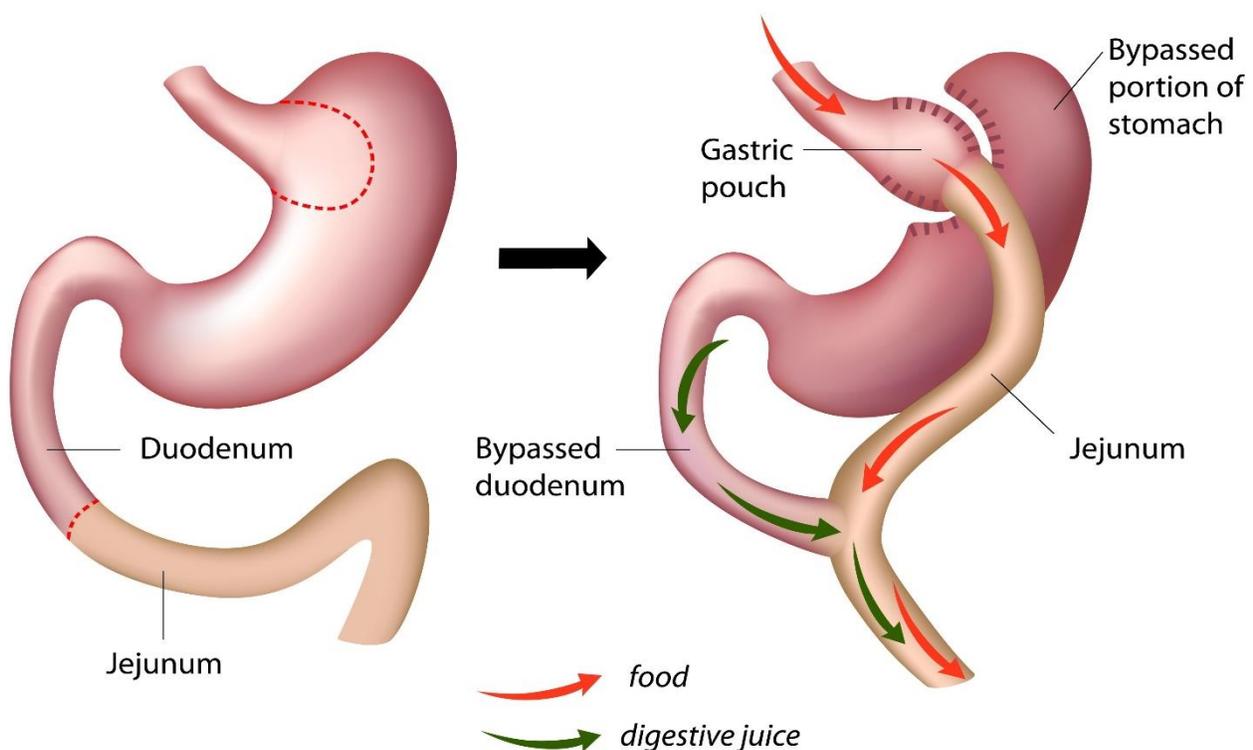
Laparoscopic Vertical Sleeve Gastrectomy (VSG)

The Vertical Sleeve Gastrectomy is performed by making several small incisions in your abdomen. A vertical incision is then made to remove approximately 80-85% of your stomach. Your new stomach sleeve, which is shaped similar to a tube, holds approximately 100 -125ml in the beginning. This new smaller stomach significantly reduces the amount of food and calories that can be consumed. It also causes favorable changes in gut hormones which help to suppress your appetite, improve the feeling of satiety (or fullness) soon after eating, and improve blood sugars.



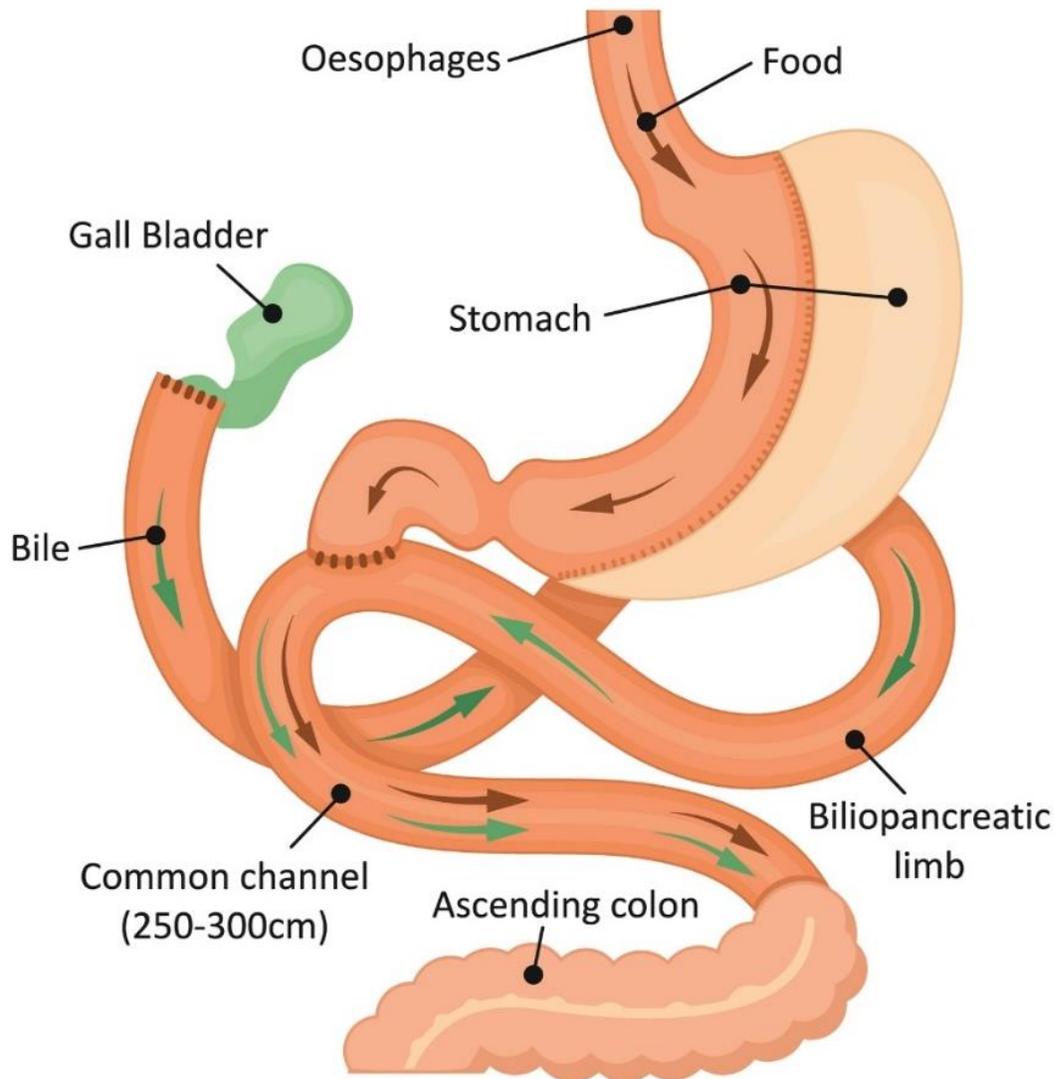
Laparoscopic Roux-en-Y Gastric Bypass (RNY)

Your laparoscopic surgery will involve 6 small incisions in your abdomen. A small pouch about the size of a large egg is made at the top of your stomach and then your small intestine is divided just past your stomach. One end of the intestine is attached to your new stomach pouch and the remainder of your stomach is bypassed (food no longer travels through this remnant stomach) though remains in your body. The other end of your divided intestine (the one attached to your remnant stomach) is reattached to your small intestine a little further down. This allows for digestive juices and enzymes to meet with the food stream. This procedure not only reduces the size of your stomach, but also reduces how much food you absorb by bypassing part of the small intestine. This is considered to be the Gold Standard for bariatric surgery as there is significant weight loss along with significant improvements in obesity related illness such as, Diabetes, high blood pressure, heart disease, GERD, etc.



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

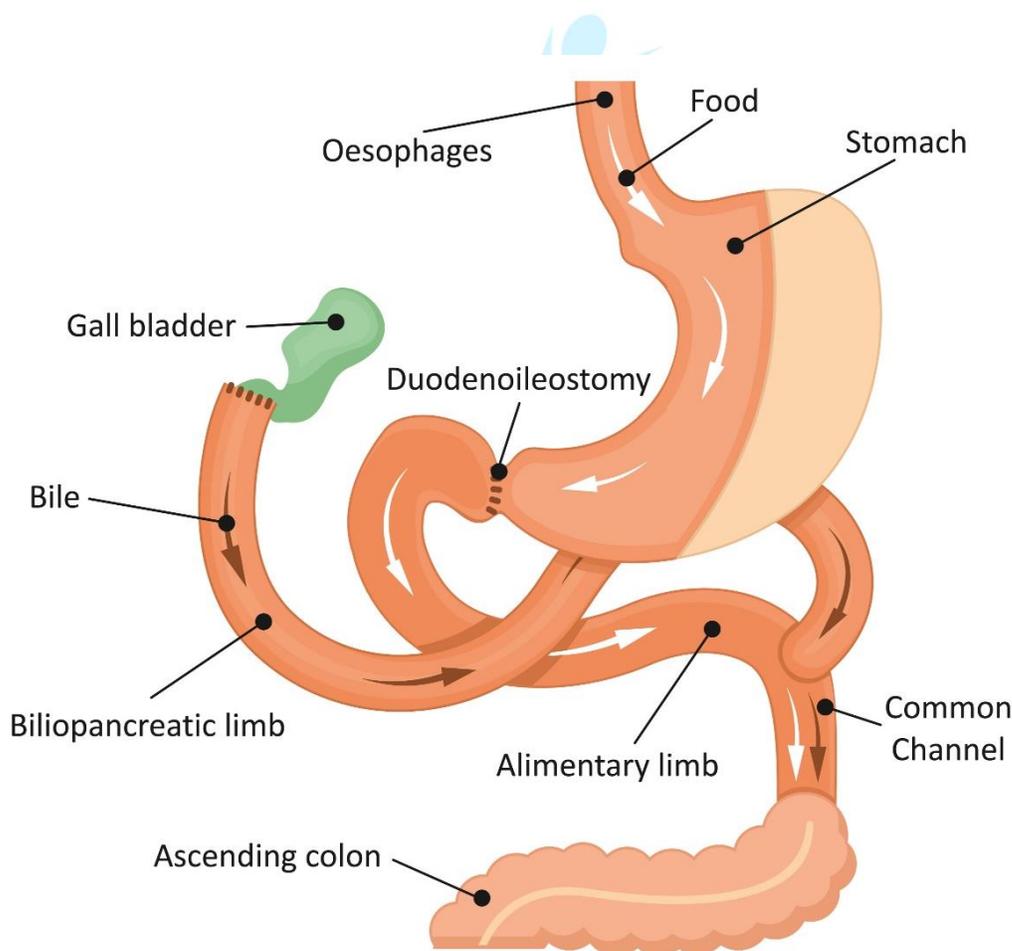
This procedure is a modified version of the Duodenal Switch (described in detail in the next section). The duodenum is detached just below the stomach and reattached to a loop of small intestine about 3.6 meters downstream. This creates two separate pathways and one common channel. The shorter pathway (digestive channel) allows food to flow from the stomach to the common channel. The longer pathway (biliopancreatic channel) carries bile from the liver to the common channel. This diversion limits the amount of time that food mixes with digestive juices and reduces the amount of calories that can be absorbed, leading to weight loss.



Biliopancreatic Diversion with Duodenal Switch (BPD-DS)

Biliopancreatic diversion with duodenal switch (BPD/DS) or simply duodenal switch (DS) is a bariatric surgery that can help patients lose up to 80% of their excess body weight. It is performed laparoscopically and often done as a single stage surgery but can also be done for patients that have had a VSG in the past and still have significant weight to lose or struggling with comorbidities such as, DM2, HTN, dyslipidemia, etc. It can help you lose more weight and improve your comorbidities by its malabsorptive action via reducing the absorption of macro- and micronutrients (vitamins and minerals).

In this surgery, the intestine is bypassed starting from below the pylorus to the ileum, 50 to 125 centimeters from the colon. The bypassed portion of the intestine (biliopancreatic limb) delivers bile and pancreatic juices to the anastomosis at the ileum, where it meets the alimentary limb (proximal duodenum, through which food passes) to form the common channel. This is where food combines with bile and pancreatic juices for the first time and most nutrient absorption occurs.



WEIGHT LOSS SURGERY

Which Procedure is Right for Me?



Sleeve Gastrectomy "Sleeve"



- Removes 80% of the stomach
- Restricts food intake
- Changes to gut hormones
- Patients feel less hungry

Roux-en-Y Gastric Bypass "Bypass"



- Forms a new stomach pouch
- Small portion of small intestine is bypassed causing less nutrient absorption

Biliopancreatic Diversion "Switch"



- Sleeve gastrectomy "Switches" the small intestine
- Much less nutrient absorption

How it works

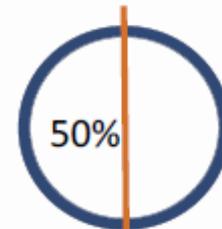
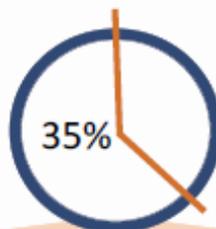
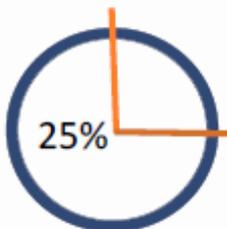
Who does it help?

- Diabetes without insulin
- BMI < 40
- Age > 60

- Diabetes with pills or insulin
- BMI < 50
- Heart burn

- Diabetes with insulin or > 5 yrs
- BMI > 50
- Suboptimal weight loss with sleeve

Average 1.5 year weight loss



Starting weight of 300 pounds with a gastric bypass would mean average post-surgery weight loss of 105 pounds

How is the type of surgery chosen?



Your care team will evaluate the risks and benefits to help choose the best procedure for you



Your individual thoughts and needs will help shape the direction of surgery



• Richmond Metabolic and Bariatric Surgery Program (2019) • www.rmbsurgery.com

Preparing for surgery

We need to ensure that our patients are able to tolerate the potential stresses that arise from surgery. Therefore, the following tests are required:

- Blood tests and urine tests both pre-operatively and post-operatively
- Sleep studies and treatment for sleep apnea as needed
- Abdominal ultrasound and bone mass density (BMD)
- Nutrition assessments
- Psychological and mental health assessment
- Attendance at required classes and appointments
- Pre-surgical screening by the anesthesiologist and possibly an Internist
- Nursing assessments

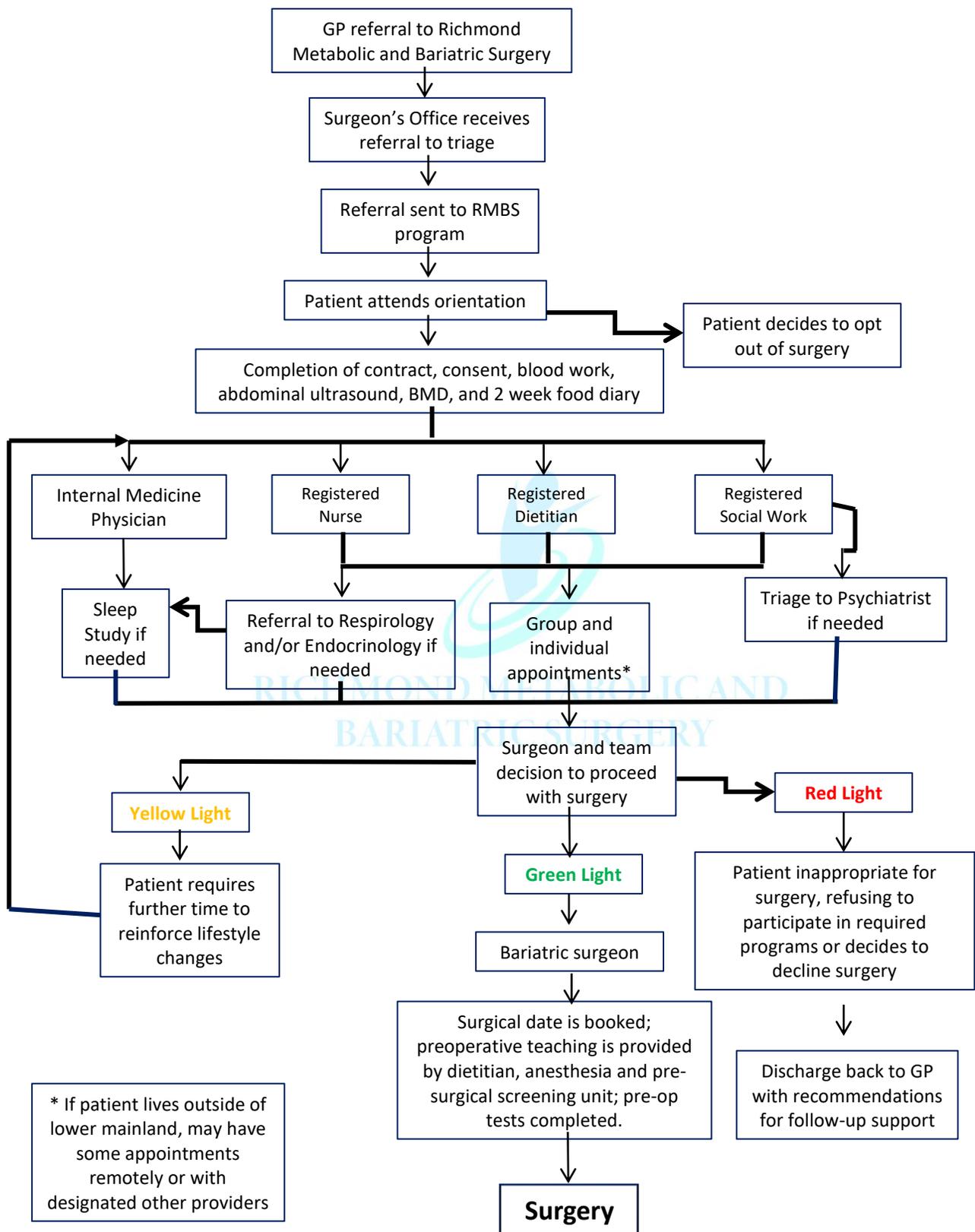
Medications to avoid

You should avoid non-steroidal anti-inflammatory medications such as Ibuprofen, Advil®, Motrin®, Aleve®, Naprosyn (naproxen sodium), Aspirin and ASA, since they can cause serious ulcers and life-threatening bleeding.

After surgery, your surgeon will give you a prescription for an acid-reducing medication called a Proton Pump Inhibitor for a minimum of 3 months (i.e. pantoprazole). Oral steroid medications should be avoided in the first 6 months after surgery, unless prescribed by your surgeon.

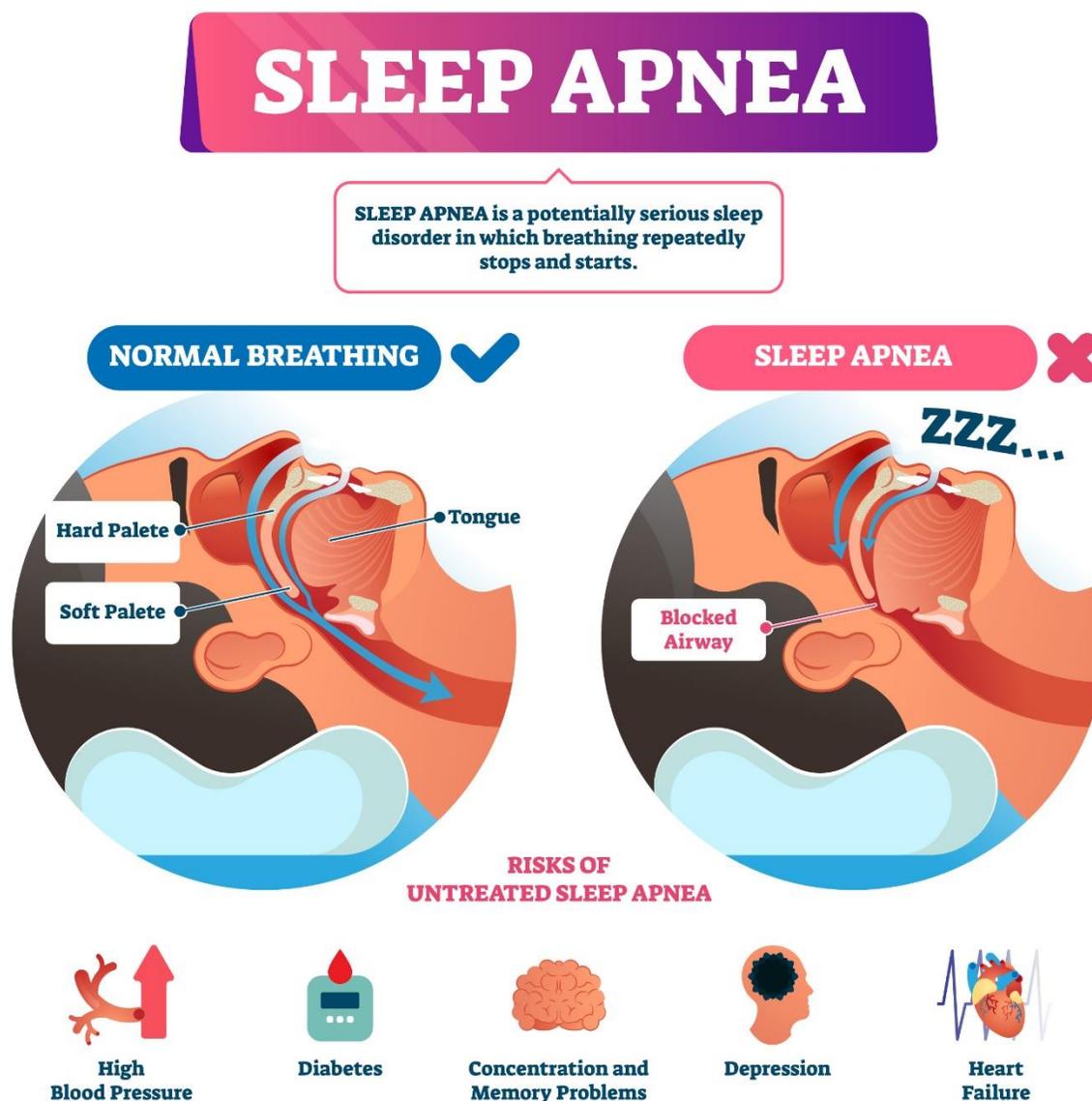
If you have obstructive sleep apnea, avoid night time sedation, unless recommended by your respiriologist to improve CPAP adherence.

Typical patient journey from referral to surgery



Obstructive sleep apnea syndrome (OSAS)

Obstructive Sleep Apnea Syndrome (OSAS) is a serious breathing disorder during sleep, seen in 55-90% of people with obesity. If left untreated, OSAS can lead to a number of long term complications including high blood pressure, diabetes, depression, stroke, heart attacks and heart failure, which all contribute to a reduced life-expectancy.



The main problem in obesity related OSAS is a narrowing of the throat (upper airway) from excess fat, which leads to blocked air flow during sleep when the airway muscles and tissues are relaxed. The lack of airflow (apnea) causes a drop in blood oxygen levels, which briefly interrupts sleep until the oxygen level is back to normal. This cycle may repeat itself hundreds of times at

night so that people with OSAS often wake feeling un-refreshed, with a headache and dry throat. They may feel tired and sleepy during the daytime.

Everyone who enters the bariatric program will be evaluated and undergo a home sleep apnea test and if abnormal, a polysomnogram (sleep study) may be ordered in the Richmond sleep lab, to provide a more comprehensive diagnostic assessment. A referral to our team respirologist may be required.

The best treatment for OSAS involves the use of a nasal mask which provides air under pressure (Continuous positive airway pressure or CPAP) to keep the airway open during sleep, thereby preventing apnea and snoring. Patients work with a Respiratory Therapist (RT) to identify the best type of mask and optimal pressure. It is very important to get established on CPAP as soon as possible, to improve symptoms and to reduce the risks of breathing complications following surgery.

You will be closely monitored by your respirologist and RT as your OSAS improves with weight loss and the CPAP required, to control your OSAS, decreases.

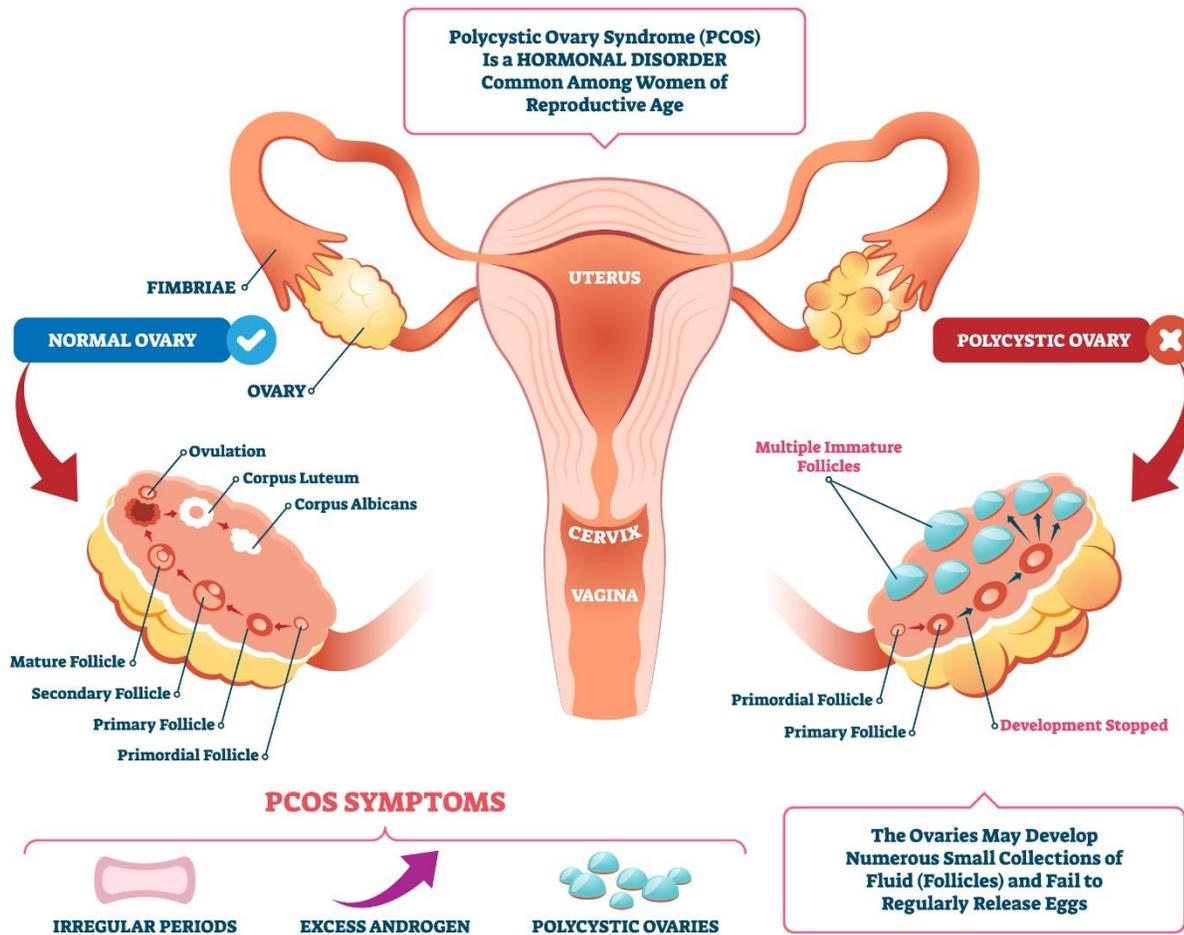


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Pregnancy and birth control

Challenges with fertility can occur for women (of child-bearing age) at all ranges of weight. However, one of the common types of infertility is Polycystic Ovarian Syndrome (PCOS), occurring in 7-10% of all women. PCOS has higher illness (physiologic) activity with higher ranges of weight. In general, it is a very common cause of infertility and the struggle is under-recognized in society.

PCOS - POLYCYSTIC OVARY SYNDROME



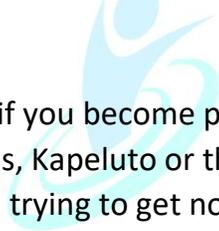
Bariatric surgery has been found to greatly improve fertility. It is variable to what degree specifically for each person, but in general it improves in the majority of females. Women who were not ovulating for years, may start to ovulate for the first time within months after surgery.

However, it is **not** recommended to become pregnant within 18 months after surgery. This is a strict recommendation from the Obstetrical societies, to ensure that >98% of women's weight has stabilized at that time point after bariatric surgery, thereby, likely also achieving a balance of nutrition at the same time. Getting pregnant within 18 months of bariatric surgery can risk the healthy development of your baby as you are still losing weight during this period. In reality, some data suggests that your weight should AT LEAST be stable for 3-4 months before achieving

pregnancy, but this comes with higher risk. Obstetricians recommend patient has a NORMAL balance of nutrients (including Iron) prior to achieving pregnancy. Ultimately, we know now that women that have a pregnancy within 6 months of surgery, have a higher rate of miscarriage or pregnancy loss, which can cause significant suffering after years of infertility.

Contraception: it is important to consider this for the first 18 months after surgery. Overall the Obstetrical guidelines suggest that Intra-Uterine Device (IUD) is best for contraception. The Birth Control Pill is a second option if IUD is not possible (usually OK for Sleeve Gastrectomy surgery), but Obstetricians have raised concerns about adequate absorption of the pills from the digestive tract. If you are pursuing a malabsorptive surgery such as the Roux-en-Y Gastric Bypass (RNY) or Biliopancreatic Diversion – Duodenal Switch (DS) or Single-Anastomosis Duodenal Interposition (SADI), the birth control pill may especially not be as effective, and we would recommend an IUD in these cases specifically. Overall there are other forms of birth control such as injections, patches, rings, condoms or fertility awareness, and we recommend to **please discuss this with your family physician or Obstetrician/Gynecologist.**

You should notify the bariatric program if you become pregnant in those first 18 months after surgery. You can notify Drs. Chang, Harris, Kapeluto or the Dietitian team (who will then inform the physician office) directly. Ultimately, trying to get normalized nutritional levels at that point to support the gestation is important.



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If you achieve pregnancy AFTER 18 months, we recommend regular care – see your family physician, or get referred to Obstetrician, or Mid-Wife. Patients who have all normal nutritional levels are considered lower risk, but sometimes if you still have low Iron, for example, you might want a referral to an Obstetrician as they have protocols for Iron transfusions on their medical wards in the ENTIRE of BC labour and delivery hospitals. Patients are obviously welcome to update their bariatric team as well, as we are happy to follow along concurrently (unless you've already been discharged post-operatively).

The oral glucose tolerance test in pregnancy is usually NOT indicated after bariatric surgery, especially if you had prior RYGB or Duodenal Switch or SADI. Even women who had prior Sleeve Gastrectomy may not tolerate the glucose tolerance test. Hemoglobin A1C level greater than 6% is consistent with a diagnosis of gestational diabetes, and can be collected on a random venous blood test at the lab.

Endocrinology and metabolism

As part of your participation in the Richmond Metabolic and Bariatric Surgery program, you may be referred to one of our endocrinologists. Common reasons include:

- Preoperative endocrinology consultation
- Diabetes optimization before surgery
- Osteoporosis and bone health
- Medical weight loss therapy prior to surgery
- Screening for reversible medical causes of obesity
- Nutritional assessment
- Nutritional deficiencies prior to surgery

Dr. Harris provides nutritional surveillance for all patients after Gastric Bypass surgery. The first appointment is 6 months after surgery, and further follow up is determined based on patient presentation.

Dr. Harris's private medical office will contact patients directly. All medical follow-up is done by Dr. Harris over virtual medicine – Skype, Face Time, Google, or via phone-call if the person does not have internet access to the above services. Patients that require an in-person clinic appointment should notify the bariatric nurse about this, and then Dr. Harris will arrange follow-up with alternate bariatric Endocrinologist in Vancouver.

Patients who undergo SADI-S or duodenal switch surgery will be screened before and after surgery by one of the team endocrinologists (Dr.Harris or Dr.Kapeluto), whose office will also contact patients directly and provide bloodwork requisition(s) as appropriate.

For those patients that already see a general internal medicine specialist or endocrinologist for management of diabetes, dyslipidemia (cholesterol) or other related-endocrine/metabolic illnesses, they should continue this follow-up.

Mental health

Why is mental health important when pursuing bariatric surgery?

Even though bariatric surgery has a positive effect on many people's mental health in the long term, unaddressed trauma or mental health related issues can increase vulnerability during the recovery period. While dysphoria or anxiety that is related to obesity can gradually be improved with weight loss, there are a group of patients who are unable to cope with the stresses of post-operative life and are at increased risk of self-harm.

Research has shown a link between childhood trauma exposure and disordered eating. We require everyone to address mental health issues and be stable for at least 18 months (as confirmed by family physician), and to have adequate support in place for purposes of risk reduction.

The role of our mental health clinician (social worker)

Our bariatric social worker will conduct a psychosocial assessment to identify your strengths, as well as risk factors, in order to provide recommendations that can enhance your surgical preparation and optimize your potential long term outcomes. Our social worker will also assess your current coping mechanisms to ensure you have non-food related strategies to cope with potential challenges after surgery. Please note:

- After opting in to our program, your initial social worker appointment will be booked by the unit clerk.
- The social worker will provide therapeutic and educational sessions as follow up appointments. Usually, patients will require multiple appointments before taking the next steps.
- Our social worker may refer you to a Psychiatrist, if needed, to help review risk factors related to your psychosocial well-being and provide recommendations that can enhance your surgical preparation and optimize your potential long-term outcomes.
- This can include encouraging you to connect with your local community for additional supports or empowering you to communicate your health and wellness needs with your own family and friends.

Recommendations and resources

We recommend that patients connect with their family doctor, or a counselor, therapist, psychologist, or psychiatrist to address mental health and to build healthy coping strategies before surgery.

It is mandatory that all substance use (i.e. alcohol, nicotine, marijuana, vaping, hookah, or likewise) be declared on your medical history forms and during provider appointments. You must be 6 months tobacco smoke free before attending orientation and remain tobacco free thereafter. Members of the bariatric team will assess all substance use. Recommendations for change will be communicated to you during your private appointments as needed. Ultimately, the goal is risk reduction and any advice provided intends to optimize your intra-operative success and post-surgery health outcomes.

Your individual reasons for intake and amounts taken will be discussed in detail at your allied health appointments. We may reach out to your family physician to verify your current usage levels.

At each of your Social Worker appointments, resources will be suggested to help cater to your specific needs. In general, we offer the following mental health resources:

➤ Changeways:

- free-of-charge
- 11-week cognitive behavioural therapy program to help prepare someone for long-term management of stress and healthy living (2 hours a session each week)
- Groups consist of about 10 participants who are pre- or post-surgery
- Sessions led by the Psychiatrist
- Topics include goal setting, stress and depression, healthy living, mindful eating, communication styles, thoughts awareness and thought stopping, and general tips on long-term maintenance after bariatric surgery.
- RMBS Changeways runs several times throughout the year and is only available to patients in the RMBS program (at the discretion of the Social Worker)
- It is important to note that completing the RMBS Changeways program does not guarantee long-term change, nor does it guarantee surgery. The program is intended for those who are open to ideas and want to make sustainable changes.

➤ **Psychiatric support**

- Our team psychiatrist can help with many aspects of your mental health, including but not limited to: assessment of your anti-depressants (if any) as bariatric surgery may affect its absorption post-operatively as well as liaising with your family doctor to develop a safety plan for long term success.
- You will be referred to the psychiatrist as the Social Worker's discretion.

Dealing with emotional eating

To successfully change problematic behavior, it is important to be fully aware of the problem.

WHY?

Identifying WHY we eat is critical to changing behavior and is a crucial first step.

Often there is a learned association between external circumstances and our need to eat, regardless of physical hunger

Movie → want popcorn

Angry → eat chips

Christmas → eat large portions of food



It is ideal not only to BREAK these links, but also replace it with a positive behaviour

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HOW?

Become aware of triggers for eating in your life – this can be done by logging your intake (food and drink), and taking note of the timing and environment; this can help you get to know yourself more

Practice slowing down your thought process before eating

Question Your Type of Hunger:

For one full day, stop for just a moment each time you are about to eat or drink something and ask yourself "Is this stomach, mouth, or heart hunger?"

Stomach: physically hungry, eating for your health

Mouth: craving food with a particular flavour, texture, or aroma

Heart: eating in response to an emotion or a learned eating behavior

“H. A. L. T.” – Before eating. For one full day, each time you are about to eat something, shout or whisper forcefully the word “HALT” Then stop and ask yourself if you are feeling:

Hungry **Angry (anxious)** **Lonely** **Tired (tearful)**

Use this exercise to determine if you are eating due to physical hunger or to fill an emotional need for food. You can add this to your journal – make note of the type of hunger or emotion that may be relevant at the time. Do you notice patterns? Situations? Events? Certain people? Emotions?

Sample emotional eating self-check in

Observations about eating behaviors	Potential strategies to manage
<ul style="list-style-type: none"> ➤ I eat when I feel bored ➤ I tend to eat _____ when I’m watching TV 	<p>Distract yourself:</p> <ul style="list-style-type: none"> ➤ Crafts to occupy your hands and mind ➤ Call a friend or family member ➤ Exercise or get fresh air ➤ Do laundry, cleaning, gardening ➤ _____
<ul style="list-style-type: none"> ➤ I eat when I feel alone ➤ I binge when I feel sad, anxious, or angry 	<p>Self-care activities:</p> <ul style="list-style-type: none"> ➤ Listen to music ➤ Yoga or relaxing exercises ➤ Read a book ➤ See/speak to a counselor ➤ _____
<p>General strategies to consider:</p> <ul style="list-style-type: none"> ➤ Journal daily to maintain mindfulness over food behaviors ➤ Stop buying foods that are unhealthy or triggering for you and try an “out of sight, out of mind” approach to add distance between cravings and your ability to act on them 	

Tools to manage triggers

Gaining awareness helps provide insight into which tools may work for you. Manage your triggers and cravings with “skill power” rather than “will power”.

Strategies to Try:

1. Nurture yourself vs. Nourish yourself
 - BEFORE: Stressful situation may trigger eating to comfort yourself
 - NOW: Choose a non-food reward for comfort. Practice nurturing WITHOUT food.

2. Put your cravings on hold - Give it a minute
 - Start to gain control over your cravings by waiting a small amount of time before satisfying them; gradually increase this time.
 - Discover the length of time needed to overcome a craving
 - This strategy is also used for quitting smoking or other substances

3. Ambush your triggers – Plan an activity to distract yourself
 - In the moment, use readily available distracters to get your mind off of food when not physically hungry, e.g. recite the alphabet backwards, sing a song, multiplication tables
 - Prevention: for situations in which you know your eating is problematic, plan an activity, remove yourself from the situation or distract yourself from the trigger, e.g. go for a walk, drink water or immerse yourself in conversation away from food table

4. Quench your thirst – Keep yourself well hydrated to decrease perceived food cravings.

Remember: changing your ways is a difficult process, but not impossible. Often support and guidance is required to determine *why* these behaviors are present and to develop strategies that are going to work for you in the long run.

Goal setting

Creating and maintaining lifestyle changes that include diet and exercise can be challenging. To stay on track, try following these steps:

Step 1: Set your goal*

Step 2: List the reasons that you value this goal

Step 3: Ask yourself how important this goal is to you and list any small changes you can make to achieve it.

Step 4: Include what you are specifically going to change:

- When and where you are going to do it
- How often or how long you are going to do it
- e.g. “I will walk for 40 minutes each day at lunch”

Step 5:

- List the barriers you might face in achieving your goal
- List strategies that you can try to overcome such challenges

Step 6:

Rate your confidence level in reaching your goal from 1 (not confident) to 5 (very confident)

- If you choose 1 to 3, ask yourself why you are not confident in meeting your goal
- If the goal is too large and seems insurmountable, take smaller steps to reach the larger goals

*Smart goals

Changing lifestyle and habits may not happen overnight and we need to take time to set small goals in order to reach our final goal towards success. These goals should have specific characteristics including being:

- Specific
- Measurable
- Achievable
- Realistic
- Time Specific



Arranging supports

Many people may feel shy or uncomfortable about sharing the fact that they are going for bariatric surgery. Please keep in mind that there is no shame in taking action to improve your health. Obesity is a chronic disease that often requires multiple tools to help with ongoing management – having surgery as an additional tool is not a “cheat” or “easy way out”.

Support is important before and after bariatric surgery. Please explore your support system within your inner circle and invite them to appointments, follow up meetings, and your surgeon consult if you wish.

Emotional support is crucial as well. Going through bariatric surgery can be stressful; you will need someone to listen to your struggles without judgement and to support you in making lifestyle changes.

All or nothing mindset

All-on-nothing thinking (also known as black-or-white thinking) is when things are viewed as “all good” or “all bad”. However, anything less than “perfect” should not be considered as failure. Changing habits and coping skills take a lot of practice and patience. It is not something that is

easily changed overnight. Focus on small steps, goals, and achievements and give yourself credit along the way. Aim for progress instead of perfection; if you expect perfection, you are setting yourself up for failure.

Be self-compassionate. Making lifestyle changes is not easy and takes a long time to build into consistent habits. Please focus on your achievements and strengths and remember to give yourself credit for all the steps you have (and continue to) take.



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Physical activity

As discussed through the course of this book, Bariatric Surgery is an effective tool to facilitate weight loss and better health. To attain maximum benefit from the surgery, Physical Activity (PA) and Exercise must be an integral part of your lifestyle both before and after the procedure. Research supports that PA and Exercise is a key component to long-term success when treating obesity. Physically active individuals tend to lose more weight and are also less likely to re-gain weight. Additionally, staying physically active has broad health benefits that can treat and reduce the risks of chronic disease.

As treatment and preventative medicine

Physical Activity and Exercise can:

- Help to prevent and control high blood pressure. Individuals who exercise regularly are able to decrease their high blood pressure and in many cases, reduce or even stop their need for blood pressure lowering medications.
- Raise High Density Lipoprotein (HDL) cholesterol known as the “good” cholesterol, while Low Density Lipoprotein (LDL) or “bad” cholesterol is lowered. This combination will decrease the amount of harmful plaques that can build up in the walls of your artery, keeping your blood flowing smoothly.
- Control blood sugar levels and when PA is regular, it is associated with HbA_{1c} reduction in patients with Type 2 Diabetes. HbA_{1c} is a test that shows the average level of blood sugar over the past 2 to 3 months Furthermore, structured exercise training of more than 150 minutes per week is associated with greater HbA_{1c} declines.
- In women with Polycystic Ovarian Syndrome, reproductive function and menstrual cyclicity is improved.
- Keep your heart healthy. Individuals who meet the basic Physical Activity Guidelines have a 14% lower risk of Coronary Heart Disease (CHD) compared with those who are sedentary. Individuals who doubled the activity guideline minutes had a 20% lower risk of CHD.
- Prevent certain Cancers. Exercise can modulate some of the biomarkers potentially involved in Breast and Colon Cancer pathways.

- Help to control Chronic Inflammation. Low-level inflammatory mechanisms are involved in the pathogenesis of several chronic diseases, including Heart Disease, Stroke, Type 2 Diabetes, Chronic Obstructive Pulmonary Disease, and Alzheimer's disease.
- Maintain and boost your immune system. Moderate exercise training can restore optimal antibody responses in the face of stressors and ageing.
- Help mediate symptoms of chronic pain. For those with Osteoarthritis, function and pain is improved in those who exercise and adhere to a healthy diet. Also, an exercise program customized to your needs can also regulate symptoms with Fibromyalgia and Rheumatoid Arthritis.
- Supports optimal bone health. Changes associated with bariatric procedures may place you at a higher risk of developing bone fractures. Regular exercise maintains strong and healthy bones and is an effective tool in preventing osteoporosis.
- Increase mobility, physical fitness, and overall functional independence. Those with higher levels of cardiorespiratory fitness are more able to perform regular activities of daily living and stay independent in older age.
- Enhance post-operative outcomes. Exercise has been reported to improve wound healing while engaging in light physical activity immediately post-surgery can prevent life-threatening blood clots.
- Keep your mind healthy and sharp. Regular exercise improves your mood, helps to prevent depressive symptoms, enhances memory, and produces a beneficial decrease in perceived stress.
- Promote better sleep. A good night's sleep can improve your concentration and productivity throughout the day, and exercise can help you fall asleep faster and sleep deeper. Moreover, sleep quality and quantity correlate positively to overall weight loss.
- Improve your sexual health. For women, those engaging in more physical exercise report higher levels of sexual desire. Also, orgasm problems are more likely among women who reported no physical activity. For men, erection quality is significantly correlated with exercise tolerance and increased physical activity is associated with better sexual function.

Strong evidence supports Exercise and Physical Activity (PA) as potent forms of medicine. So how do you distinguish between PA and Exercise? PA is defined as any bodily movement produced by skeletal muscles that result in energy expenditure. Exercise is a subset of physical activity that is planned, structured, and repetitive and has as a final or an intermediate objective to improve or maintain physical fitness. PA in daily life can be categorized into occupational, sports, household, or other activities. Therefore, both PA and Exercise are important components that can be incorporated into your lifestyle, and a gym membership or a treadmill isn't mandatory to be successful in this area. Take every opportunity to incorporate PA and movement into your life, every little bit adds up!

[Exercise guidelines](#)

How much Physical Activity will you need? For context and in **VERY GENERALIZED TERMS**, the guideline for adult PA/Exercise is for *moderate intensity* physical activity greater than 150 minutes per week (i.e.: brisk walking for greater than 30 minutes per day, most days of the week). Long-term weight-loss maintenance requires a commitment to *moderate intensity* aerobic activity greater than 250 minutes per week.

As we are all unique beings, so too should be your PA and Exercise prescription. For example, the exercise prescription for someone with Type 2 Diabetes, Coronary Heart Disease, and Chronic Kidney Disease will differ drastically from someone who has Fibromyalgia and Osteoarthritis.

If your medical condition is preventing you from physical activity, please contact HealthLink BC by dialing 8-1-1 and ask for a Qualified Exercise Professional.

Physical Activity Services at HealthLink BC is British Columbia's primary physical activity counseling service and your FREE resource for practical and trusted Physical Activity and Healthy Living information.

Going home after surgery

The expected length of stay following the Sleeve Gastrectomy and Roux-en-Y Gastric Bypass surgeries is usually 1 night and for the SADI-S or Duodenal Switch, usually about 2 nights. You may need to stay in hospital longer until your surgeon decides you are medically stable to go home.

To ensure a speedy recovery the nurses will encourage you to do some exercises during your stay in the hospital. Anytime you are in bed for a few days in the hospital, your lungs and circulatory system need help to work properly. These exercises will help prevent pneumonia and blood clots in your legs and promote healing.

Breathing exercises

Deep Breath and Hold

1. Take a **BIG**, slow breath in through your nose to fill the bottom of your lungs.
2. Hold your breath for about 2-3 seconds.
3. Slowly blow all the air back out.
4. Repeat this deep breathing exercise 4 times each hour until you are out of bed for most of the day.

Deep Breath and Cough

1. Take a faster deep breath and cough the air from the bottom of your lungs. It is important for you to use a pillow to support your abdomen while you cough.
2. Take a break for 30 seconds.
3. Repeat this deep breathing and coughing exercise 4 more times.

Leg exercises

1. Point your toes and then flex them towards your head and back towards the foot of the bed. Do this exercise 5 times per hour until you are out of bed for most of the day.
2. Point your toes and then rotate your ankle in big circles. Move your toes clockwise twice and then counter clockwise twice. Do this exercise 5 times per hour taking a short rest between each exercise.

Walking

You will also be encouraged to get out of bed for short walks soon after surgery. Getting up to the bathroom and walking in the hallways every few hours will help you recover faster. Walking

is very important to your recovery as it improves your blood flow, prevents blood clots from forming, helps your incisions heal, and allows you to pass gas. Gravity is your friend after surgery. Sitting up in a chair as much as possible during the day will help your recovery.

Pain management and wound care

You can expect to have some discomfort from the incisions after surgery, but it is important that we keep your pain under control. The less pain you have, the easier it will be for you to walk and to do your deep breathing and coughing exercises, which will help you to recover faster. The nurses will be asking you how much pain you have on a scale of 0-10 as everyone's pain threshold is different. 0 = no pain and 10 = worst pain you could imagine. This scale helps the nurse assess your pain and the amount of medicine to give you for the pain.

You may be given a prescription for an analgesic (pain medication) before leaving the hospital. You may use this medication as prescribed for pain relief at home. The pain/discomfort will improve daily and you will likely not require the pain medication for more than a week. As the pain/discomfort improves, please wean yourself off the prescription pain medication and use Tylenol (regular or extra strength) instead if needed. Please note that the prescription pain medication can also contribute to constipation.

After surgery, you can expect the following with your wounds:

- Steri-strips or surgical glue may be used to close the smaller holes used for the laparoscopic procedure. Steri-strips, if used, will fall off on their own 7-10 days after surgery. If they don't, you may gently remove them after 10 days in the shower.
- If staples are used, please see your family doctor 7-10 days following surgery to have them removed.
- Occasionally a drain is inserted (with the Duodenal Switch surgery) which is removed prior to going home after surgery.
- To keep your incisions clean, you can shower daily, starting 2 days after surgery, and gently pat incisions dry. Do not use antibiotic cream unless prescribed and do not have a bath or submerge your abdomen for 4-6 weeks postoperatively or until your surgeon allows you to.
- Try to leave the incisions open to the air when possible at home to help them heal.

Recovery

On average, most people return to work 4 weeks after surgery. Jobs that require physical exertion or professional drivers may need 1-2 extra weeks off work. Avoid heavy lifting (>10lbs) for 6 weeks after surgery. You should be feeling a little better each day. Ensure you are going for several short walks each day and practicing deep breathing to help prevent blood clots and pneumonia after surgery.

You may have some discomfort at the surgical sites. Be sure to ask your surgeon about any significant pain you are having. Shoulder pain can also occur within the first few days of surgery. This happens because of gas administered into your abdomen during surgery and normally disappears within the first few days.

Activities

- Your activity is restricted in the first 6 weeks after surgery to no strenuous activity. You can and should try hard to take short walks as often as you can tolerate. Please find alternate arrangements for housework during this time.
- You should plan to walk at least 15 minutes daily within the first few days of surgery to improve your recovery (it is fine to do multiple short walks (e.g. 2-5 minutes) and progress to longer walks as time goes on).
- If feeling tired for the first few weeks after surgery, the fatigue is normal. Ensure you get adequate sleep each night.
- Driving is restricted for at least 2 weeks after surgery or until you are off of the pain medication and pain free.
- Please consult with your surgeon on when you can restart strenuous activity.
- Avoid sitting and standing for long periods of time.
- Ask your surgeon before starting activities like swimming and weight lifting. You should avoid lifting >10lbs for 6 weeks after surgery.

Post bariatric body contouring (PBBC)

For those patients who choose it, body contouring surgery may be the final phase of treatment after bariatric surgery. PBBC refers to a group of surgical procedures that remove excess skin and fat in an effort to improve appearance and/or function for a patient who has lost a significant amount of weight. The decision to pursue body contouring is very personal. It's not expected that all patients will benefit from or desire this service.

The most commonly treated area is the abdominal region. Excess skin in this area of the body can generate feelings of unattractiveness or remind an individual about their prior weight and it can also restrict physical activity. The right body contouring procedure might address all of these issues. The most common body contouring procedures for post-bariatric patients are:

- Tummy tuck (abdominoplasty)
- Circumferential body lift
- Breast lift (mastopexy)
- Arm lift (brachioplasty)
- Thigh lift

Making the decision about when to have body contouring surgery is an important one. Often these procedures are 'major life events' (not unlike your bariatric surgery) that require time off work, careful planning and help from friends and family. Patients should be weight stable for at least 6 months prior to surgery. A healthy diet and an active lifestyle are also beneficial. If you're unsure whether or not you are a candidate for surgery, you should ask your bariatric surgeon or speak to your family physician. Please note, body contouring is considered plastic surgery and is not covered by MSP. It is independent of the bariatric surgery program and you would require a referral from your family physician or can speak to your surgeon about this.

Currently, body contouring procedures to remove excess skin are not a benefit of the medical services plan in British Columbia. The total cost will be made up of several items that may include: prescriptions, post-op garments and supplies, surgical facility fees, taxes, professional fees for the anesthesiologist, and professional fees for the surgeon(s). Quotes are largely determined by the length of surgery and not necessarily the type of surgery, for example, not every quote for a lower body lift is the same.

During the pre-operative visit (3-4 weeks prior to surgery) plastic surgeon will:

- Confirm your priorities for surgery
- Answer any questions
- Review results of lab work
- Review post-op care plans

For more information on Dr. Reid and Post-Bariatric Body Contouring, please visit www.drreidplasticsurgery.ca

Troubleshooting symptoms

When to Contact Your Doctor

- Any bleeding from or signs of infection (e.g., fever of greater than 38°C, redness, unusual pain, swelling, foul smelling drainage, oozing from incisions)
- Persistent abdominal pain
- Severe bloating
- Persistent nausea, vomiting, diarrhea
- Inability to tolerate fluids
- Dark and foul-smelling stools
- Dark urine or decreased urine production (may indicate dehydration)
- Sweats
- Cramping leg pain
- Pain that is not relieved by pain medication

When to Contact 911

Any symptoms associated with difficulty breathing, chest pain, or urine output less than 3 times in 24 hours, needs immediate medical attention.

Normal Symptoms after Surgery

- Mild or moderate pain or discomfort
- Mild to moderate fatigue
- Moderate swelling or bruising
- Itchiness at your incision sites due to the healing process of the nerves.
- Numbness in the abdominal area in the first 2-3 months (gradually returns to normal)
- A small amount of nausea is common after surgery related to the anesthesia and the inflammation of the stomach

Diarrhea

Diarrhea may be due to following:

- Lactose intolerance: Diarrhea may be caused by new onset of lactose intolerance, which is usually temporary. If this happens, you may switch to milk alternatives (i.e. fortified soy/rice/almond milk and/or use lactose-free milk) or use lactase enzyme. Lower lactose products such as yogurt and low fat cheese are better tolerated than milk itself.
- Consumption of sugar-containing foods and medications can cause dumping syndrome
- Products containing sugar alcohols; those ending with “-ol” such as mannitol, sorbitol, xylitol

- Clostridium difficile (bacterial infection in your bowel)

As soon as you notice diarrhea, limit the following foods: milk and milk products, greasy foods, high fibre foods, and sugar alcohol containing foods and include foods with soluble fibre such as banana, soft apple without skin, and oatmeal. Make sure you eat small meals and drink fluids between meals.

Dumping Syndrome

More commonly occurring after RYGB, dumping syndrome is triggered by various food choices, eating too quickly and/or not separating solids and fluids properly. Some examples are refined sugars, high glycemic index carbohydrates (e.g., rice, potatoes, chips, candy, chocolate, etc.), fatty and fried foods.

The symptoms of early dumping syndrome, which occurs 30-60 minutes after eating and may last up to 60 minutes, may include:

Sweating, flushing, nausea, diarrhea, dizziness, cramping, loose stools, weakness, desire to lie down, upper abdominal fullness, cramping, vomiting, and heart palpitations.

The symptoms of late dumping syndrome, which occurs 1-3 hours after eating and is due to low blood sugar, may include: sweating, shakiness, loss of concentration, hunger, and fainting.

To prevent dumping syndrome:

- Avoid foods that are sweetened and/or have high fat content; examples are sweets, cookies, candy, donuts, muffins, pies, cake, fries or fried foods, chicken wings, syrup, ice cream, fruit drinks, and fruit juice
- If sugar (in the form of glucose, fructose, sucrose, cane sugar and syrups) appears among the first three ingredients of the food, do NOT consume that product.
- Aim for less than 10g of sugar per serving.
- Choose foods with lower fat content; look for less than 5% daily value of fat on the label
- Avoid drinking fluids with meals; fluids must be consumed ½ hour before or ½ hour after solid meals.
- Do not try to wash down solid food that seems stuck; this makes you feel worse and may cause you to vomit. Let the food pass through without eating or drinking more.
- Notify the Dietitian or Nurse in the Bariatric program if you suspect this is happening, as medical consultation with the team Endocrinologist may be necessary.

Constipation

Constipation may be due to following:

- Administration of narcotic pain medications after surgery

- Inadequate fluid intake
- Inadequate consumption of fibre, fruits, and vegetables, and high protein intake
- Taking iron supplements
- Lack of physical activity

You may try the following tips to improve your bowel movement:

- Drink enough fluids regularly (slowly working your way back to 8 cups water/day as soon as it is tolerated)
- Increase your physical activity
- Incorporate ¼ cup of unsweetened prune juice and dilute with equal amount (1/4 cup) of water. After having the prune juice, drink warm water, decaffeinated coffee or tea. You can do this 1 to 2 times a day to help. Remember that prune juice adds extra calories to your diet plan so be sure to count this and avoid other types of juice if drinking prune juice.
- Include fibre-rich foods in your diet, e.g., cooked beans, vegetables, pear
- Take a stool softener (Docusate Sodium) daily until you are having regular bowel movements
- Add Benefibre® to your liquids or food after week 3 post-op or Metamucil® after week 10 post-op
- You may take Restoralax® or Lax-a-day® daily as needed once you are consuming at least 6 cups of water/day
- Seek medical attention if constipation doesn't improve

Decreased Appetite and Taste Changes

Most patients have reduced appetite and notice that their food preferences have been altered. Others may notice food taste changes. These are normal and will eventually improve. The important point is to ensure the food and fluid intake is appropriate regardless of alteration in taste and appetite.

Dehydration

Diarrhea, vomiting, and not drinking enough fluids may cause dehydration. The goal is to drink at least 6-8 cups of fluids daily, which may include water, calorie-free fluids such as crystal light, decaffeinated coffee, tea, milk (as part of your milk and alternatives), ice chips, and sugar-free popsicles.

Dehydration signs include dark urine, headaches, dizziness, lethargy, dry skin, and/or a white coating on the tongue. Drinking less than 600 mL of fluids (in addition to your 6 small meals/day) will affect your kidney function. If you are unable to drink enough fluids, for reasons such as intolerance and vomiting, you need to seek medical attention.

Food Intolerances

Patients may be intolerant to some foods after gastric bypass surgery.

The most problematic foods are:

- Dry (e.g. roast beef, turkey, pork),
- Sticky (peanut butter),
- Gummy (fresh bread), or
- Stringy (chicken, celery, fibrous fruit, and vegetables)
- Bread, pasta, and rice: fresh bread, pasta, and rice tend to become “gummy” and can cause blockage of the stomach pouch outlet. However, toasted bread, crackers, tortilla shells are more tolerable.
- Abdominal cramping has been reported with consumption of vegetables such as cauliflower and broccoli.
- Lactose intolerance is also reported, as previously mentioned.
- Increased sensitivity to alcohol

Gas and Bloating

It is common to feel bloated in the first few weeks after the surgery, especially if you have developed intolerance to lactose. Try the following tips to prevent gas and bloating:

- Drink slowly only up to 4 tbsps of fluids at once
- Do NOT use straw
- Do NOT chew gum
- Do NOT drink carbonated beverages
- Do NOT eat foods that contain sugar alcohols such as sorbitol, mannitol, and xylitol

Hair Loss

Hair loss is common between 4 to 8 months after surgery and is usually due to rapid weight loss. This is a temporary symptom and hair will re-grow once your weight loss is stabilized. In order to promote hair re-growth and prevent excessive hair loss, you must eat enough protein, take all your supplements, and eat nutritious meals. Inadequate protein, iron and zinc may all contribute to hair loss.

Nausea & Vomiting

Mild nausea is common in the first few months following bariatric surgery. Nausea and vomiting may be caused by eating too fast or too much, not chewing the food enough (must chew food 30 times prior to swallowing), eating solids at the same time with fluids, eating foods that are too dry or rough, gulping fluids, eating while distracted, dehydration, or swallowing air.

If nausea or vomiting occurs:

- Stop eating and drinking until the nausea stops.
- Return to full fluid and/or pureed food stage for a day or so before re-starting the solids.
- If a certain food caused nausea and vomiting, avoid that food for a few days before re-introducing it.
- Cut foods into small pieces and take your time to eat, put down utensil between bites, eat without distraction and chew food well.
- Avoid cold beverages as well as those that are caffeinated or carbonated.
- Make sure you drink enough fluids, but also separate from solids.
- Continue journaling and keep track of your symptoms.
- Contact your doctor if the nausea and vomiting persists more than 24 hours.

To prevent nausea and vomiting, you can:

- Take small bites of food and sip on fluids slowly. Chew your food well.
- Take 30-45 minutes to eat your food.
- Avoid drinking with meals.
- Avoid cold, caffeinated or carbonated beverages

Heartburn

Avoid drinking carbonated beverages, acidic food/beverages, caffeine, spicy foods, and using a straw. You might have to take acid-reducing medications if heartburn is affecting your food and fluid intake – discuss this with your surgeon.

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Dysphagia

Dysphagia means difficulty swallowing and can be a side effect of restrictive bariatric surgeries such as RYGB. Patients may feel pain in the esophagus, chest pressure, or tightness in the throat after eating too fast, too much, or not chewing food well. To prevent this symptom, chew food well, eat slowly and avoid tough foods such as doughy bread and dried meat.

Metabolic Changes

The following changes are common:

There might be a need to change dosages of oral diabetic medications, insulin, hypertension medications, and diuretics, after the surgery. If you take such medications, ask your physician about what symptoms to watch for and follow up with your family physician regularly. We ask the family physician be actively engaged in helping manage medications after surgery. The surgical team, nurse, and endocrinologist may recommend medication changes directly after surgery when going home.

Some cholesterol medications may cause nausea post-operatively. If your physician suspects this is contributing to your nausea, he/she may choose to reduce or stop these medications.

Strictures

If you are following proper eating techniques and still vomiting (even with fluids) and your saliva is white, sticky, and foam-like, you may have a stricture. A stricture (excessive scar tissue formation) occurs when the small opening between your pouch and small intestine is too tight. You need to see your surgeon urgently, if you suspect a stricture. Smoking contributes to a higher stricture rate after surgery, which is another reason why you need to be smoke-free prior to surgery.

Swelling and Bruising

Moderate swelling and bruising is normal after surgery, but more severe cases may indicate infection and/or bleeding. Seek medical attention if there is a hard, swollen, hot, red spot on your abdomen or if you are having significant pain at the incision sites.

Ulcer

An ulcer may develop in the area where the new stomach pouch is connected to the small bowel. It is accompanied with symptoms such as pain when eating, bleeding (accompanied by bloody stool), vomiting blood and nausea. An upper endoscopy examination can help to diagnose ulcers and can be treated with anti-ulcer medications. Smoking, caffeine, anti-inflammatory medications (i.e. ibuprofen, Advil®, Motrin®, Naproxen, Aleve®, Naprosyn, Indomethacin, Indocin, Nabumetone, Relafen, and Aspirin) and corticosteroid medications (i.e. prednisone) increases risk of developing ulcers. To avoid complications such as an ulcer, do not resume smoking after your surgery, avoid caffeine, and avoid the above medications unless ordered by your physician. You will be given a prescription for acid-reducing medications for a minimum of 1 month after surgery. Make sure you take your acid-reducing medication daily as prescribed after discharge from the hospital.

Abdominal Pain

After surgery, weight loss can lead to an internal hernia (gastric bypass) and gallstone formation (both gastric bypass and sleeve gastrectomy). As mentioned, ulcers can also form after surgery. If you develop pain in the central / upper abdomen, after meals associated with nausea, this may be an internal hernia or gallstone attack. If pain persists, you must seek urgent medical attention. We prefer you return to Richmond Hospital if possible as our surgeons are trained to manage severe complications such as internal hernias. If you go to another hospital, ask the physician who is taking care of you to call your bariatric surgeon.

Low Blood Sugar

Low blood sugar (glucose reading less than 4mmol/L; hypoglycemia) may occur in patients after bariatric surgery, especially with those patients who are still on diabetic medications, or after exercising. If you are being treated for diabetes, it is important to see your diabetes specialist / endocrinologist within 4 weeks post bariatric surgery so that your medications are adjusted. Symptoms of hypoglycemia may include: feeling shaky, weak, cold with sweaty skin, dizzy, hungry, cranky, etc.

To prevent hypoglycemia, make sure that you eat regularly, have adequate amount of protein (as calculated by your dietitian) with each meal, and choose high fibre foods (e.g., beans, soft cooked pears). Treating low blood sugar before and after the surgery is the same, e.g., having glucose tablets.

Please keep a detail log of your blood sugars after surgery and contact the bariatric nurse for blood sugars that are consistently below 4.0 or above 10.0.

Weight Loss Plateau

Everyone's weight loss journey is different and weight loss patterns vary among patients; it is almost impossible to predict how much weight an individual will eventually lose. We recommend you do not compare your weight loss with other patients. Be patient and don't get disappointed. Note that it is normal to lose a significant amount of weight at the beginning and then stall for weeks at a time. Sometimes, you might also gain some weight; research has shown that once you have reached your most stable weight, you may gain about 10% of the weight you have lost back. Fixating on a "magic number" (your perceived goal weight) constantly is not helpful during your weight loss journey. There are many other ways that you can observe your progress such as improvement in your blood work, reduction of the number of medications you are taking, the reduction in size of clothes you are wearing, more flexibility in your day to day activities, or sports that you can now enjoy, and more!

Here are some tips on how to boost your weight loss: 1) make sure you consume an adequate amount of protein (as recommended by your dietitian) and always eat protein first; 2) vary the types of foods you eat and mainly eat solid foods at 3 months post-surgery and beyond; 3) vary types of physical activities you do and include some weight training (you may contact bariatric QEP by calling 811 to help you get started on this or other activities); 4) stay positive and committed and stop worrying.

Food Taste Changes

It is normal to observe some changes in your taste sensation after the surgery. Some people develop food aversions toward certain foods or water. Some don't find eating a pleasurable experience anymore. Again, we cannot predict who will develop such aversions but for the majority of people, the change is temporary.

Psychological Considerations

Some people believe that bariatric surgery alone will stop one's addiction or compulsion to eat. Unfortunately, this is not the case.

There is emerging evidence that for some patients, food can be an addiction because of its impact on the pleasure centers of the brain. Just as some people with substance use disorders can switch one addiction to another, there is data that some patients who have undergone bariatric surgery can be at risk of switching their addiction to food to a different type of unhealthy addiction.

Also, unaddressed trauma/abuse, high stress lifestyle, and/or other unresolved psychological issues will not be treated by bariatric surgery. Patients who have used food to cope with their emotions can struggle after the surgery if they have not learned healthier coping mechanisms.

Our team is committed to helping our clients reduce their psychological risks and find healthy, non-food alternatives for coping with the stresses of everyday life. Our clients who have addressed these factors are the ones who have been the most successful with their long terms weight loss and health goals.

If you feel you need help with some of the above psychological factors, talk to us! We have programs and services available to help you.

Nutrition (before surgery)

All patients will meet with a Registered Dietitian one-on-one and receive intensive education on behavior modification, including but not limited to:

- Comprehensive nutrition assessment
- Lifestyle choices
- Self-monitoring
- Food choices
- Meal planning and prepping
- Fluid and nutrient requirements (considering existing medical conditions)
- Nutrition label reading
- Mindful eating
- Eating techniques
- Pre-op and post-op diets
- Vitamin/mineral supplements counseling
- Review of blood test results
 - fasting may be required
 - do not take any biotin containing supplements, except multivitamin and mineral, for at least one week prior to your blood work since it may affect the results of tests such as TSH, Folate, and Ferritin

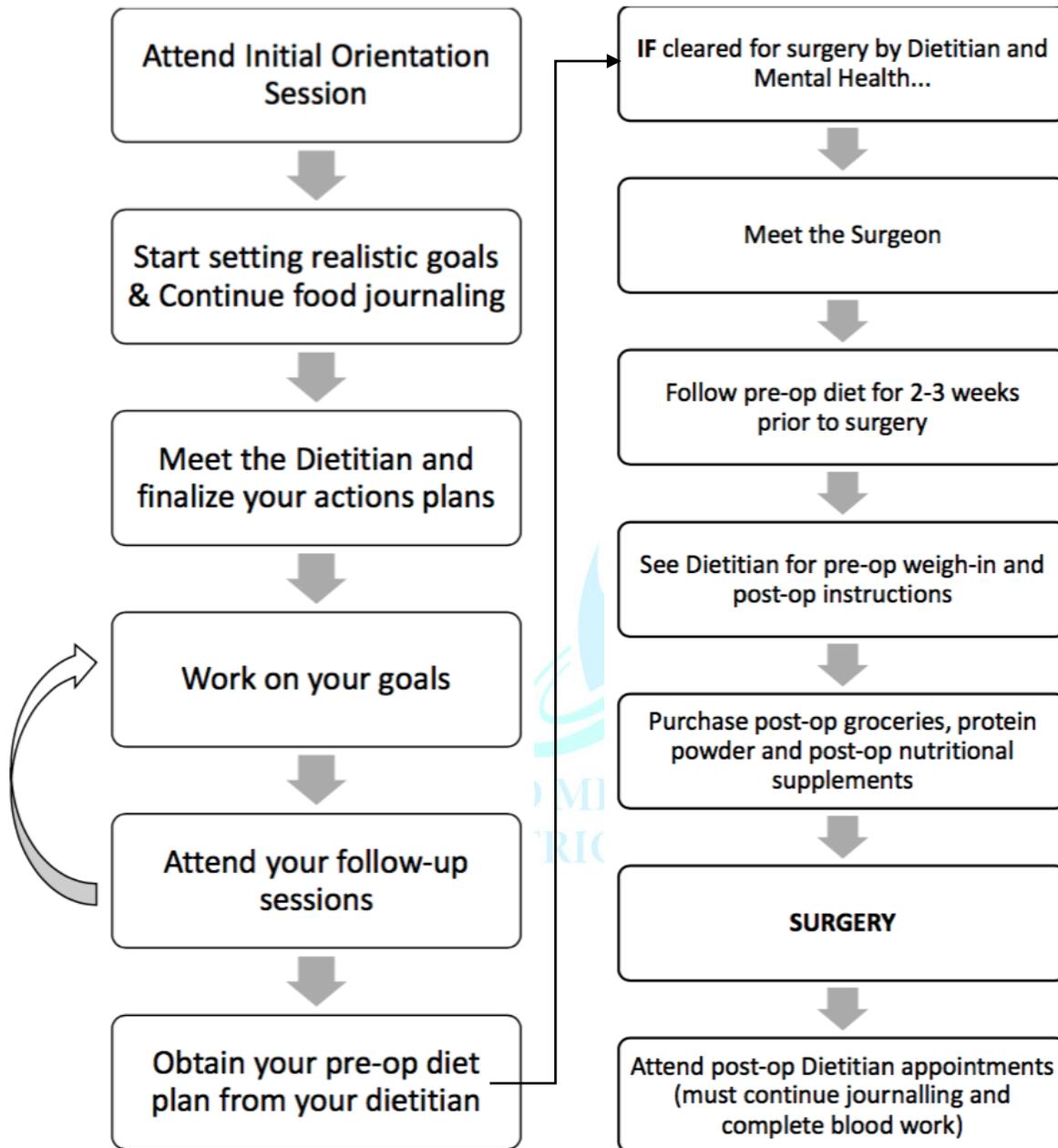
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When possible, nutrition classes are offered in-person or virtually. However, when classes are not offered, please watch the nutrition videos on our website:

<http://www.rmbsurgery.com/videos/nutrition-videos/>

Please note: the nutrition videos above do not replace the individual advice you've been provided at your dietitian appointments or from your physician(s). They are simply to provide you with generic information for learning purposes.

Summary of appointments with the dietitian



Nutrition guidelines prior to bariatric surgery

Following healthy eating guidelines is important in preparation for the bariatric surgery and for the rest of your life; it is not only about what you eat, when you eat, how much you eat, but also how you eat. The key is having a balanced diet and limiting unhealthy foods.

Following Canada's Food Guide and the Healthy Plate Model will be the first steps toward healthy dietary habits. This includes:

- having plenty of vegetables and fruits
- eating protein foods
- making water your drink of choice
- choosing whole grain foods
- being mindful of your eating habits
- cooking more often
- enjoying your food
- eating meals with others
- using food labels
- limiting highly processed foods
- gaining awareness of how marketing can influence your food choices



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Your dietitian will help you develop a balanced and sustainable diet depending on your age, gender, medical conditions, and preferences. Coaching will be provided to help with reading nutrition labels, addressing nutritional deficiencies, eating regularly and not skipping meals or snacks and addressing emotional eating and focusing on mindful eating behaviors.

Helpful resources (copy and paste link into your internet browser):

Food Guide Basics: <https://tinyurl.com/food-guide-basics>

Build a Healthy Meal - Use the Eat Well Plate: <https://tinyurl.com/healthy-meal-plate>

Food Guide and Healthy Eating: <https://tinyurl.com/food-guide-healthy-eating>

Overcoming Barriers: <https://tinyurl.com/overcome-barriers-solutions>

Healthy Eating: <https://tinyurl.com/healthy-eating-8100>

Weight Management: <https://tinyurl.com/healthy-weight-8100>

Mindful Eating:

<https://food-guide.canada.ca/en/healthy-eating-recommendations/be-mindful-of-your-eating-habits/>

<https://www.cravingchange.ca/public/>

Emotional Eating:

<https://www.healthlinkbc.ca/health-topics/aa145852>

<https://www.cravingchange.ca/public/>

<https://www.amazon.com/Emotional-First-Aid-Kit-Practical-ebook/dp/B0054RXXS0>

Lifestyle modifications for bariatric patients

You need to practice the following prior to surgery in order to be prepared for your new lifestyle after surgery:

- Manage portion size, eating pace and food tolerance:
- Use smaller plates and utensils
- Cut food into small pieces
- Chew each bite of food 30 times until mushy
- Stop eating when you feel comfortably satisfied, not stuffed
- Include 30-60 minutes of physical activity every day

After surgery, you may feel pain in your upper stomach area or further up when you have eaten more than you should or when you have eaten dry food/the food was not chewed well

- Avoid drinking fluids with meals, and ~30 minutes before and after meals
- Having fluids too close to your meal will fill up your small stomach or overwhelm it with excessive volume. This is not only dangerous soon after surgery, but can also eventually stretch your new stomach which defeats the purpose of bariatric surgery.
- Avoid feasting (food funerals) before the surgery thinking that you will never eat the same way after the surgery

Any weight gain, especially in the weeks leading to surgery, can increase the size of your liver and risks associated with surgery

To ensure adequate hydration:

- Practice sipping fluids slowly throughout the day
- You won't be able to gulp fluids after surgery
- Carry water with you all the time
- Gradually eliminate caffeinated, carbonated and alcoholic beverages

To ensure adequate nutrition:

- Read nutrition labels to identify high-protein foods
- Eat protein with each meal
- After surgery, protein must be the first item to be consumed at each meal
- Explore and purchase protein supplements (examples are provided later) such as whey protein isolate, since you may not be able to eat enough high protein foods to meet your body's needs after the surgery.
- Consistently take your recommended vitamin and mineral supplements

Pre-Operative diet

Your liver partially covers the top of your stomach and needs to be lifted during the surgery to avoid complications. In order to decrease the risk of injury to your liver, you are required to not only attempt losing weight prior to surgery, but also follow a special diet for 2-3 weeks (as per surgeon's order) prior to surgery.

The pre-op diet is customized to include your dietary preferences, food tolerances, and medical conditions. The diet usually contains approximately 1200 calories (women) or 1500 calories (men); the amount of carbohydrate, protein and fat will be specifically calculated considering your medical conditions and weight.

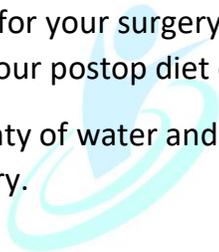
Please discuss your preferences at follow-up dietitian appointments to help plan your pre-op diet; you may bring food products with their labels that you would like to incorporate. Some medications, i.e., diabetic medications, must be adjusted while on this diet and therefore patients need to experiment with the pre-op diet before that 2- or 3-week period.

The **food-based** pre-op diet may contain the following items:

- Lean meats and meat alternatives
- Vegetables and fruits
- High fibre crackers (such as wasa crackers)
- Plain, sugar-free oatmeal
- Whole grain rice, wraps or bread
- Fat-free, low sugar yogurt
- Skim or 1% M.F. milk
- Low fat, low sodium broth
- Low sodium V8
- Sugar-free Jell-O® or pudding
- Calorie-free fluids such as water with Crystal Light® or Mio®
- Protein powder (Per 1 scoop: <1.5g fat, <5g carbs, 20-40g protein)

Please ensure you are not constipated for your surgery date as this would be exacerbated by bariatric surgery due to lack of fibre in your postop diet during the first 3 weeks.

It is important that you are drinking plenty of water and if you're constipated take a Stool Softener or laxative 2 days before surgery.



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Nutrition (after surgery)

After surgery, you will only be taking sips of clear fluids. This is to allow your suture site (staple line) to heal and to reduce the risk of a post-operative leak. You will slowly increase your clear fluid intake to 2 tbsp every 15 minutes. The following table outlines the usual diet progression for people having bariatric surgery for the first time (no prior bariatric surgery).

Post-Op Diet Progression*

Time Post Op	Diet	Duration	Portion Size	Meal Time
Post-Op Day 0 until discharge	Bariatric Clear Fluids	0 - 2 Days	Day 0-1: 1 tbsp every 15 minutes Day 2: 2 tbsp every 15 minutes	n/a
Discharge until end of Post Op Week 3	Bariatric Full Fluids	3 weeks	2 tbsp every 15 minutes Meal: ½ to ¾ cup	1 - 1.5 hours
Post Op Week 4 and 5	Bariatric Pureed	2 weeks	2 to 4 tbsp every 15 minutes Meal: ½ to ¾ cup	1 - 1.5 hours
Post Op Week 6	Bariatric Soft Solids	6 weeks	Eat protein first, then vegetables, carbohydrates last Meal: ½ to ¾ cup	45 - 60 min
Post Op Month 3 and onward	Regular	Maintained for life If unwell, may step back to fluids temporarily	Eat protein first, then vegetables, carbohydrates last Meal size differs based on surgery: VSG: ¾ - 1 cup RNY, SADI-S, BPD-DS: ½ - ¾ cup	30 - 60 min

*Patients having revisional surgery may have a different diet progression schedule.

Bariatric Clear Fluids (Post-operative Days 0 - 1)

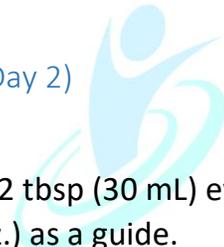
The bariatric clear fluid diet consists of water, diluted clear juice, broth, diabetic Jell-O®, and decaf tea or coffee. You must avoid caffeinated coffee and tea because they offer no nutritional value, fill your smaller stomach too much, and may cause dehydration and heartburn. We discourage carbonated beverages as the gas causes pain/discomfort and fills what little space you have in your stomach with empty calories.

Aim for 1 tablespoon (15 mL) every 15 minutes. Avoid use of straws. Drinking through straws causes you to drink too quickly, which can cause discomfort in the pouch. Straws also introduce air into the pouch and cause excess gas. Avoid straws until you are comfortable regulating how quickly to drink. You should also be getting other fluids via IV (intravenously) while in hospital.

Bariatric Clear Fluids (Post-operative Day 2)

You may now increase fluid intake to 2 tbsp (30 mL) every 15 minutes. You may use a medicine cup which holds 30 mL (1 oz.) as a guide.

If you are not already discharged home by now, and you are tolerating the clear fluids well, then your IV (intravenous) fluids will be discontinued before you are sent home.



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Bariatric Full Fluids: (Discharge to Post-op Week 3)

You will be discharged home 1-2 days after surgery and can start on a bariatric full fluids diet until the end of post-op week 3. The full fluid diet includes fluids as well as some foods that are easy to swallow.

It is generally milk (or milk alternative) based, high in protein, and low in fat and sugar. Listen to your body cues. Always stop drinking if you feel pain, pressure, or discomfort. Try drinking again later, after taking a break.

Make sure to focus on drinking and take your time. You may drink or eat 2 tbsp (1 oz) every 15 minutes. It is ideal to spend 1 to 1.5 hours slowly eating your meal which consists of $\frac{1}{2}$ to $\frac{3}{4}$ cup (4-6 ounces) of full fluids.

Avoid using a straw as you may drink too much or too fast and swallow air or over stretch the small pouch. Full fluids must be rich in protein and may contain protein powder which contain 20-40 g protein per serving and can be dissolved in preferably fat free or low fat milk or no sugar added soy milk.

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Full fluids are foods or drinks that are:

- Liquid at room temperature
- Melt at room temperature
- Can be poured
- Do NOT contain solid pieces of food

Full Fluid Options

Food Group	Choose	Limit or avoid
Milk and Milk Products	<ul style="list-style-type: none"> ➤ skim or 1% milk or Lactaid® milk ➤ low fat, unsweetened fortified soy beverage ➤ smooth, plain fat-free yogurt (no fruit bits) ➤ low fat, sugar free pudding or custard ➤ strained and thinned low fat cream soup (e.g. Campbell's cream of mushroom, STRAINED) ➤ skim milk powder added to full fluids ➤ (week 3) low fat cottage cheese or ricotta cheese 	<p>High fat ice cream; high calorie milkshakes;</p> <p>Avoid all solid milk products like cheese</p>
Grain Products (starting week 3)	<ul style="list-style-type: none"> ➤ (week 3) thin plain oatmeal ➤ (week 3) thin cream of wheat ➤ (week 3) thin oat bran cereal 	<p>Avoid any bread, cold cereals, pasta, rice, noodles, grains, beans and legumes</p>
Fruits and vegetables (starting week 3)	<ul style="list-style-type: none"> ➤ (week 3) Vegetable or tomato juice (low sodium), i.e. low sodium V8® ➤ (week 3) Unsweetened fruit sauce, store bought or homemade with no added sugar, fruit peel removed 	<p>Avoid fruit juice (even 100%) unless it is prune juice being used to treat constipation.</p> <p>Avoid pureed vegetables;</p> <p>Avoid all raw vegetable and fruits</p>
Meat and Alternates	<ul style="list-style-type: none"> ➤ Silken or soft tofu (not dessert tofu) ➤ meats broths (fat free) 	<p>Avoid all meat, fish, poultry and firm tofu even if pureed</p>
Protein supplements	<ul style="list-style-type: none"> ➤ Protein powder (Per 1 scoop: 20-40g protein, <1.5g fat, <5g carbohydrate, no protease) ➤ 100% whey isolate preferred; otherwise soy is best plant based option ➤ Diabetic (sugar free) nutritional supplements 	<p>Plant based proteins except for soy</p> <p>(speak with your dietitian re: allergies restricting options)</p>
Other	<ul style="list-style-type: none"> ➤ Water, broth, consommé ➤ Popsicles® made with artificial sweetener 	<p>Avoid caffeine; alcohol; carbonated</p>

	<ul style="list-style-type: none"> ➤ Decaffeinated coffee/tea or herbal tea ➤ Any non-carbonated decaf sugar-free beverage made with artificial sweeteners, i.e. Crystal Light® ➤ Sugar free Jell-O® or popsicles 	drinks; solid or semi-solid foods; all forms of added sugar including honey and syrups
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Sample Menu for Full Fluid Diet (Post-op Week 1 - 2)

Breakfast	½ cup protein drink (sipped slowly over 1 hour)
Morning Snack	¼- ½ cup fat-free, sugar free plain or vanilla Greek yogurt mixed with ½ scoop protein powder, and skim milk to thin as needed
Lunch	¼- ½ cup low fat broth soup or low fat cream soup (e.g. Campbell's cream of mushroom, STRAINED), thinned with skim milk or fat free, low sodium broth; can add plain protein powder OR ½ cup fat free broth with skim milk powder
Afternoon Snack	½ cup protein drink (sip slowly, over 1 hour) OR ¼-½ cup fat-free, sugar free plain or vanilla Greek yogurt mixed with ½ scoop protein powder, and skim milk to thin as needed
Dinner	¼- ½ cup low fat broth soup or low fat cream soup (e.g. Campbell's cream of mushroom, STRAINED), thinned with skim milk or fat free, low sodium broth; can add plain protein powder OR ½ cup fat free broth with skim milk powder
Evening Snack	½ cup protein drink (sipped slowly over 1 hour) OR non-fat, sugar-free Greek yogurt (thinned with milk if needed)

Important Notes:

- Water is your priority: Have 4 cups of water or calorie free fluid throughout the day.
- Sip all fluids slowly to avoid abdominal pain or nausea from drinking too fast
- To keep your food and fluids cold or hot as long as possible, try using a thermos.
- Using a shaker cup to mix your protein drink will create fewer air bubbles vs blender.
- No shaker cup? Use a blender on low speed. Then, let your protein shake settle to minimize bubbles before drinking (or skim the bubbles off with spoon).

High Protein Drink Sample Recipe

1 scoop protein powder should have 20-40g protein, <5g carbohydrate, <1.5g fat, <1g sugar

Directions:

1. Mix $\frac{1}{2}$ scoop of protein powder with $\frac{1}{2}$ to $\frac{3}{4}$ cup skim milk or plain soy milk or $\frac{1}{2}$ cup fat-free, sugar-free Greek yogurt (plain or vanilla, NO fruit bits)
2. Then add these optional flavors:
 - 1 packet of Crystal Light®
 - 1 squirt of Mio® sugar free flavoring drops
 - 2 tbsp diet Jell-O® sugar free powder or prepared sugar free Jell-O cup
 - 2 tbsp low fat, sugar-free pudding
 - 1 tsp unsweetened cocoa powder
 - 1 tsp instant decaf coffee
 - Small amounts of other calorie free sweeteners

***Hint:** Mix protein powder (plain and flavored) well in a room temperature liquid first before adding to hot fluids (e.g. decaf coffee or herbal tea) or food (e.g. oatmeal or soup). This will help prevent clumps.

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Sample Menu for Full Fluid Diet (Post-op Week 3)

Breakfast	<p>¼ cup cooked plain oatmeal (runny consistency) which has ¼ cup skim milk; (add protein powder at room temperature)</p> <p>¼ cup fat-free, sugar free plain or vanilla Greek yogurt</p>
Morning Snack	¾ cup protein drink (¾ cup of skim milk + ½ scoop protein powder)
Lunch	½ - ¾ cup STRAINED low fat cream soup made with low fat milk, with ½ scoop protein powder (mixed at room temperature)
Afternoon snack	¾ cup protein drink (¾ cup of skim milk + ½ scoop protein powder)
Dinner	<p>½ cup low fat cottage cheese (mashed with a fork) or fat-free, sugar free plain or vanilla Greek yogurt</p> <p>¼ cup unsweetened fruit sauce</p>
Evening Snack	¾ cup protein drink (¾ cup of skim milk + ½ scoop protein powder)

Important Notes:

- Water is your priority: Have 4 cups of water or calorie free fluid throughout the day.
- Sip all fluids slowly to avoid abdominal pain or nausea from drinking too fast
- To keep your food and fluids cold or hot as long as possible, try using a thermos.
- Using a shaker cup to mix your protein drink will create fewer air bubbles vs blender.
- No shaker cup? Use a blender on low speed. Then, let your protein shake settle to minimize bubbles before drinking (or skim the bubbles off with spoon).

Progressing from Full Fluid to Pureed Foods (Post-op Week 4 - 5)

Once the full fluid diet is tolerated (first 3 weeks after surgery), it is time to proceed to pureed or blended foods. The pureed food stage lasts for 2 weeks, until you start soft solids at post op week 6. All foods taken at this stage must be low in fat and sugar.

You will need a blender to puree the food to a smooth consistency (lump free, like baby food). Eat 2 to 4 tablespoons (1 to 2 ounces) every 15 minutes to a total of ½ to ¾ cup (4 to 6 ounces) at each meal. It may take you 1 to 1.5 hours to finish the whole meal.

You must stop eating as soon as you feel comfortably full and try eating again later. Eat slowly without distractions. Try to include 3 small meals and 2 to 3 small snacks. Always eat protein first, followed by vegetables or fruit, and lastly starches (only if you have room).

Remember:

- Water remains a priority: Drink 6 to 8 cups of water or caffeine-free, calorie-free fluids throughout the day, separated from solids by 30 minutes before and after
- Do NOT have anything with nuts, seeds, tough skins or dried fruits
- Limit added fats, oils, and sugars
- Limit spicy foods, as they may trigger acid reflux

Pureed Food Options

Food Group	Choose
Milk and Milk Products	Same as full fluid diet
Grain Products	Same as full fluid diet plus the following items: <ul style="list-style-type: none">➤ Mashed potato, sweet potato or yam➤ Low fat soda crackers (unsalted) or melba toast DO NOT eat pureed pasta, rice, bread, noodles, or muffins (these turn gummy and can cause stomach upset)

Fruits and Vegetables	<p>Same as full fluid diet plus the following items:</p> <ul style="list-style-type: none"> ➤ Pureed cooked vegetables (e.g. green beans, carrots, parsnips, peas, cauliflower) ➤ Pureed cooked fruits (without skins or seed)
Meat and Alternates	<p>Same as full fluid diet plus the following items:</p> <ul style="list-style-type: none"> ➤ Pureed chicken, turkey, or fish ➤ Pureed legumes such as beans, split peas, and lentils ➤ Poached or moist, scrambled eggs (need to chew well) ➤ Pureed vegetable protein (i.e. ground soy) <p>Note: Pureed red meat such as beef is often harder to digest, but you may try a small amount and assess your own tolerance</p>

Sample Menu for Pureed Diet

Breakfast	<p>¼ cup cooked oatmeal or 1egg (poached or moist scrambled) ¼ low fat, sugar free plain or vanilla Greek yogurt 2 - 4 tbsp unsweetened applesauce</p>
Morning Snack	<p>½ cup low fat cottage cheese, mashed with fork 2 tbsp pureed fruit</p>
Lunch	<p>2 - 4 tbsp low fat pureed soup with added protein powder or low fat, sugar free plain or vanilla Greek yogurt ⅓ cup low sodium tomato or vegetable juice</p>
Afternoon snack	<p>2 - 4 tbsp low fat, sugar free plain or vanilla Greek yogurt + protein powder OR ¾ cup protein drink (¾ cup of skim milk + ½ scoop protein powder)</p>
Dinner	<p>2 - 4 tbsp pureed meat or fish 2 tbsp mashed sweet potato 2 tbsp pureed vegetables</p>
Evening Snack	<p>¾ cup protein drink (¾ cup of skim milk + ½ scoop protein powder) OR ½-¾ cup low fat, no added sugar pudding with protein powder</p>

Progressing from Pureed to Soft Solids (Post-op week 6 - 3 months)

After the pureed stage, you may gradually introduce soft solid foods, one at a time. Soft solids are foods that are cooked to a soft consistency, NOT raw. To help you reduce discomfort and uncomfortable symptoms, carefully consider the following:

- Journal daily, including details such as time, amount, and symptoms, if any
- If a food causes discomfort, write it down and describe the discomfort you felt.
- Continue to choose small portions, about $\frac{1}{2}$ - $\frac{3}{4}$ cup, as tolerated.
- Eat 3 small meals and 2 snacks (mid-morning and mid-afternoon) daily. Some people may need an additional snack after dinner. Eating too close to bedtime may cause discomfort or acid reflux, so remember to journal your personal experience.
- Eat only until you feel comfortably full. As you get used to the small portions, you may be able to slowly increase your portion size, but stay within 1 cup per meal.
- Eat mindfully and slowly; making sure you chew your food well (aim for 20-30 times before swallowing) and keep distractions (i.e. TV) turned off or away during meals.
- Eat balanced meals using the healthy plate - your smaller plate can still be divided as follows: $\frac{1}{2}$ plate vegetables and fruits, $\frac{1}{4}$ plate grains and $\frac{1}{4}$ plate protein; eat protein foods first, then vegetables and fruits, and lastly, grains.
- Drink 6 to 8 cups of water or caffeine-free, calorie-free fluids throughout the day, separated from solids by 30 minutes before and after
- Avoid carbonated beverages, including carbonated water, diet and regular pop.
- Avoid caffeine to prevent heartburn and to avoid worsening dehydration.
- Take your vitamin and mineral supplements as recommended by your dietitian.
- Continue with regular physical activity as discussed with your health care provider.
- Avoid chewing gum, sucking on hard candy, using straws, and talking while eating.
- Dumping syndrome can be avoided by not mixing fluids and solid foods together, avoiding foods/drinks that are high in fat/sugars, and being mindful of portion sizes
- Read nutrition facts labels and aim for <5% DV of fat and <10g sugar per serving
- If you vomit, your next meal should be fluids. For the meal after that, try soft solids again; if vomiting continues, speak with your family doctor, surgeon, or dietitian.
- Attend all post-op appointments, and arrive prepared with your journal and questions, if any.

Sample Menu for Soft Solids Diet Stage

Breakfast	$\frac{3}{4}$ cup oatmeal (made with low fat milk, skim milk powder or protein powder, with cooked or canned fruit) OR 1 egg (poached) with $\frac{1}{4}$ cup low fat, low sugar yogurt and 2 - 4 tbsp unsweetened applesauce
Morning Snack	2 tbsp homemade hummus and 2 low salt crackers
Lunch	$\frac{1}{2}$ cup chili and $\frac{1}{4}$ cup unsweetened canned or cooked fruit
Afternoon snack	2 tbsp homemade tzatziki with 2 melba toast
Dinner	3 oz soft and moist meat or fish $\frac{1}{4}$ cup cooked green beans $\frac{1}{4}$ cup mashed sweet potato
Evening Snack	$\frac{1}{2}$ cup low fat Greek yogurt and 1-2 tbsp bran buds

Remember:

- Water remains a priority: Drink 6 to 8 cups of water or caffeine-free, calorie-free fluids throughout the day, separated from solids by 30 minutes before and after
- Many people are returning to work or their usual activities by 6 weeks post op, so it's especially important to set timers or alarms on your phone, computer, watch, etc. to ensure you don't skip or delay any of your 3 meals and 2 to 3 snacks
- Hydration often declines during soft solids due to the necessity of separating fluids for 30 minutes before and after, especially when considering work meal breaks.
- If this is an issue for you, consider using Full Fluids for your snacks, so that you can drink your fluids up until your first mouthful of Full Fluids, then immediately after your last mouthful of Full Fluids. This will give you more time to meet your fluid goal.

Fruits and Vegetables

- Choose a rainbow of colors of fruits and vegetables (red, orange, yellow, dark green, purple, etc.) for phytochemicals (beneficial plant antioxidants)
- Choose soft, canned, well-cooked fruits and vegetables that are easier to chew well.
- Chew well or remove seeds and peel if needed
- Choose unsweetened and lower calorie varieties of fruits and vegetables

Good Choices	Suboptimal Choices
Unsweetened applesauce Fruit canned in its own juice Low sodium, unsweetened vegetable juice Plain sweet potatoes/yams Low sodium soups Low sodium tomato spaghetti sauce Cooked fresh, frozen, or canned vegetables	Canned fruit in syrup Dried fruits, fruit leather or fruit rollups Vegetables in cream or cheese sauces Battered or fried vegetables French fries or hash browns High fat cream soups Juice containing added sugar 100% fruit juice (limit to ½ cup per day and dilute at least 1:1 with water)

Grain Products

- Aim for 2 grams of fibre (or more) per serving on the nutrition label
- Choose whole grains unless poorly tolerated
- Crackers and lightly toasted bread is easier to chew and swallow compared to fresh, soft, doughy types of breads
- Many people struggle with tolerating rice and pastas, because they can feel very sticky and difficult to swallow. This may only be temporary. Avoid if you're struggling and retry at a later time

Good Choices	Suboptimal Choices
Lightly toasted plain breads Unsweetened hot cereals, e.g. oatmeal Low sugar cold cereal Flatbreads: pita, tortilla, naan, roti, etc. Low salt pretzels, rice cakes; High fiber, low fat crackers, e.g. wasa	Pasta and rice, especially sticky, short grain Sugary breads, cereals or granola bars Popcorn and sugary granola Breads with nuts or dried fruit (like raisin bread), croissants, Danishes, French toast, sugary pancakes Perogies

Milk and Alternatives

- These foods are a good source of protein, calcium, vitamin D and some B vitamins
- Choose lower fat dairy products: milk & yogurt (skim or 1%), cheese (<20% milk fat)
- Using Full Fluid milk and alternatives for snacks maximize your time for hydration
- Melted cheese can be stringy and hard to chew – take caution and chew 20-30 times
- You will likely need a calcium supplement to meet your daily post-op calcium goal
- Lactose intolerance is common after bariatric surgery – use of lactose free products and plant based alternatives that are calcium fortified are highly recommended

Good Choices	Suboptimal Choices
Skim, 1% or lactaid unsweetened milk 1% buttermilk Unsweetened, enriched soy, almond, rice, oat beverages Evaporated skim milk or skim milk powder Low fat, sugar free yogurt; plain or flavored Cheese: 20% milk fat or less Low fat, sugar free pudding Soup made with low fat milk; 1% or fat free plain Greek yogurt or sour cream Cottage cheese: 1% milk fat or less	High fat cream soups Whipping cream Coffee whitener, half & half, regular evaporated milk; sweet condensed milk Milkshakes, smoothies with added sugar, hot chocolate, chocolate milk Ice cream; sugary yogurt or yogurt drinks High fat cheese, cheese spreads or sauces Regular puddings with added sugar & fat Regular or light sour cream (5-14% milk fat)

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Meats and Alternatives

- These foods provide a good source of protein and iron.
- Even with good dietary intake, you may still need protein supplementation either temporarily or occasionally to meet your protein needs
- Lean, lower fat choices like skinless chicken breast, cooked using moist methods such as steaming, braising, boiling (e.g. stews and soups) is usually best tolerated
- Red meat such as beef is often harder to digest, but you may try a small amount and assess your own tolerance. If poorly tolerated, re-try at a later time.
- Whole nuts and seeds are not allowed until you're at the Regular diet stage (3 months post op)
- Nut and seed butters (all natural, no added sugar or salt) is allowed during Soft Solids, but use sparingly due to their higher calorie and (healthy) fat content
- Plant based proteins are an excellent way to reduce fat and increase dietary fiber
- Vegetarian, vegan, ethical or cultural restrictions and/or preferences will be fully respected and options can be discussed thoroughly with your dietitian

Good Choices	Suboptimal Choices
Soft cooked skinless chicken and turkey Lean red meat that is trimmed and skinless Fish or seafood, moist cooked (not dry) Canned proteins canned in water without added salt or sauces Eggs cooked without added fat Low fat, low sodium sandwich meats Soft cooked or canned beans, peas, lentils; tofu; edamame (soy beans); hummus; Unsalted nut/seed butter in small amounts.	Duck, goose meat Chicken tenders (battered and fried) Steak Pork chops, dry roasts, bacon Smokies, hot dogs, sausages Meat jerky Deep fried fish or seafood Poultry skin, chicken wings; bacon; Pepperoni, luncheon meat, bologna, salami

Fats and Oils

- Choose unsaturated, non-hydrogenated, trans-fat free types most often
- Fats and oils are nutrient (calorie) dense, so use sparingly

Good Choices	Suboptimal Choices
Soft tub, non-hydrogenated margarine Canola, olive, peanut, safflower, sunflower, soy, corn, flaxseed oils Low fat or fat-free mayo or miracle whip Low fat or fat free salad dressing Avocado Fat-free cream cheese Ground flaxseed Olives Low fat gravy	Hard, block margarine Butter, lard, shortening Coconut oil Regular mayo or miracle whip Regular salad dressing Cream sauce Regular cream cheese Non-dairy whitener Regular gravy

Beverages

- Choose beverages that are low in calories or calorie-free
- Avoid caffeine from coffee, tea, and energy drinks to avoid acid reflux or dehydration
- Avoid alcohol as it is nutrient (calorie) dense, may lead to ulcers and contribute to cross addictions after surgery. Alcohol may interact with some of your medications as well - Check with your health care provider.

Good Choices	Suboptimal Choices
Calorie-free, non-carbonated drinks; Sugar free or artificially sweetened drinks Decaf coffee or tea, including herbal tea Milk (skim, 1%) Calcium fortified plant milks (no-low sugar) Water	Carbonated drinks including pop and beer Fat-free coffee creamers Energy drinks Sugar sweetened drinks Regular coffee and tea, including iced tea; Regular drink crystals, e.g. lemonade Smoothies with added sugar, fruit slushes, milkshakes Alcohol and cocktails. Mock tails including added sugar

Condiments and Extras (high sugar, high fat)

- Although used in small amounts, they can contribute a fair amount of salt, calories, sugar and fat. Use your judgement and use sparingly.

Good Choices	Suboptimal Choices
Artificial sweeteners Powdered herbs and spices Lemon juice Mustard Pepper Mrs. Dash, no-salt seasonings Sugar free gelatin Sugar free popsicles Fat free or low fat vegetable spreads	Potato chips, nacho chips, corn/taco chips Chocolates, candies, cookies, trail mix Danishes, donuts, pies, cakes Gummy snacks, fruit roll-ups Ice cream, sherbet, frozen yogurt Buttered/flavored popcorn Sugar, honey, syrup, jam Ketchup, barbeque, tartar, sweet and sour or teriyaki sauce

Progressing from Soft Solids to Normal Texture (Post-op Month 3 and beyond)

Continue experimenting with new foods one by one and always follow healthy eating guidelines including:

- Journaling
- Taking your supplements regularly
- Eating mindfully, stopping when you feel comfortably full
- Eating and drinking slowly (taking about 30 minutes to complete a meal)
- Do not drink fluids 30 minutes before and after solid meals
- Chewing food well (20 to 30 times)
- Eating protein first, then vegetables, and lastly starches
- Making sure you are getting adequate amounts of protein and fluids
- Avoiding carbonated, caffeinated and alcoholic beverages

Vitamin and mineral supplements

All bariatric patients must take specific vitamin and mineral supplements post-operatively, ideally by post op day 4, or sooner if possible. For the first 4 weeks, only choose liquid, chewable or powder supplements; afterwards, you can progress to whole tablet/capsule as tolerated. Note that multivitamin and mineral supplements interact with calcium and iron supplements – these supplements must be separated by 2 hours from each other.

Taking the supplements regularly is mandatory in order to prevent nutritional deficiencies. We provide a list of the most commonly available supplements that are used by the majority of patients which meet the bariatric guidelines. You may choose other brands of supplements if you wish, but you need to ensure that the criteria for the micronutrient content is met. If you don't like the taste of certain chewable or liquid supplements, you may crush put them and put them inside foods or fluids you are taking. However, make sure you don't mix iron supplements with calcium containing foods or any caffeinated beverages (which you shouldn't have anyway until you are able to drink an adequate amount of fluids and are not experiencing heartburn).

This is a sample list of common supplements only – please do not purchase them as it may be inappropriate for you. You will receive your custom list of post op supplements to purchase from your dietitian at your mandatory pre-surgery appointment that is booked about 1 week before your confirmed surgery date. Please do not share your custom list with anyone else as it may be inappropriate for the other person and cause harm based on their medical history, surgery type, or other factors.

Supplements	Dosage	Suggested Schedule
Multivitamin and Mineral e.g., Centrum Select Adult 50+ chewable OR Bariatric Advantage Essential multivitamin (no iron); Note: After 1 month, might switch to prenatal multivitamin OR One A Day for Women 50+	1-2 depending on the brand	Morning (and dinner, if needed)
Calcium Citrate with Vitamin D₃ e.g., Caltrate PLUS® OR Mega Cal (which are calcium carbonate) OR Bariatric Advantage Calcium Citrate chews Note: switch to regular calcium citrate pills at 1 month post op if desired	2 x 500-600 mg calcium and 400-800 IU vitamin D each	Morning snack and afternoon snack
Liquid or Powder Iron e.g., Palafer, FeraMAX Powder Note: Take with 250-500 mg vitamin C	20 mg elemental plus the usual dosage before the surgery	Before bed
Vitamin B1 (Thiamine)	1 per day (100 mg)	Morning
Vitamin B₁₂ (sublingual)	500 µg once a day, 1000 µg every other day. 1200 µg every 3 days, OR injections by your doctor once a month	Morning
Additional Vitamin D (as needed)	Varies per patient	With calcium supplement

Protein Supplements

Protein supplements are an important part of your post-operative diet since your overall food intake may not be enough to support basic protein needs and the additional needs for wound healing. Ideal protein supplements should be low in carbohydrates (less than 5 grams of carbohydrates per serving) and high in protein.

Unflavored protein powders are a great choice since they can be added to any food (such as soups or stews) or beverages. Just remember to dissolve the powder into room temperature fluid first, before adding to the hot fluid to avoid any clumps.

Your dietitian will help you to determine how much protein you will need during pre-op and post-operative stages. Protein supplements can be purchased at your local grocery, health food store, and pharmacy or even online.



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Examples of Protein Supplements:

Product Name	Store Location	Container Size (g)	Serving Size (g)	Protein (g/serving)	Carbs (g/serving)	Fat (g/serving)
Beneprotein® powder	Order from pharmacy	227 g (tin)	7	6	0	0
Beneprotein® powder packets	Order from pharmacy	75 x 7g	7	6	0	0
Kaizen Protein, Vanilla	Price Smart Foods Costco	908 g	29.4	24	2	1
100% Whey Protein, Unflavoured	Superstore (PC)	908 g	25	25	2	1
Dunawhey powder	Superstore	1080 g	36	30	1	1
Revolution Isolate Splash (fruit flavor)	GNC	28.8oz	35	24	5	0
Syntrax Nectar (Fruit flavor)	Low Carb Grocery	1 oz sampler or 908g	27	23	0	0
LiquaCel; Global Health Products	Online	1 oz	27g	16	9 (includes 7g from Glycerin)	0

Recipes

Pay careful attention to the recommended diet stages for each recipe and assess your own tolerance via daily journaling.

Tzatziki

Diet Stages: Pre-op, Soft Solids, Regular

SERVINGS: 8

INGREDIENTS

2 cups fat-free plain Greek yogurt

1 garlic clove, minced

2 medium cucumbers, peeled, seeded & diced

1 tbsp dried mint

Seasoning to taste

DIRECTIONS

Using blender, mix cucumbers, mint, and garlic.

Add Greek yogurt and mix with a spoon.

Place in a refrigerator for 3 hours until the flavors are developed.

Serve with whole wheat crackers or low sodium/low fat lentil crackers as dip or as a substitute for mayonnaise on toast.

NUTRIENTS PER SERVING	
Calories (kcal)	45.0
Fat (g)	0.21
Saturated Fat (g)	0.07
Trans Fat (g)	0
Cholesterol (mg)	1.25
Sodium (mg)	48.85
Potassium (mg)	268.35
Carbohydrate (g)	5.9
Fibre (g)	0.85
Sugar (g)	1.8
Protein (g)	5
Vitamin A (RAE)	5.05
Vitamin C (mg)	2.75
Calcium (mg)	134.7
Iron (mg)	0.25
Vitamin D (µg)	0
Vitamin E (mg)	0
Thiamin (mg)	0.02
Riboflavin (mg)	0.14
Niacin (NE)	0.1
Folate (DFE)	12.55
Vitamin B6 (mg)	0.03
Vitamin B12 (µg)	0.37

Carnation Instant Breakfast Smoothie

Diet Stages: any (if without added fruits)

SERVINGS: 1

INGREDIENTS

1 package vanilla or chocolate
no-added-sugar Carnation Instant Breakfast

1 scoop protein powder

½ cup skim milk

5 ice cubes

DIRECTIONS

Place the ingredients in a blender and serve immediately.

Variation: add ½ cup strawberry or small banana

NUTRIENTS PER SERVING	
Calories (kcal)	166.7
Fat (g)	1.7
Saturated Fat (g)	0.6
Trans Fat (g)	0.0
Cholesterol (mg)	11.2
Sodium (mg)	353.8
Potassium (mg)	544.9
Carbohydrate (g)	15.4
Fibre (g)	1.3
Sugar (g)	14.0
Protein (g)	24.1
Vitamin A (RAE)	614.3
Vitamin C (mg)	27.6
Calcium (mg)	277.6
Iron (mg)	2.8
Vitamin D (µg)	1.2
Vitamin E (mg)	3.4
Thiamin (mg)	0.4
Riboflavin (mg)	0.3
Niacin (NE)	10.5
Folate (DFE)	204.0
Vitamin B6 (mg)	0.5
Vitamin B12 (µg)	1.2

Fruit Smoothie

Diet Stages: Pre-op, Regular

SERVINGS: 6

INGREDIENTS

1 cup fat-free, plain Greek yogurt

1 scoop protein powder

6 medium strawberries

1 medium banana

1 tsp. vanilla extract

6 ice cubes

DIRECTIONS

Place all ingredients in a blender and puree until smooth.

Distribute in 6 cups.

Serve immediately.

NUTRIENTS PER SERVING	
Calories (kcal)	51.2
Fat (g)	0.2
Saturated Fat (g)	0.1
Trans Fat (g)	0
Cholesterol (mg)	0.8
Sodium (mg)	56.0
Potassium (mg)	188.0
Carbohydrate (g)	8.6
Fibre (g)	0.8
Sugar (g)	6.0
Protein (g)	4.5
Vitamin A (RAE)	1.5
Vitamin C (mg)	9.1
Calcium (mg)	76.2
Iron (mg)	0.5
Vitamin D (µg)	0.1
Vitamin E (mg)	0.1
Thiamin (mg)	0.0
Riboflavin (mg)	0.1
Niacin (NE)	1.0
Folate (DFE)	15.2
Vitamin B6 (mg)	0.1
Vitamin B12 (µg)	0.2

Yogurt Smoothie

Diet Stages: Pre-op, Regular

SERVINGS: 12

INGREDIENTS*

1 cup plain yogurt, fat-free

3 cups mixed berries (i.e. raspberries, raw)

3 cups chopped peaches

2 packets sugar substitute (Splenda)

1 tbsp freshly squeezed lime juice

1/4 tsp vanilla or rose extract

DIRECTIONS

Puree fruits using a blender.

Add other ingredients and blend again.

Pour into 12 serving dishes.

Note: You may add 1 scoop of protein powder to increase the protein content.

NUTRIENTS PER SERVING	
Calories (kcal)	45
Fat (g)	0.3
Saturated Fat (g)	0.05
Trans Fat (g)	0.0
Cholesterol (mg)	0.4
Sodium (mg)	16
Potassium (mg)	180
Carbohydrate (g)	9.5
Fibre (g)	2.8
Sugar (g)	6.6
Protein (g)	1.8
Vitamin A (RAE)	8
Vitamin C (mg)	11.2
Calcium (mg)	46
Iron (mg)	0.3
Vitamin D (µg)	0.1
Vitamin E (mg)	1.0
Thiamin (mg)	0.1
Riboflavin (mg)	0.1
Niacin (NE)	0.8
Folate (DFE)	10
Vitamin B6 (mg)	0.1
Vitamin B12 (µg)	0.1

Pumpkin Dessert

Diet Stages: Pre-op, Pureed, Regular

SERVINGS: 8

INGREDIENTS

1 can (15 oz) of pumpkin

4 tbsp sugar-free Cool Whip

½ cup of skim milk

1 scoop vanilla protein powder

Allspice, nutmeg, ginger, cloves, and Splenda® to taste

DIRECTIONS

Mix all ingredients together using blender

Whip until creamy and smooth

Pour in serving dishes

Cool for 1 hour before serving

NUTRIENTS PER SERVING	
Calories (kcal)	23
Fat (g)	0.2
Saturated Fat (g)	0.1
Trans Fat (g)	0.0
Cholesterol (mg)	0.3
Sodium (mg)	9.1
Potassium (mg)	133.4
Carbohydrate (g)	5.1
Fibre (g)	1.5
Sugar (g)	2.5
Protein (g)	3.1
Vitamin A (RAE)	423.2
Vitamin C (mg)	2.2
Calcium (mg)	32.5
Iron (mg)	0.7
Vitamin D (µg)	0.2
Vitamin E (mg)	0.6
Thiamin (mg)	0.0
Riboflavin (mg)	0.1
Niacin (NE)	0.4
Folate (DFE)	7.1
Vitamin B6 (mg)	0.0
Vitamin B12 (µg)	0.1

Rice Pudding

Diet Stages: Pre-op, Regular

SERVINGS: 8

INGREDIENTS

½ cup Bran Buds cereal

3 cups skim or 1% milk

½ cup white rice

½ tsp cinnamon

1 tsp vanilla

3 packets of sugar substitute

DIRECTIONS

In a medium saucepan, bring almond milk and rice to a boil over medium-high heat. Reduce heat to low and simmer uncovered until rice is cooked through, about 25-30 minutes.

Add bran buds cereal and stir for 5 minutes.

Remove from heat and stir in vanilla, cinnamon

Serve warm or cold.

NUTRIENTS PER SERVING	
Calories (kcal)	90
Fat (g)	0.2
Saturated Fat (g)	0.0
Trans Fat (g)	0.0
Cholesterol (mg)	0.0
Sodium (mg)	92
Potassium (mg)	165
Carbohydrate (g)	18.5
Fibre (g)	2.5
Sugar (g)	5.1
Protein (g)	4.7
Vitamin A (RAE)	37
Vitamin C (mg)	0.0
Calcium (mg)	125
Iron (mg)	1.2
Vitamin D (µg)	0.8
Vitamin E (mg)	0.1
Thiamin (mg)	0.1
Riboflavin (mg)	0.1
Niacin (NE)	1.3
Folate (DFE)	1.3
Vitamin B6 (mg)	0.1
Vitamin B12 (µg)	0.3

Cherry Clafoutis

Diet Stages: Pre-op, Regular

SERVINGS: 6

INGREDIENTS

3 eggs

1 cup skim milk (or soy milk)

½ cup Bran Buds cereal

2 cups sweet cherries, pitted (can use frozen cherries that are thawed and the water is removed)

4 packets sugar substitute

1 tsp vanilla or rose extract

DIRECTIONS

Preheat oven to 350° F (180° C).

Spray 6 soufflé cups with non-stick cooking spray.

Place cherries at the bottom of each cup.

Using a blender, mix the rest of ingredients.

Pour the mixture on top of cherries and bake for 25 minutes*.

* To test whether the soufflé is ready, insert a toothpick in the centre of each cup, which shouldn't have any ingredients attached to it.

NUTRIENTS PER SERVING

Calories (kcal)	109.0
Fat (g)	2.6
Saturated Fat (g)	0.8
Trans Fat (g)	0.0
Cholesterol (mg)	85.7
Sodium (mg)	99.0
Potassium (mg)	290.8
Carbohydrate (g)	17.6
Fibre (g)	4.0
Sugar (g)	11.7
Protein (g)	5.6
Vitamin A (RAE)	73.1
Vitamin C (mg)	3.8
Calcium (mg)	77.7
Iron (mg)	1.5
Vitamin D (µg)	0.8
Vitamin E (mg)	0.6
Thiamin (mg)	0.2
Riboflavin (mg)	0.2
Niacin (NE)	1.5
Folate (DFE)	31.7
Vitamin B6 (mg)	0.1
Vitamin B12 (µg)	0.7

Chocolate Pudding

Diet Stages: Pre-op, Full Fluid, Soft Solids, Regular

SERVINGS: 6

INGREDIENTS

- 1 package firm silken tofu (12 oz)
- 1/3 cup soy milk (Beverage, soy, enriched, all flavors)
- 3 packets sugar substitute (Splenda®)
- 3 tbsp cocoa powder (unsweetened)

DIRECTIONS

Place tofu, Splenda, and cocoa powder in a blender.

Once smooth, add soy milk slowly.

Blend again.

Distribute the chocolate pudding in 6 individual serving dishes and chill for 30 minutes before serving.

NUTRIENTS PER SERVING	
Calories (kcal)	48.7
Fat (g)	2.1
Saturated Fat (g)	0.5
Trans Fat (g)	0.0
Cholesterol (mg)	0.0
Sodium (mg)	27.3
Potassium (mg)	167.3
Carbohydrate (g)	4.0
Fibre (g)	1.0
Sugar (g)	1.7
Protein (g)	4.8
Vitamin A (RAE)	5.3
Vitamin C (mg)	0.0
Calcium (mg)	38.3
Iron (mg)	1.0
Vitamin D (µg)	0.1
Vitamin E (mg)	0.0
Thiamin (mg)	0.1
Riboflavin (mg)	0.0
Niacin (NE)	1.2
Folate (DFE)	0.9
Vitamin B6 (mg)	0.0
Vitamin B12 (µg)	0.1

Creamy Strawberry-Orange Pops

Diet Stages: Pre-op, Regular

SERVINGS: 8

INGREDIENTS

1 container (8 oz) (strawberry no-sugar-added, fat-free yogurt)

2 cups fresh or frozen strawberries

1 scoop protein powder

2 packets sugar substitute

Equipment: Ice Pop Maker Mold

DIRECTIONS

Combine yogurt, strawberries, and sugar substitutes in a blender. Cover and process until smooth.

Add the strawberries and sugar substitute. Process until smooth.

Pour into the molds, filling each about $\frac{3}{4}$ full.

Place in freezer for 1 hour.

NUTRIENTS PER SERVING	
Calories (kcal)	33.4
Fat (g)	0.2
Saturated Fat (g)	0.0
Trans Fat (g)	0
Cholesterol (mg)	0.9
Sodium (mg)	34.0
Potassium (mg)	106.5
Carbohydrate (g)	5.4
Fibre (g)	1.1
Sugar (g)	4.0
Protein (g)	2.9
Vitamin A (RAE)	0.4
Vitamin C (mg)	22.3
Calcium (mg)	40.4
Iron (mg)	0.5
Vitamin D (μ g)	0.2
Vitamin E (mg)	0.1
Thiamin (mg)	0.0
Riboflavin (mg)	0.1
Niacin (NE)	0.6
Folate (DFE)	12.6
Vitamin B6 (mg)	0.0
Vitamin B12 (μ g)	0.1

Homemade Chicken Broth

Diet Stages: anytime

SERVINGS: 6

INGREDIENTS

2 lbs skinless, boneless chicken legs* (chopped)

1 lb celery, chopped

3 medium carrots, chopped

3 medium onions, chopped

1 bunch parsley

1 bunch cilantro

1 medium green pepper (not hot pepper), chopped

1 tbsp dried mint or rosemary or thyme

2 tbsp canola oil

2 liters of water

2 tbsp lemon juice

Seasoning to taste



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DIRECTIONS

In a large pot, sauté onions with oil until golden.

Add chopped chicken leg and sauté for 15 minutes.

Add other ingredients. Bring to boil.

Cover and cook for 2 hours. Let it cool for a few minutes and remove the bones.

Strain the broth. Make pureed food (for pureed stage) out of the other ingredients.

Refrigerate the broth overnight and skim the thin layer of the fat from the surface.

Freeze the broth in small containers for later use.

* You may alternatively use ground beef or turkey instead of chicken.

Creamy Vegetable Soup

Diet Stages: Pre-op, Soft Solids, Regular

SERVINGS: 8

INGREDIENTS

1 cup cauliflower, chopped

1 cup broccoli, chopped

1 cup carrots, chopped

8 green onions, chopped

1 cup spinach, chopped

1 cup parsley, chopped

2 cups chicken broth

1 large onion, diced

2 tbsp vegetable oil

5 garlic cloves, minced

1 cup instant oats

1 cup Greek yogurt

Seasoning to taste

DIRECTIONS

Sauté onion in a pot with vegetable oil until golden. Add garlic and sauté until golden.

Add other ingredients (except Greek yogurt and instant oats) and bring to boil. Simmer for 15 minutes.

Let cool for 10 minutes and blend.

Place the pureed vegetables back to the pot and add oats. Continue cooking for 10 minutes, while stirring occasionally. Add Greek yogurt and mix. Serve hot.

NUTRIENTS PER SERVING	
Calories (kcal)	165
Fat (g)	5.4
Saturated Fat (g)	0.6
Trans Fat (g)	0.1
Cholesterol (mg)	0.6
Sodium (mg)	70.7
Potassium (mg)	435.0
Carbohydrate (g)	19.7
Fibre (g)	3.2
Sugar (g)	5.4
Protein (g)	9
Vitamin A (RAE)	219.0
Vitamin C (mg)	32.3
Calcium (mg)	120
Iron (mg)	1.8
Vitamin D (µg)	0.1
Vitamin E (mg)	2.0
Thiamin (mg)	0.2
Riboflavin (mg)	0.2
Niacin (NE)	2.7
Folate (DFE)	50.9
Vitamin B6 (mg)	0.2
Vitamin B12 (µg)	0.2



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Chicken Soup

Diet Stages: Pre-op, Soft Solids, Regular

SERVINGS: 8

INGREDIENTS

- 1 large onion, chopped
- 2 skinless, boneless chicken breasts, chopped
- 6 cups low sodium chicken broth
- 1 cups instant oats
- 2 tbsp vegetable oil
- 1 lb. Carrots, chopped
- 6 cups water
- 2 cups finely chopped fresh parsley
- 6 green onions, chopped
- ½ cup Greek yogurt
- 1 tsp dried leaf thyme
- 1 tbsp Mrs. Dash®
- 1 tbsp lemon juice

DIRECTIONS

- Sauté onions in vegetable oil until golden.
- Add chicken breast and stir for 5 minutes.
- Add other ingredients, except parsley and green onions and cook over medium heat for 15 minutes.
- Add parsley and green onions and cook for another 15 minutes.
- Serve hot.

NUTRIENTS PER SERVING	
Calories (kcal)	230
Fat (g)	6.8
Saturated Fat (g)	1.0
Trans Fat (g)	0.1
Cholesterol (mg)	24.8
Sodium (mg)	137.4
Potassium (mg)	680.5
Carbohydrate (g)	22.2
Fibre (g)	3.8
Sugar (g)	5.8
Protein (g)	20
Vitamin A (RAE)	557.4
Vitamin C (mg)	26.6
Calcium (mg)	110
Iron (mg)	2.7
Vitamin D (µg)	0.1
Vitamin E (mg)	2.2
Thiamin (mg)	0.2
Riboflavin (mg)	0.2
Niacin (NE)	10.8
Folate (DFE)	47.5
Vitamin B6 (mg)	0.3
Vitamin B12 (µg)	0.4



RICHMOND METABOLIC AND
BARIATRIC SURGERY

Mashed Potatoes

Diet Stages: Pre-op, Pureed, Regular

SERVINGS: 8

INGREDIENTS

2 lb potatoes

½ cup skim milk

½ cup fat free Greek yogurt

1 cup green onion, chopped

1 tbsp dried mint

1 liter water

Seasoning to taste

DIRECTIONS

Fill a large pot with water.

Place potatoes in the pot.

Cook for 30 minutes or until potatoes are tender.

Let them cool enough to be able to handle them.

Remove potatoes' skin.

Mash them with fork.

Gradually add the milk, while stirring.

Add Greek yogurt, green onion, mint, and seasoning.

NUTRIENTS PER SERVING	
Calories (kcal)	115.3
Fat (g)	0.1
Saturated Fat (g)	0.0
Trans Fat (g)	0.0
Cholesterol (mg)	0.6
Sodium (mg)	25.9
Potassium (mg)	469.4
Carbohydrate (g)	25.2
Fibre (g)	2.0
Sugar (g)	2.1
Protein (g)	3.8
Vitamin A (RAE)	16.2
Vitamin C (mg)	10.8
Calcium (mg)	67.3
Iron (mg)	0.5
Vitamin D (µg)	0.2
Vitamin E (mg)	0.1
Thiamin (mg)	0.1
Riboflavin (mg)	0.1
Niacin (NE)	2.2
Folate (DFE)	20.8
Vitamin B6 (mg)	0.3
Vitamin B12 (µg)	0.2



Gravy

Diet Stages: Pre-op, Pureed, Soft Solids, Regular

SERVINGS: 8

INGREDIENTS

3 tbsp flour

2 tsp unsalted bouillon granules (chicken, beef, or pork)

1.5 cups evaporated skim milk

½ cup water

Seasoning to taste (e.g., ground black pepper)

DIRECTIONS

Mix the flour, bouillon, and seasoning in a pan.

Gradually add the milk and water, while stirring.

Place the pan on the stove over medium heat and cook until thickened, stirring occasionally.

NUTRIENTS PER SERVING	
Calories (kcal)	51.0
Fat (g)	0.3
Saturated Fat (g)	0.1
Trans Fat (g)	0.0
Cholesterol (mg)	2.0
Sodium (mg)	62.1
Potassium (mg)	164.4
Carbohydrate (g)	8.0
Fibre (g)	0.1
Sugar (g)	5.6
Protein (g)	4.1
Vitamin A (RAE)	60.6
Vitamin C (mg)	14.8
Calcium (mg)	140.8
Iron (mg)	0.3
Vitamin D (µg)	1.0
Vitamin E (mg)	0.0
Thiamin (mg)	0.0
Riboflavin (mg)	0.2
Niacin (NE)	1.2
Folate (DFE)	14.5
Vitamin B6 (mg)	0.0
Vitamin B12 (µg)	0.1

Six Bean Chili

Diet Stages: Pre-op, Pureed, Soft Solids, Regular

SERVINGS: 3

INGREDIENTS

1 can (540 mL or 19 oz) six bean blend

2 tbsp lemon juice

2 tbsp tomato paste (unsalted)

Seasoning to taste

DIRECTIONS

Drain and rinse the canned beans with tap water.

Mix all ingredients together and heat on stove for 15 minutes.

For pureed diet stage, use blender to puree the beans before serving.

This food can be served with whole wheat crackers.

NUTRIENTS PER SERVING	
Calories (kcal)	218.4
Fat (g)	0.9
Saturated Fat (g)	0.2
Trans Fat (g)	0
Cholesterol (mg)	0.0
Sodium (mg)	560.7
Potassium (mg)	649.4
Carbohydrate (g)	40.2
Fibre (g)	9.8
Sugar (g)	2.1
Protein (g)	14.3
Vitamin A (RAE)	8.4
Vitamin C (mg)	6.2
Calcium (mg)	91.3
Iron (mg)	3.7
Vitamin D (µg)	0.0
Vitamin E (mg)	2.0
Thiamin (mg)	0.3
Riboflavin (mg)	0.1
Niacin (NE)	4.1
Folate (DFE)	116.1
Vitamin B6 (mg)	0.2
Vitamin B12 (µg)	0.0

Roasted Salmon

Diet Stages: Soft Solids, Regular

SERVINGS: 4

INGREDIENTS

4 salmon fillets (6 ounces each) (Salmon, Atlantic, wild)

Juice of 1 lime or 2 tbsp lemon juice

6 tbsp low fat plain yogurt (1-2%)

Seasoning to taste

DIRECTIONS

Preheat oven to 400°F.

Spray 2-quart casserole dish with cooking spray.

Place salmon fillets in the dish.

Rub other ingredients over fillets.

Bake for 15 minutes.



RICHMOND METABOLIC AND
BARIATRIC SURGERY

NUTRIENTS PER SERVING	
Calories (kcal)	257.5
Fat (g)	11.2
Saturated Fat (g)	1.9
Trans Fat (g)	0
Cholesterol (mg)	95.6
Sodium (mg)	92.0
Potassium (mg)	894.8
Carbohydrate (g)	2.1
Fibre (g)	0.0
Sugar (g)	1.8
Protein (g)	35.0
Vitamin A (RAE)	20.5
Vitamin C (mg)	2.1
Calcium (mg)	62.8
Iron (mg)	1.4
Vitamin D (µg)	10.9
Vitamin E (mg)	0.0
Thiamin (mg)	0.4
Riboflavin (mg)	0.7
Niacin (NE)	19.8
Folate (DFE)	41.8
Vitamin B6 (mg)	1.3
Vitamin B12 (µg)	4.2

Vegetables and Cheese Casserole

Diet Stages: Pre-op, Soft Solids, Regular

SERVINGS: 4

INGREDIENTS

3 large eggs

¼ lbs skim milk cheese (Cheese, mozzarella, partially skim, 52% water, 16.5% M.F.)

6 tablespoons instant oats

2 cups non-fat cottage cheese

1 bunch chopped spinach

1 lb chopped broccoli

½ cup diced mushrooms

DIRECTIONS

Preheat oven to 350°F.

Combine all ingredients.

Spray 2-quart casserole dish with cooking spray.

Place combined ingredients in the dish and cover with aluminum foil.

Bake for 90 minutes.

Serve hot.

NUTRIENTS PER SERVING

Calories (kcal)	325.5
Fat (g)	10.5
Saturated Fat (g)	4.6
Trans Fat (g)	0.0
Cholesterol (mg)	163.2
Sodium (mg)	539.1
Potassium (mg)	1007.0
Carbohydrate (g)	21.5
Fibre (g)	5.7
Sugar (g)	5.3
Protein (g)	38.8
Vitamin A (RAE)	551.9
Vitamin C (mg)	125.2
Calcium (mg)	417.9
Iron (mg)	4.5
Vitamin D (µg)	0.6
Vitamin E (mg)	3.9
Thiamin (mg)	0.3
Riboflavin (mg)	0.8
Niacin (NE)	10.0
Folate (DFE)	280.7
Vitamin B6 (mg)	0.5
Vitamin B12 (µg)	1.8



Pureed Cauliflower

Diet Stages: Pre-op, Pureed, Soft Solids, Regular

SERVINGS: 8

INGREDIENTS

1 large (6-7" diameter) head of cauliflower

3 cloves of garlic

1 cup fat free Greek yogurt

4 tsp extra-virgin olive oil

Seasoning to taste

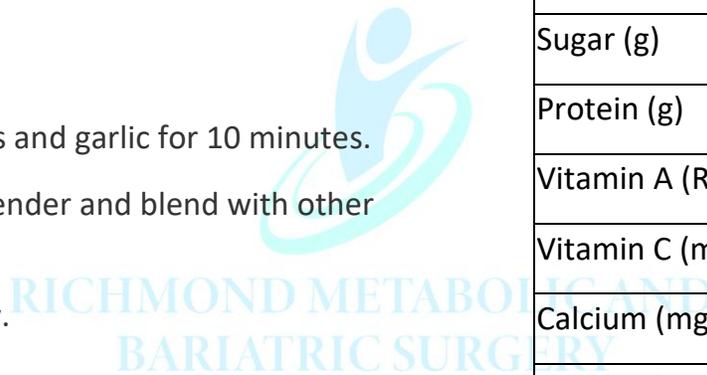
DIRECTIONS

Steam cauliflowers and garlic for 10 minutes.

Place them in a blender and blend with other ingredients.

Serve immediately.

NUTRIENTS PER SERVING	
Calories (kcal)	65.1
Fat (g)	2.6
Saturated Fat (g)	0.4
Trans Fat (g)	0
Cholesterol (mg)	0.6
Sodium (mg)	55.3
Potassium (mg)	396.6
Carbohydrate (g)	7.1
Fibre (g)	2.0
Sugar (g)	2.2
Protein (g)	4.3
Vitamin A (RAE)	0.6
Vitamin C (mg)	51.2
Calcium (mg)	86.2
Iron (mg)	0.5
Vitamin D (µg)	0
Vitamin E (mg)	0.6
Thiamin (mg)	0.1
Riboflavin (mg)	0.2
Niacin (NE)	1
Folate (DFE)	63.5
Vitamin B6 (mg)	0.2
Vitamin B12 (µg)	0.2



Creamy Slow Cooker Chicken

Diet Stages: Pre-op, Soft Solids, Regular

SERVINGS: 12

INGREDIENTS

6 skinless, boneless chicken breasts (chopped)

1 can low sodium and low fat cream of mushroom soup (284ml)

1 cup fat free plain Greek yogurt

1 cup low sodium chicken broth

1 cup parsley, chopped

Seasoning to taste

Cooking spray

DIRECTIONS

Cook chicken in a saucepan that was sprayed with cooking spray for 10 minutes.

Transfer the chicken to a low cooker.

Add the rest of ingredients on top of chicken.

Cover and cook for 4 hours on low.

NUTRIENTS PER SERVING	
Calories (kcal)	129.4
Fat (g)	2.8
Saturated Fat (g)	0.7
Trans Fat (g)	0.0
Cholesterol (mg)	49.4
Sodium (mg)	229.4
Potassium (mg)	344.3
Carbohydrate (g)	3.2
Fibre (g)	0.3
Sugar (g)	0.6
Protein (g)	21.4
Vitamin A (RAE)	26.9
Vitamin C (mg)	6.8
Calcium (mg)	54.5
Iron (mg)	1.0
Vitamin D (µg)	0.2
Vitamin E (mg)	0.4
Thiamin (mg)	0.1
Riboflavin (mg)	0.1
Niacin (NE)	12.2
Folate (DFE)	12.8
Vitamin B6 (mg)	0.4
Vitamin B12 (µg)	0.3



RICHMOND METABOLIC
BARIATRIC SURGERY

Cheesy Spinach Frittata

Diet Stages: Pre-op, Soft Solids, Regular

SERVINGS: 12

INGREDIENTS

2 tsp vegetable oil (canola)

1 medium onion, chopped (0.75 large)

1 bunch spinach, chopped

½ cup fat free cheese, shredded (Cheese, processed, cheddar, fat free)

1/3 cup dry cottage cheese (0.4% M.F.)

4 egg whites

2 whole eggs

½ cup instant oats

Seasoning to taste

DIRECTIONS

Heat oven to 375 degrees.

Coat a 12-cup muffin tray with vegetable oil spray.

In a saucepan, heat oil on medium high.

Add onions and cook until golden.

Add spinach and stir 5 more minutes.

Sprinkle cheese in muffin tray. Top with spinach/onion mixture.

In a medium bowl, whisk egg whites and whole eggs, cottage cheese, instant oat, and seasoning.

Pour mixture over spinach/onion mixture in the muffin tray.

Bake for 30 minutes.

NUTRIENTS PER SERVING	
Calories (kcal)	64.6
Fat (g)	2.2
Saturated Fat (g)	0.4
Trans Fat (g)	0.0
Cholesterol (mg)	29.1
Sodium (mg)	140.0
Potassium (mg)	234.1
Carbohydrate (g)	6.4
Fibre (g)	1.2
Sugar (g)	1.3
Protein (g)	5.5
Vitamin A (RAE)	169.8
Vitamin C (mg)	8.7
Calcium (mg)	74.3
Iron (mg)	1.2
Vitamin D (µg)	0.1
Vitamin E (mg)	1.2
Thiamin (mg)	0.1
Riboflavin (mg)	0.2
Niacin (NE)	1.6
Folate (DFE)	65.5
Vitamin B6 (mg)	0.1
Vitamin B12 (µg)	0.2

Cabbage Rolls

Diet Stages: Pre-op, Regular

SERVINGS: 12

INGREDIENTS

1 lb. extra lean ground chicken

1 medium head of cabbage

1 cup instant oats

1 cup split peas

2 cups water

2 cups tomato sauce

2 teaspoons garlic powder

1 teaspoon onion powder

Seasoning to taste

DIRECTIONS

Preheat oven to 350°F.

Separate cabbage leaves from the stem, wash and steam them.

Cook split peas with water for 15 minutes and add rice until all the water is evaporated.

In a non-stick saucepan, with non-fat cooking spray, sauté the ground chicken. Combine the ingredients.

Place ½ cup of mixture into center of 1 cabbage leaf. Rollup, sealing both ends as you roll. Place cabbage rolls in baking dish side by side.

Top the cabbage rolls off with the tomato sauce, letting it spill over to the bottom of the dish

Cover the dish with aluminum foil. Bake for 35 to 45 minutes. Let stand for 5 to 10 minutes before serving.

NUTRIENTS PER SERVING	
Calories (kcal)	178.6
Fat (g)	4.4
Saturated Fat (g)	1.2
Trans Fat (g)	0
Cholesterol (mg)	32.8
Sodium (mg)	264.3
Potassium (mg)	553.7
Carbohydrate (g)	24.0
Fibre (g)	3.5
Sugar (g)	5.7
Protein (g)	13.1
Vitamin A (RAE)	14.5
Vitamin C (mg)	30.6
Calcium (mg)	56.0
Iron (mg)	2.2
Vitamin D (µg)	0.1
Vitamin E (mg)	1.2
Thiamin (mg)	0.3
Riboflavin (mg)	0.2
Niacin (NE)	5.8
Folate (DFE)	87.4
Vitamin B6 (mg)	0.4
Vitamin B12 (µg)	0.2



RICHMOND METABOLIC AND BARIATRIC SURGERY

Stuffed Eggplants

Diet Stages: Pre-op, Soft Solids, Regular

SERVINGS: 8

INGREDIENTS

- 1 lb. extra lean ground chicken
- 4 American pear shaped eggplants, cut into halves
- 1 cup instant oat
- 1 cup split peas
- 2 cups water
- 1 cup tomato sauce
- 1 large onion, chopped
- 2 tbsp vegetable oil
- 4 garlic cloves, minced
- 1 tbsp Mrs. Dash

DIRECTIONS

Preheat oven to 350°F.

In a saucepan, sauté onion with oil until golden; add garlic and continue sautéing for another 2 minutes.

Add the ground chicken. Cook split peas with water for 15 minutes and add oats until all the water is evaporated. Combine with other ingredients.

Scoop out the inside of the eggplant with knife, leaving the shell, and add them to other ingredients.

Cook the stuffing for another 10 minutes or until the water is evaporated. Pour the stuffing into the hollow eggplants. Place the eggplants in a shallow baking pan. Add ½ cup water. Cover the dish with aluminum foil. Bake for 35 to 45 minutes. Let stand for 5 to 10 minutes before serving.

NUTRIENTS PER SERVING	
Calories (kcal)	334.1
Fat (g)	10.4
Saturated Fat (g)	2.1
Trans Fat (g)	0.1
Cholesterol (mg)	49.1
Sodium (mg)	212.2
Potassium (mg)	1182.9
Carbohydrate (g)	44.8
Fibre (g)	12.4
Sugar (g)	10.8
Protein (g)	20.7
Vitamin A (RAE)	11.7
Vitamin C (mg)	10.3
Calcium (mg)	64.4
Iron (mg)	3.1
Vitamin D (µg)	0.1
Vitamin E (mg)	3.6
Thiamin (mg)	0.4
Riboflavin (mg)	0.3
Niacin (NE)	10.2
Folate (DFE)	142.1
Vitamin B6 (mg)	0.7
Vitamin B12 (µg)	0.2

Chicken, Spinach, and Bulgur Meatloaf
Diet Stages: Pre-op, Soft Solids, Regular

SERVINGS: 8

INGREDIENTS

- ¼ cup fine bulgur
- ½ cup water
- 1 small onion, chopped (0.5 large)
- 1 cup spinach, chopped
- 1 large clove garlic, chopped
- 1 lb extra lean ground chicken breast
- 1 tablespoon tomato paste
- 2 eggs
- Seasoning to taste

DIRECTIONS

Preheat oven to 350°F (175°C).

Bring the bulgur and water to a boil in a saucepan over high heat. Simmer for 15 minutes.

Cook onion in a non-stick pan (while coated with non-stick cooking spray) until golden. Add the garlic and cook for another 2 minutes

In a large bowl mix together turkey, cooked bulgur, golden onions, tomato paste, chopped spinach, seasoning and eggs until well combined. The mixture will be very moist.

Shape into a loaf on an aluminum foil lined baking pan. Bake in the preheated oven until no longer pink in the center, about 50 minutes. An instant-read thermometer inserted into the center should read at least 160°F (70°C) Let the meatloaf cool for 10 minutes before slicing and serving.

NUTRIENTS PER SERVING	
Calories (kcal)	125.4
Fat (g)	6.9
Saturated Fat (g)	2.0
Trans Fat (g)	0.0
Cholesterol (mg)	91.6
Sodium (mg)	52.1
Potassium (mg)	217.7
Carbohydrate (g)	5.0
Fibre (g)	1.1
Sugar (g)	0.8
Protein (g)	12.1
Vitamin A (RAE)	41.3
Vitamin C (mg)	2.3
Calcium (mg)	25.4
Iron (mg)	1.2
Vitamin D (µg)	0.3
Vitamin E (mg)	0.5
Thiamin (mg)	0.1
Riboflavin (mg)	0.2
Niacin (NE)	5.7
Folate (DFE)	19.8
Vitamin B6 (mg)	0.3
Vitamin B12 (µg)	0.5



RICHMOND METABOLIC AND BARIATRIC SURGERY

Lentil Soup

Diet Stages: Pre-op, Purred, Soft Solids, Regular

SERVINGS: 8

INGREDIENTS

1 cup dry lentils

2 cups chopped onion

1lb chopped carrots

4 bunches spinach, chopped

½ cup instant oats

2 tbsp vegetable oil

6 cloves of garlic

1 cup Greek yogurt

6 cups water

Seasoning to taste

DIRECTIONS

Place the oil in a large pot.

Sauté onion until golden.

Add garlic until brown.

Place ½ of the mixture in a small bowl and refrigerate.

Add the rest of ingredients to the pot (except spinach) and boil over medium heat for 30 minutes.

Add spinach, ½ cup of Greek yogurt, and oat and cook for another 15 minutes.

Pour the soup in a large bowl.

Place the rest of yogurt in the middle of soup and garnish it with the rest of mixture of brown onion and garlic. Serve hot.

NUTRIENTS PER SERVINGS	
Calories (kcal)	237.12
Fat (g)	4.95
Saturated Fat (g)	0.53
Trans Fat (g)	0.1
Cholesterol (mg)	0.62
Sodium (mg)	201.12
Potassium (mg)	1528.82
Carbohydrate (g)	36.2
Fibre (g)	9.12
Sugar (g)	6.05
Protein (g)	15.35
Vitamin A (RAE)	1272.02
Vitamin C (mg)	56.27
Calcium (mg)	277.5
Iron (mg)	7.03
Vitamin D (µg)	0
Vitamin E (mg)	5.8
Thiamin (mg)	0.42
Riboflavin (mg)	0.47
Niacin (NE)	5.00
Folate (DFE)	468.92
Vitamin B6 (mg)	0.62
Vitamin B12 (µg)	0.18



RICHMOND METABOLIC AND
BARIATRIC SURGERY

Steamed Fish Fillets with Potatoes and Green beans

Diet Stages: Soft Solids, Regular

Servings: 4

INGREDIENTS

1 cup small new potatoes

1 cup green beans

1 cup chopped parsley

2 x 6 oz salmon fillets (Salmon, Atlantic, wild)

½ cup tomatoes, chopped

1 tbsp vegetable oil

1 tsp lemon juice

DIRECTIONS

Steam potatoes and green beans for 10 minutes and transfer them to a baking dish that is sprayed with non-fat cooking spray and vegetable oil.

Place fish fillets on top of them.

Top with tomatoes and parsley.

Sprinkle with seasoning.

Cover with aluminum foil and bake for 15 minutes or until fish is flaky.

Pour lemon juice and serve.

NUTRIENTS PER SERVING	
Calories (kcal)	197.3
Fat (g)	9.1
Saturated Fat (g)	1.1
Trans Fat (g)	0.1
Cholesterol (mg)	47.1
Sodium (mg)	58.5
Potassium (mg)	761.2
Carbohydrate (g)	10.3
Fibre (g)	2.0
Sugar (g)	1.3
Protein (g)	18.8
Vitamin A (RAE)	97.1
Vitamin C (mg)	34.0
Calcium (mg)	46.5
Iron (mg)	2.3
Vitamin D (µg)	5.4
Vitamin E (mg)	1.8
Thiamin (mg)	0.3
Riboflavin (mg)	0.4
Niacin (NE)	11.2
Folate (DFE)	63.3
Vitamin B6 (mg)	0.8
Vitamin B12 (µg)	2.0

Three Color Pepper Soufflés

Diet Stages: Pre-op, Soft Solids, Regular

SERVINGS: 8

INGREDIENTS

1 Cup Egg Whites

2 Large Eggs

2 Cups Fat-Free dry Cottage Cheese

1/3 Cup Self-Rising Flour

1/2 Teaspoon Salt

½ Cup Fat Free Shredded Cheese

0.5 cup green pepper, diced

0.5 cup red pepper, diced

0.5 cup orange pepper, diced

Seasoning to taste

DIRECTIONS

Blend all ingredients in blender, except for diced peppers, until smooth.

Stir in diced peppers.

Pour into 8 soufflé cups, which are sprayed with non-stick cooking spray

Bake for 45 minutes at 400°F.

Remove from oven and cool for 5 minutes before serving.

NUTRIENTS PER SERVING	
Calories (kcal)	94.8
Fat (g)	1.6
Saturated Fat (g)	0.5
Trans Fat (g)	0.0
Cholesterol (mg)	51.5
Sodium (mg)	512.8
Potassium (mg)	173.2
Carbohydrate (g)	9.0
Fibre (g)	0.4
Sugar (g)	2.1
Protein (g)	10.7
Vitamin A (RAE)	70.4
Vitamin C (mg)	30.7
Calcium (mg)	110.5
Iron (mg)	0.6
Vitamin D (µg)	0.2
Vitamin E (mg)	0.5
Thiamin (mg)	0.1
Riboflavin (mg)	0.3
Niacin (NE)	3.2
Folate (DFE)	35.9
Vitamin B6 (mg)	0.1
Vitamin B12 (µg)	0.5



RICHMOND METABOLIC
BARIATRIC SURGERY

Three Bean Chili (non-spicy)

Diet Stages: Pre-op, Soft Solids, Regular

SERVINGS: 12

INGREDIENTS

½ cup dry black beans

½ cup dry red kidney beans

½ cup dry pinto beans

1 cup extra-lean ground chicken

1 cup green pepper, chopped

2 cups onions, chopped

4 garlic cloves, chopped

3 cups tomatoes, chopped

2 tbsp vegetable oil

4 cups water

Seasoning to taste

DIRECTIONS

Soak beans overnight.

Rinse the soaked beans three times under running water.

Sauté onions until golden.

Add garlic to onions and continue sautéing until golden.

Add ground chicken and cook for 20 minutes

Place all ingredients in a slow cooker or pressure cooker and cook for 8 hrs or 1.5 hrs, respectively

NUTRIENTS PER SERVING	
Calories (kcal)	142.5
Fat (g)	3.7
Saturated Fat (g)	0.5
Trans Fat (g)	0.1
Cholesterol (mg)	8.2
Sodium (mg)	26.9
Potassium (mg)	533.3
Carbohydrate (g)	20.5
Fibre (g)	4.7
Sugar (g)	2.1
Protein (g)	8.1
Vitamin A (RAE)	33.7
Vitamin C (mg)	20.5
Calcium (mg)	40.4
Iron (mg)	1.8
Vitamin D (µg)	0.0
Vitamin E (mg)	1.1
Thiamin (mg)	0.2
Riboflavin (mg)	0.1
Niacin (NE)	2.8
Folate (DFE)	133.4
Vitamin B6 (mg)	0.2
Vitamin B12 (µg)	0.0



RICHMOND METABOLIC
BARIATRIC SURGERY

References

Aills, L.; Blankenship, J.; Buffington, C.; Furtado, M.; Parrot, J. (2008). ASMBS Allied health nutritional guidelines for the surgical weight loss patient. *Surgery for Obesity and Related Diseases*, 4: S73-S108.

Alexander, C.A. (2009). *Emotional First Aid Kit: A Practical Guide to Life After Bariatric Surgery* Paperback – Jul 15 2009

Aversa, A., Bruzziches, R., Francomano, D., Greco, E. A., Violi, F., Lenzi, A., & Donini, L. M. (2013). Weight loss by multidisciplinary intervention improves endothelial and sexual function in obese fertile women. *Journal of Sexual Medicine*, 10(4), 1024–1033. doi:10.1111/jsm.12069

Brzowska, M. M., Sainsbury, A., Eisman, J. A., Baldock, P. A., & Center, J. R. (2012). Bariatric surgery, bone loss, obesity and possible mechanisms. *Obesity Reviews*, 14(1), 52–67. doi:10.1111/j.1467-789X.2012.01050.x

Caspersen CJ, Powell KE, Christenson GM. Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research. *Public Health Rep.* 1985; 100(2):126-31.

Deslandes, A., Moraes, H., Ferreira, C., Veiga, H., Silveira, H., Mouta, R., et al. (2009). Exercise and mental health: many reasons to move. *Neuropsychobiology*, 59(4), 191–198.

Ekserci, S; Klein, L. (2011) *The Complete Weight-Loss Surgery Guide and Diet Program: Includes 150 Delicious and Nutritious Recipes* Paperback.

Emery CF, Kiecolt-Glaser JK, Glaser R, Malarkey WB, Frid DJ. (2005). Exercise accelerates wound healing among healthy older adults: a preliminary investigation. *J Gerontol Med Sci* 60(A):1432-1436.

Engstrom, D. R., & Quebbemann, B. B. (2002). Behavioral factors affect outcomes following gastric bypass vs. banding procedures. Paper presented at the annual conference of the American Society of Bariatric Surgery, Las Vegas.

Hagen, K., Dagfinrud, H., Moe, R., Østerås, N., Kjekken, I., Grotle, M., & Smedslund, G. (2012). Exercise therapy for bone and muscle health: an overview of systematic reviews. *BMC Medicine*, 10(1), 167. doi: 10.1007/s00198-009-0938-6

Health Canada. (2008). Nutrient Values of some common foods. http://www.hc-sc.gc.ca/fn-an/alt_formats/pdf/nutrition/fiche-nutri-data/nvscf-vnqau-eng.pdf.

Hopkins, M. E., Davis, F. C., Vantieghem, M. R., Whalen, P. J., & Bucci, D. J. (2012). Differential effects of acute and regular physical exercise on cognition and affect. *Neuroscience*, 215, 59–68. doi:10.1016/j.neuroscience.2012.04.056

Humber River General Hospital. Nutrition guidelines after bariatric surgery: Roux-en-Y gastric bypass.

Jensen MD, Ryan DH, Apovian CM, et al. 2013 AHA/ACC/TOS Guideline for the Management of Overweight and Obesity in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and The Obesity Society. *Circulation*. 2013; 01.cir.0000437739.71477.ee.

Keylock KT, Vieira VJ, Wallig MA, DiPietro LA, Schrementi M, Woods JA. (2008). Exercise accelerates cutaneous wound healing and decreases wound inflammation in aged mice. *Am J Physiol Regul Integr Comp Physiol* 294:R179-R184.

Khoo, J., Tian, H.-H., Tan, B., Chew, K., Ng, C.-S., Leong, D., et al. (2013). Comparing effects of low- and high-volume moderate-intensity exercise on sexual function and testosterone in obese men. *Journal of Sexual Medicine*, 10(7), 1823–1832.
doi:10.1111/jsm.12154

Lewis, R. W., Fugl-Meyer, K. S., Corona, G., Hayes, R. D., Laumann, E. O., Moreira, E. D., Jr, et al. (2010). Definitions/Epidemiology/Risk Factors for Sexual Dysfunction. *Journal of Sexual Medicine*, 7(4pt2), 1598–1607. doi:10.1111/j.1743-6109.2010.01778.x

Mammen, G., & Faulkner, G. (2013). Physical Activity and the Prevention of Depression. *American Journal of Preventive Medicine*, 45(5), 649–657.
doi:10.1016/j.amepre.2013.08.001

Messier, S. P., Mihalko, S. L., Legault, C., Miller, G. D., Nicklas, B. J., DeVita, P., et al. (2013). Effects of Intensive Diet and Exercise on Knee Joint Loads, Inflammation, and Clinical Outcomes Among Overweight and Obese Adults With Knee Osteoarthritis: The IDEA Randomized Clinical Trial. *JAMA: the Journal of the American Medical Association*, 310(12), 1263–1273. doi:10.1001/jama.2013.277669

Nakamura, K. M., Haglund, E., & Clowes, J. A. (2014). Fracture risk following bariatric surgery: a population-based study. *Osteoporos Int*, (25), 151–158.

Parrott, J.; Frank, L.; Rabena, R.; Craggs-Dino, L.; Isom, KA.; Greiman, L. (2017).

American Society for Metabolic and Bariatric Surgery Integrated Health Nutritional Guidelines for the Surgical Weight Loss Patient; Update: Micronutrients. *Surgery for Obesity and Related Diseases*. Review article.
<https://asmb.org/wp/uploads/2017/06/ASMBS-Nutritional-Guidelines-2016-Update.pdf>

Paterson, D. H., & Warburton, D. E. (2010). Review Physical activity and functional limitations in older adults: a systematic review related to Canada's Physical Activity Guidelines. *International Journal of Behavioral Nutrition and Physical Activity*, 7(38).

Patient education guide to gastric bypass surgery. University of Toronto Collaborative Bariatric Surgery Program.

Sattelmair, J., Pertman, J., Ding, E. L., Kohl, H. W., Haskell, W., & Lee, I. M. (2011). Dose Response Between Physical Activity and Risk of Coronary Heart Disease: A Meta-Analysis. *Circulation*, 124(7), 789–795. doi:10.1161/CIRCULATIONAHA.110.010710

Scibora, L. M., Ikramuddin, S., Buchwald, H., & Petit, M. A. (2012). Examining the Link Between Bariatric Surgery, Bone Loss, and Osteoporosis: a Review of Bone Density Studies. *Obesity Surgery*, 22(4), 654–667. Doi: 10.1007/s11695-012-0596-1

Shikora, S.A.; Ki, J.J.; Tarnoff, M.E. (2007) Nutrition and gastrointestinal complications of bariatric surgery. *Nutrition in Clinical Practice* 22:29-40.

Thomson, C. A., Morrow, K. L., Flatt, S. W., Wertheim, B. C., Perfect, M. M., Ravia, J. J., et al. (2012). Relationship between sleep quality and quantity and weight loss in women participating in a weight-loss intervention trial. *Obesity*, 20(7), 1419–1425. doi:10.1038/oby.2012.62

RICHMOND METABOLIC AND
BARIATRIC SURGERY

Thomson, R. L., Buckley, J. D., & Brinkworth, G. D. (2011). Exercise for the treatment and management of overweight women with polycystic ovary syndrome: a review of the literature. *Obesity Reviews*, 12(5), e202–e210.

Umpierre D, Ribeiro PA, Kramer CK, et al. Physical activity advice only or structured exercise training and association with HbA1c levels in type 2 diabetes: a systematic review and meta-analysis. *JAMA: the Journal of the American Medical Association*, 2011; 305(17):1790-9.

Walsh, N. P., Gleeson, M., Shephard, R. J., Gleeson, M., Woods, J. A., Bishop, N. C., et al. (2011). Position statement. Part one: Immune function and exercise. *Exercise Immunology Review*, 17, 6–63.

Wing, R.R. & Jeffery, R.W. (1999). Benefits of recruiting participants with friends and increasing social support for weight loss and maintenance. *Journal of Consulting and Clinical Psychology*, 67(1), 132-138.

Winzer, B. M., Whiteman, D. C., Reeves, M. M., & Paratz, J. D. (2011). Physical activity and cancer prevention: a systematic review of clinical trials. *Cancer Causes & Control*, 22(6), 811–826. Doi: 10.1007/s10552-011-9761-4

Woods, J. A., Vieira, V. J., & Keylock, K. T. (2009). Exercise, Inflammation, and Innate Immunity. *Immunology and Allergy Clinics of North America*, 29(2), 381–393. doi:10.1016/j.iac.2009.02.

Websites

<https://asmbs.org/patients>

<https://asmbs.org/patients/patient-videos>

<https://asmbs.org/resources/updated-position-statement-on-sleeve-gastrectomy-as-a-bariatric-procedure>

<https://asmbs.org/resources/position-statement-impact-obesity-obesity-treatment-fertility-fertility-therapy>

<https://asmbs.org/resources/alcohol-use-before-and-after-bariatric-surgery>

<http://www.rmbsurgery.com/>

<https://www.mayoclinic.org/tests-procedures/bariatric-surgery/about/pac-20394258>



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