NICHOLSON CLINIC

For Weight Loss Surgery

Next Steps After Your Consultation

Your Patient Care Advocates are your main contact at the Nicholson Clinic, guiding you through the surgery process and ensuring a positive experience. They can assist with most of your needs.	\
One of our Patient Care Advocates will reach out within a week of your consultation. If you haven't heard from them, please contact at the number below.	
For expedited surgery, please call 972-494-3100 and select option 4.	
Patient Care Advocates:	
Jordan Mitchell, CMA Direct #: 469-800-5835 Jordan@nicholsonclinic.com	
Karen Perez, CMA Direct #: 469-800-5830 Karen.Perez@BSWHealth.org	
Melissa Furrh, CMA Direct #: 469-800-5834 Melissa.Furrh@BSWHealth.org	
Additionally, your Insurance Coordinator will contact you within a week to discuss insurance criteria and assist with the approval process.	
Your Insurance Coordinators:	
Mary Martinez Direct #: 469-800-5823 MaryM@nicholsonclinic.com	
Sandra Ruiz Direct #: 469-800-5802 Sandra.ruiz1@BSWHealth.org	

Pre-Op Diet

EVERYONE IS REQUIRED TO START THIS 2 WEEKS BEFORE SURGERY.

The Pre-Op diet is mandatory in order to shrink your liver and ensure a safe operation. Surgery can be cancelled if your liver is too large to safely operate. See pages 33-36 for more information. You are also required to have a Pre-Op dietitian visit to discuss your two-week Pre-Operative diet. The information for the dietitians can be found on page 7 of your patient folder. Please call the dietitian directly and schedule a Pre-Operative visit as soon as possible.

NICHOLSON CLINIC

For Weight Loss Surgery

Consult Folder

Table of

Contents

_	Important Contact Information	Page 4
-	Nicholson Clinic Financial Information	Page 5
-	Hospital Information	Page 6
-	Additional Recommended Providers	Page 7
-	Who Do I Contact?	Page 8
_	What to Know Before Choosing Weight Loss Surgery	Page 9
-	Why Quit Tobacco Before Surgery?	Page 10
-	Medications Before Surgery	Page 11
-	Pre-Operative Testing	Page 12
-	Leave of Absence & Return to Work Policy	Page 13
-	Upper GI Series	Page 14
-	EGD	Page 15
_	Are You Ready for Surgery?	Page 16
_	Having Surgery?	Page 17
-	Sequence of Events for Day of Surgery	Page 18-19
_	Post-Surgery Prescription Medication Guidelines and Considerations	Page 20
-	Post-Surgery Care	Page 21
_	Potential Post-Operative Problems & Suggested Solutions	Page 22-25
_	Diet and Gastroesophageal Reflux Disease	Page 26
-	Maximizing Success After Surgery	Page 27-29
_	Post-Surgery Health Guidelines	Page 30-31
_	Post-Operative Appointments	Page 32
-	Pre-Operative Diet	Page 33-36
-	Day Before Surgery Liquid Diet & Hydration Guidelines	Page 37
_	Post-Operative Day 1-21 - Diet	Page 38
_	Post-Operative Day 1-21 – General Post-Op Diet Guidance and FAQs	Page 39-41
_	Post-Operative Day 1-21 – Sample Menu	Page 42-43
_	Post-Operative Day 22-42 - Diet	Page 44-45
-	Post-Operative Day 22-42 – Sample Menu	Page 46
_	General Vitamin Information	Page 47-48

-	Additional Vitamin Information - Iron	Page 49
-	Additional Vitamin Information - Calcium	Page 50
-	Additional Vitamin Information - Folate	Page 51
-	Additional Vitamin Information – Thiamine/Vitamin B1	Page 52
-	Additional Vitamin Information – Vitamin B12	Page 53
-	Additional Vitamin Information – Vitamin A	Page 54
-	Additional Vitamin Information – Vitamin D	Page 55

Important Contact Information

Phone Number (972) 494-3100

Fax Number (469) 800-5810

Billing & Mailing Address

5000 Legacy Drive, Suite 200 Plano, Texas 75024

Clinic Addresses

Plano Clinic Legacy 5000 Legacy Drive Suite 215 Plano, Texas 75024 Dallas Clinic The Pavilion II 12222 N. Central Expwy Suite 200 Dallas, Texas 75243

Medical Team

Denise Cleere, Practice Administrator	(469) 800-5824
Adam Brown, PA-C, Physician Assistant	(972) 494-3100
Daniela Orozco, PA-C, Physician Assistant	(972) 494-3100
Anissa Morris, PA-C, Physician Assistant	(972) 494-3100
Roy Plascensia, RD/LD, Dietitian	(972) 494-3100
Jordan Mitchell, CMA, Manager, Clinic Operations	(469) 800-5835
Karen Perez, CMA, Patient Care Advocate	(469) 800-5830
Melissa Furrh, CMA, Patient Care Advocate	(469) 800-5834
Alison Tomlinson, CMA, Referral Coordinator, Educator	(469) 800-5832
Billing Department – Nicholson Clinic	(972) 494-3100

Patient educators are your go-to for patient support. They assist patients with all pre-op and post-op questions via phone, email and in the Facebook support group. They also offer monthly virtual Patient-to-Patient support groups. We also have videos online for patients to follow the pre-op and post-op diet requirements that are crucial to your weight loss success. Visit https://nicholsonclinic.com/weight-loss-support/pre-post-diet-videos/ to watch videos or follow us on Facebook for upcoming Patient-to-Patient dates.

Nicholson Clinic

Financial Information

Self-Pay Patients

Once your surgery is scheduled, you will receive cash pay guidelines detailing everything included in your "package price."

Insurance Patients

Your insurance will be billed for:

- Pre-surgery office visits
- Surgical procedure
- Post-surgery office visits after the 90-day insurance global period
- Lap band fills

Important:

You are responsible for all co-pays, co-insurance and unmet deductibles. Co-pays for specialist visits are due at the time of your appointment.

After insurance payment, you'll receive a statement for any remaining balance applied to your co-pay, co-insurance, or deductible. Unpaid balances may prevent future appointments.

Billing Questions

For all questions regarding charges or billing issues, please call our billing department at (972) 494-3100.

Hospital Information

Baylor Scott & White Medical Center – Plano

4700 Alliance Blvd., Plano, Texas 75093 www.BaylorHealth.com

Main Number(469) 814-2000Hospital Pre-Admission(469) 814-2600Central Scheduling (Upper GI, Testing, etc.)(469) 814-5500Financial Concerns – Business Office(469) 814-2312

Baylor Surgicare of Garland

530 Clara Barton Blvd. #100, Garland, Texas 75042 <u>www.PAS-Garland.com</u>

Main Number (972) 494-2400

Medical City Frisco

5500 Frisco Square Blvd., Frisco, Texas 75034 <u>www.Medicalcityfrisco.com</u>

Main Number (214) 618-0500

Additional Recommended Providers

Psychology

Comprehensive	PsyMed	Kristi Roper, PhD	Advantage Point Behavioral
Psychological Services	Clinical Psychologist	Clinical Psychologist	Health Clinical Psychologist
of Texas	(214) 348-5557	(214) 477-9275	(877) 583-5633
Clinical Psychologist			
(214) 396-3960			

Dietitian

Roy Plascensia, RD/LD 5000 Legacy Drive Suite 200 Plano, Texas (972) 494-3100

Cardiologist

Advanced Heart & Vascular Center	Heart Health Center of North
www.advancedheart.com	Texas
(214) 377-7576	www.hearthcenterofnorthtexas.com
	(214) 826-6044

Gastroenterologist

Dr. Harry Sarles, Dr. Mark Miller, Dr. Bilal Khan, and Dr. Kristie Blank Digestive Health Associates of TX, PA (972) 771-2222

Plastic Surgery

Dr. Richard Ha
Dallas Plastic Surgery Institute
www.HaPlasticSurgery.com
(214) 818-0935

Dr. Matthew Trovato www.DrMJTrovato.com (214) 827-2873

Primary Care

Village Health Partners 5425 W. Spring Creek Parkway #200, Plano, Texas 75024 www.VillageHealthPartners.com (972) 599-9600 Village Health Partners 8080 Independence Parkway #200, Plano, Texas 75025 (972) 596-9511

Who Do I Contact?

For urgent or non-urgent medical matters during business hours, please contact our office.

Nicholson Clinic Office Hours:

• Monday - Thursday: 9 AM - 5 PM

Friday: 9 AM – 3 PMPhone: (972) 494-3100

After Hours, Weekend, or Holidays:

For urgent matters after hours, on weekends, or holidays, call (972) 494-3100. Our after-hours answering service will reach the on-call bariatric doctor and/or physician assistant.

In case of an emergency, call 911 or go to your nearest emergency room.

What to Know Before Choosing Weight Loss Surgery

1. Surgery is a Tool, Not Magic:

Weight loss surgery doesn't cure obesity. It requires discipline, exercise, and self-control. Surgery is just an aid in achieving your goals.

2. Ask Yourself Key Questions:

What motivates you to want surgery? How are you managing stress? Surgery won't fix life problems—set realistic expectations.

3. Surgery Drops Pounds, Not Problems:

Weight issues often stem from unresolved life struggles. If these aren't addressed, they will persist even after surgery.

4. Turn Struggles into Strategies:

Healthy eating is a challenge. If emotional eating is a habit, think about how you'll handle hunger post-surgery. Why not start practicing those strategies now?

5. Make the Decision for Yourself:

Ensure you want surgery for yourself, not due to pressure from others. Success depends on your commitment, especially when challenges arise.

6. Commit to Exercise:

Exercise is non-negotiable. Even when you don't feel like it, regular activity is key for both weight loss and long-term maintenance.

7. Move from Shame to Sharing:

Many with obesity struggle with shame. Surgery is a step toward overcoming it but be prepared for emotional truths that may surface during the process.

8. Make an Informed Decision:

Research the surgery thoroughly. You're committing to a lifetime of new habits in eating, exercising, and living.

Why Quit Tobacco Before Surgery?

Tobacco use restricts blood vessels, reduces oxygen supply, and increases the risk of complications after surgery, such as wound infections, poor healing, and heart or lung issues. It's essential to stop using all tobacco products (including cigarettes, e-cigarettes, and chewing tobacco) at least six weeks before surgery and avoid them afterward.

Health Benefits of Quitting Smoking:

- **20 minutes**: Heart rate and blood pressure drop.
- **12 hours**: Carbon monoxide levels normalize; smoker's breath disappears.
- **2 weeks to 3 months**: Improved circulation and lung function.
- 1 to 9 months: Decreased coughing, improved lung cleaning function.
- 1 year: Risk of coronary heart disease drops by half.

Quitting smoking improves breathing, reduces heart strain, lowers cancer and heart attack risk, and speeds up recovery after surgery.

Need More Information?

Talk to your healthcare provider for support. Additional resources include the **American Cancer Society** (1-800-ACS-2345, www.cancer.org) and the **American Lung Association of Texas** (214-631-5864, www.texaslung.org)

Medications Before Surgery

- Stop 1 week before surgery: Ibuprofen, Aspirin, Aleve, NSAIDs.
- **Stop 2 weeks before surgery**: Oral contraceptives and hormone replacement therapy (resume 2 weeks after surgery).
- Contact our office if you take blood thinners, blood pressure meds, or diuretics for specific instructions.
- **Day before surgery**: No solid foods; liquids, protein drinks, or soups are okay. No food or drink after 10:00 PM.
- **Morning of surgery**: Take thyroid meds or antidepressants with a small sip of water. Take half your insulin dose the night before.

Bring a list of all medications, dosages, and schedules to review with the anesthesiologist before surgery.

Pre-Operative Testing

Pre-operative tests, such as blood work, urine tests, EKG, EGD, and upper GI, are required and must be completed at least 2 weeks before surgery. If tests were done elsewhere, ensure results are sent to our office within the same timeframe to avoid cancellation or rescheduling of your surgery.

PLEASE NOTE: If something shows up on the pre-operative testing that requires treatment or a consultation with a specialist for surgical clearance, your surgery date may be delayed.

For questions, please call Nicholson Clinic at (972) 494-3100.

Leave of Absence & Return to Work Paperwork

We assist patients in completing leave forms after surgery. Our priority is quality medical care, so form completion will be done as time allows, with a fee of \$25 per form, payable before submission to your employer or disability carrier.

Important Information:

- **Employer Requirements:** Confirm your employer's leave requirements with Human Resources before your surgeon consultation.
- **Form Submission:** Submit forms in person or via fax to (469) 800-5810. Note that in-person submissions will not be processed immediately.
- **Processing Time:** Forms will be completed within 5 to 7 business days post-surgery and faxed to your company. Please provide accurate fax numbers for FMLA and disability forms.
- **Surgery Date:** If you submit paperwork without a scheduled surgery date, inform our office once you have one; forms cannot be processed without this information.
- **Return to Work Release:** This will be completed at your two-week post-operative follow-up. The Weight Loss Surgery Center requires a written request from your employer or disability company to release information, which can be faxed to (972) 608-0005. Each request must be submitted separately.

For questions, please call Nicholson Clinic at (972) 494-3100.

Upper GI Series

(This only applies to those who have an Upper GI ordered)

An Upper GI (UGI) test is required to assess your upper digestive tract before surgery, helping to identify complications like ulcers or polyps that may need treatment. This assessment is crucial, as these areas will be less accessible after certain bariatric surgeries such as a Roux-en-Y Gastric Bypass.

Before Your Test:

- Do not eat or drink for 8 hours prior.
- Avoid smoking on the morning of the test.
- Take regular medications with a few sips of water early that morning.
- The test lasts 30-60 minutes; allow an extra 15 minutes for check-in.
- Bring your driver's license and insurance card.

Inform the Technologist If:

- You have any allergies.
- You ate or drank within the last 8 hours.
- You are pregnant or suspect you might be.
- You have had previous surgeries.
- You take any medications.

During Your Test:

- You will change into a patient gown.
- Drink barium to enhance x-ray images.
- You may swallow "fizzies" to create air in your stomach—try not to burp.
- You may need to change positions for the x-rays and hold your breath briefly.
- Request a CD copy of your test to bring to your next appointment.

After Your Test:

- Your stool may appear lighter than normal.
- The radiologist will send the results to your surgeon for review.
- Your doctor will discuss the results in a follow-up appointment or via phone.
- You will be informed if further testing or a GI consultation is needed.

Call scheduling to schedule your appointment:

Baylor Plano (469) 814-5500 If you have any pre-op test completed at another facility, please have the results sent to the Nicholson Clinic.

Fax to (469) 800-5810

Upper Endoscopy

(This only applies to those who have an endoscopy ordered)

An Upper Endoscopy (EGD) allows your doctor to examine the upper gastrointestinal (GI) tract, including the esophagus, stomach, and duodenum, using a flexible, lighted endoscope. This procedure enables the doctor to see, take samples, and capture images of your GI tract.

Before the Exam:

- Follow all provided instructions carefully; failure to do so may result in cancellation or rescheduling of the test.
- Avoid solid food after 8:00 PM and do not eat or drink anything after midnight before your exam.
- Take morning medications with a sip of water, but skip diabetes, blood-thinning, or aspirin medications that morning.
- Notify us if you take blood thinners (e.g., Aspirin, Lovenox, Coumadin) as you may need clearance from your prescribing physician.
- Arrange for an adult to accompany you and drive you home after the procedure.
- Inform your healthcare provider of any medications you take or medical issues you have.

The Procedure:

- You will lie on the endoscopy table, and a nurse will place a "bite block" in your mouth to protect your teeth.
- Sedation will be administered through an IV line.
- The endoscope is inserted through your mouth and advanced to your stomach, with air introduced to expand the GI tract (this may cause burping).
- Images of your upper GI tract will be displayed on a video screen; you may see these if awake.
- After the procedure, you will rest briefly, and an adult must drive you home.

CALL YOUR DOCTOR IF YOU HAVE:

- Black or tarry stools; blood in your stool
- Fever
- Persistent pain in your abdomen

If you have pre-op testing completed at another facility, please have the results sent to the Nicholson Clinic.
Fax to (469) 800-5810

Are You Ready for Surgery?

Use this checklist to guide you:

- Required Forms: Have you signed all necessary forms, including consent for treatment?
- **Pre-Op Testing:** Have you completed all pre-op tests as ordered by your surgeon?
- **EGD Scheduling:** If your surgeon ordered an endoscopy, has it been scheduled by our office? Refer to "Instructions for Pre-Op Testing" (Upper Endoscopy).
- **Test Results:** If you had tests done elsewhere, have the results been sent to our office? If not, please fax them to (469) 800-5810.
- Pre-Op Diet: Have you been following your 2-week pre-op diet? Refer to "1200 Calorie Pre-Op Diet."
- **Day of Surgery:** Do you know where to go on the day of surgery? Check "Sequence of Events for Day of Surgery."
- Questions and Concerns: Have all your questions been answered? If not, call Nicholson Clinic at (972) 494-3100.

Having Surgery?

You will receive your surgery arrival time via the MyBSW Health portal one business day before surgery.

www.MyBSWHealth.com

Our surgeons schedule patients based on procedure type and available surgical rooms, and this decision is made the day before surgery.

If you don't receive the message or have trouble understanding it, please contact the Nicholson Clinic for your arrival time.

Important Pre-Surgery Instructions:

- **Birth Control/Estrogen:** Stop using any birth control or estrogen products 2 weeks before and 2 weeks after surgery to reduce the risk of blood clots.
- **Blood Thinners:** Consult your surgeon for specific instructions. Do not take aspirin or NSAIDs one week before surgery. Aspirin can be resumed one week post-surgery, but it must be chewable and taken with plenty of water.

Sequence of Events for Day of Surgery

The Day Before Surgery:

• Do not eat solid foods; you may drink liquids, protein drinks, or soups. Stop all intake after 10:00 PM.

Morning of Surgery:

- Take only blood pressure, antidepressant, and thyroid medications with a sip of water. Do not eat, drink, or take any other medications.
- Leave all jewelry, piercings, watches, contacts, etc., at home. Bring glasses and hearing aids in protective carriers. Wear comfortable clothing.
- If you use a C-PAP/BiPAP machine, bring it with you. If you take insulin, only take half your usual dose the night before.

Check-In:

Arrive at Registration at the time given by the Nicholson Clinic to sign paperwork and consent forms, verifying
your understanding of the surgery.

Day Surgery (Pre-Op Holding):

- Change into a gown and lie on a stretcher. Compression pumps will be attached to promote circulation.
- The surgeon and anesthesiologist will meet with you, and the anesthesiologist will give you medication to relax you. One or two family members may stay with you.

Operating Room (OR):

• You will be transported to the OR while your family waits in the surgery waiting room. The anesthesiologist will administer anesthesia. After surgery, a nurse will notify your family.

Recovery Room:

You will wake up on a stretcher or in a hospital bed, monitored by a registered nurse. Recovery may take up
to an hour. Leave valuables at home, as they cannot be secured in recovery. Cards and flowers are not
permitted.

Post-Operative Care:

After recovery, you will be moved to a post-operative area or hospital room. Sit up and walk as soon as you
feel able (within 1-2 hours) to prevent blood clots. Coughing and deep breathing are essential; use a pillow
for support.

• Common post-surgery discomforts include shoulder pain, abdominal soreness, hiccups, nausea, gas, and fatigue. Report any sudden severe pain or shortness of breath immediately.

Breathing Exercises:

• You will receive an Incentive Spirometer to use 10 times an hour while awake until you return to normal activity.

Discharge Information:

- Sleeve Gastrectomy patients will be typically discharged the same day once they can tolerate clear liquids, walk, use the bathroom, and manage pain and nausea. All vital signs must be stable.
- Gastric Bypass patients will stay for 1-2 nights.

Seatbelt Use:

• You can, and are advised to wear your seatbelt after surgery. Bringing a pillow for your ride home may provide added comfort (place it over your lap, not between you and the seatbelt).

Post-Surgery Prescription Medication Guidelines and Considerations

If you have any questions about your medications, please reach out to your pharmacist, prescribing physician, or our office at (972) 494-3100.

In general, you can resume taking all your pre-operative maintenance medications once you are cleared to begin a liquid diet.

You are allowed to swallow pills after surgery. Small pills are typically well tolerated when taken one at a time. However, if a pill is significantly larger than a pencil eraser, it should be broken or crushed. Please note that time-release or delayed-release medications should not be broken or crushed; discuss these with your prescribing physician.

Unless otherwise instructed, you may continue your blood pressure medication after surgery. **However, diuretics** (fluid pills) should be avoided immediately after surgery to prevent dehydration. If you experience dizziness or light-headedness while taking blood pressure medication, stop taking it and contact your prescribing physician, as your blood pressure may be too low.

You may resume taking aspirin after surgery.

Please hold off on estrogen and birth control medications for two weeks post-surgery and use an alternative method of contraception during this period.

It's important to follow up with your prescribing physician after surgery, as your medication needs and dosages may change due to weight loss. Do not discontinue any prescribed medication without consulting your physician first.

Take pain medication as prescribed after surgery. Avoid Aleve™ (naproxen), Advil™ (ibuprofen), and aspirin. Use Tylenol™ (acetaminophen) according to package directions; it's available in adult-strength liquid or Extra Strength tablets (can be broken into smaller pieces). Consider using an abdominal binder for comfort.

Constipation aids may be used if indicated including a stool softener like Colace™. Smooth Move Tea or Milk of Magnesia can also be used for constipation, following package instructions. Constipation is common after surgery.

Contact your prescribing physician regarding medications prescribed prior to surgery, as dosages may need to be adjusted with weight loss.

Post-Surgery Care

Follow-up Appointments

Nicholson Clinic hours are Monday to Thursday, 9:00 AM - 5:00 PM, and Friday, 9:00 AM - 3:00 PM. You will receive a call within two business days after your surgery to check on your well-being and schedule your follow-up appointment.

Incisions

Incisions may appear pink/red or bruised. You can remove gauze dressings, but let the glue and tape fall off naturally. Hardness around the incision is normal and should subside in a few weeks. Clear, pink, or red drainage is common. Contact the clinic if redness spreads over an inch or if drainage is thick or foul-smelling. Dark stools may occur for 7-10 days, and diarrhea can last up to a week without needing anti-diarrheal medication. Shoulder pain is common after laparoscopic surgery; walking and heat/cold packs may help.

Diet

For three weeks post-surgery, follow a full liquid diet (beverages, broths, protein drinks). Stay hydrated by drinking at least 64 ounces of fluid daily.

Activity

Once home, you can resume daily activities like showering and walking. Avoid tubs, hot tubs, or swimming pools for six weeks. Keep incision sites clean and dry; gently wash with soap and water. Avoid lifting over 10 pounds until it is cleared by your surgeon. You may drive in 3-4 days if you are not on narcotics and can turn your head comfortably. Sexual activity can resume as you feel ready. Women may experience irregular menstrual cycles for the first couple of months; consult your doctor if this persists. Increased fertility may occur with weight loss, so take precautions against pregnancy for one year post-surgery. Flying is not recommended for six weeks unless you're an out-of-town patient; we advise spending at least three days in Dallas for recovery monitoring.

If you have questions about diet and lifestyle post-surgery, contact your Patient Care Advocate.

Potential Post-Op Problems & Suggested Solutions

If you have any of the following symptoms, call 911 or go to your nearest emergency room:

- Increasing abdominal pain
- Bright red blood in stool
- Fever of 101.0F or above
- Difficulty breathing, shortness of breath
- Pain in leg(s) or chest
- Heart rate more than 120 beats/minute

- Ongoing vomiting, more than twice per week
- Incision that is red and hot
- Incision drainage is thick, green, brown or has a bad smell
- Uncontrollable belching or hiccups
- Diarrhea lasting more than 7 days

Symptom	Suggested Solution
Nausea & Vomiting	Eat and drink slowly. Warm liquids may help. If you vomit more than twice in a week, call (972) 494-3100.
Incision Pain	Take prescribed pain medication. Avoid NSAIDs such as Aleve™, Advil™, or aspirin (only applicable to avoid NSAIDs if you had a Roux-en-Y gastric bypass); use Tylenol™ instead. Consider using an abdominal binder when walking.
Shoulder pain	Common due to gas from surgery. Walk frequently and use massage or warm/cold packs for relief.
Heartburn & Acid Reflux	Start with dietary modifications (see page 26 for GERD-causing foods). If symptoms persist, consider an antacid. Ensure you are taking the prescribed Pantoprazole 40mg daily on an empty stomach for 90 days to prevent ulcers.
Other pain	Report any new, unrelated pain promptly.
Incision Sites	Slight redness or bruising is common and will decrease over time. Clear or reddish-pink drainage may occur; cover with a Band-Aid™ if desired.
Constipation	Common in the first month post-surgery. Use Miralax™, Milk of Magnesia™, or Smooth Move Tea™ as needed. Walking and drinking water help; switch to Tylenol™ to reduce constipation from narcotics.

Symptom	Suggested Solution		
Diarrhea	Avoid sugars and sweets; limit high-fat and greasy foods. Drink lactose-free milk if intolerant. Imodium™ is OK to use.		
Gastric Distention	Avoid straws, concentrated sweets, and carbonated beverages. Try over-the-counter Gas-X [™] (simethicone).		
Dehydration	Sip fluids between meals; aim for at least 64 ounces daily. Drink until urine appears light yellow in the toilet.		
Bathing/Swimming	You can shower after returning home; let warm water run over incisions and gently pat dry. Do not remove glue or tape over incisions; let them fall off naturally. No baths, hot tubs, or swimming for 6 weeks post-surgery or until dressings/scabs fall off.		
Medications Prescribed by Nicholson Clinic	Follow hospital discharges instructions. Split or crush larger pills as needed but consult a pharmacist for guidance on medications that should not be crushed (e.g., time-released or enteric coated).		
Medications Not Prescribed by Nicholson Clinic	Contact your prescribing physician for changes or questions. Split or crush larger pills as needed but consult a pharmacist for guidance on medications that should not be crushed (e.g., time-released or enteric coated).		
Activity during the first 2 weeks after surgery	Resume normal activities as soon as possible; walk every 1-2 hours, starting in the hospital. Take deep breaths and cough often to prevent complications such as blood clots and pneumonia. Use the Incentive Spirometer at least 10 times a day, every hour while awake for the first week.		
Lifting/exercise	Avoid lifting over 10 pounds or strenuous exercise for 2 weeks post-surgery. From weeks 2-6, do not lift over 30-40 pounds. After 6 weeks, there are no weight restrictions. Frequent walking is encouraged for recovery.		

Symptom Suggested Solution

Weakness and fatique

Anesthesia can cause weakness and fatigue, and it takes time for your body to eliminate it. Be sure to drink plenty of fluids and stay active.

Car Seatbelt

You should continue to wear your seatbelt after surgery. Bringing a pillow for your ride home may provide added comfort (place it over your lap, not between you and the seatbelt).

Day 1-21:

Diet first 6 weeks after WLS

It is
VERY
important to
follow this diet
to prevent
post-op
complications!!

Follow the post-op diet specific to your procedure. Consume thin full liquids only, avoiding straws. Acceptable options include beef or chicken broth, Crystal Light™, decaf tea/coffee, protein drinks with 25 grams of protein or more, Isopure™ skim or 1% milk, unsweetened almond milk, and sugar-free popsicles. You can also add whey protein powder. Avoid Jell-O™, pudding, yogurt, mashed potatoes, tomato-based fluids, and cooked cereals. Blending soup is not allowed during this stage. Do not chew gum or suck on hard candy to prevent accidental swallowing. No alcohol—avoid the "3 C's": carbonation, caffeine, and calories. If a liquid does not flow easily through a fine wire strainer, it should not be consumed.

Day 22-42:

See Post-Op Diet in Consult Book In addition to the above, you may include soft, cooked vegetables, eggs, unsweetened applesauce or fruit (without seeds, skins, or membranes), thinly sliced deli or ground meat, creamy peanut butter, cottage cheese, ricotta, and low-fat sliced cheese. Avoid fibrous vegetables (like broccoli and celery), skins (such as peas and corn), raw veggies, nuts, rice, pasta, bread, crackers, tortillas, and wraps. No alcohol—continue to avoid the "3 C's": carbonation, caffeine, and calories.

Diet after weight loss surgery Drink at least 64 ounces of fluid daily. Aim for a minimum of 60 grams of protein each day (over 70 grams for men), and always prioritize protein in your meals. Acceptable sources include protein drinks or shakes, protein powder, tofu, and meat. Avoid alcohol, as well as carbonation, bread, rice, pasta, crackers, chips, tortillas, sugar, and other empty calories.

Stretching of your new stomach

Avoid eating large quantities of food at once. Instead, take small bites and eat slowly over a 20 to 30-minute period. Additionally, refrain from consuming carbonated beverages for the rest of your life.

Weight gain or lack of continued weight loss Avoid high-calorie beverages, including fruit juice, and steer clear of high-fat, high-calorie foods. Control portion sizes, typically 1 to 1.5 cups of food at a time. Prioritize protein-rich foods, aiming for at least 60 grams per day. Do not drink during meals, or for 10 minutes before and 30 minutes after meals. Stay active—exercise regularly! Schedule an appointment with the clinic and dietitian. Continue to avoid simple carbohydrates such as bread, pasta, rice, crackers, tortillas, and sugar. Consider using tracking programs like www.myfitnesspal.com to monitor your intake.

Symptom Suggested

Solution

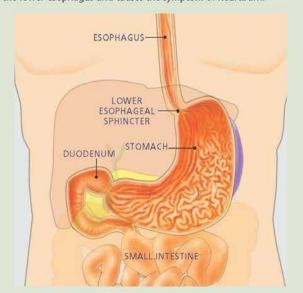
Sexual Activity	Resume when you feel able.
Menstrual Cycle	Irregular menstrual cycles can occur the first 1-2 months after surgery. If it persists, consult your primary care physician or gynecologist.
Pregnancy	Increased fertility is common after weight loss surgery, and you should take steps to avoid pregnancy until at least 1 year after surgery. Pregnancy is not dangerous but can hinder the amount of weight loss overall. Please notify us if you are pregnant, so we can provide a letter to your Ob/Gyn.
Hair Loss	Hair loss is not uncommon with substantial weight loss and usually occurs 6-12 months following bariatric surgery; it is often associated with hormonal changes. This typically stops and hair regrowth occurs once your weight stabilizes. If you have concerns, please contact the clinic. In the meantime, continue taking your vitamins and ensure you're consuming at least 60 grams of protein each day. You may also consider taking biotin, collagen and zinc supplements.
Travel and Imaging Safety for Gastric Bands & Staples	Gastric bands and titanium staples will not trigger airport scanner alarms. Both are safe for all imaging tests, including MRIs; however, it's important to inform the radiologist before undergoing any scans.

Diet and Gastroesophageal Reflux Disease (GERD)



What is GERD?

Gastroesophageal reflux is a chronic disease that occurs when stomach contents flow back (reflux) into the food pipe (esophagus). It is usually caused by failure of the muscle valve (called the lower esophageal sphincter) between the stomach and the esophagus to close properly. The backwash of stomach acid irritates the lining of the lower esophagus and causes the symptom of heartburn.



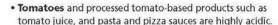
Heartburn, which is the most common symptom of GERD, usually feels like a burning sensation behind the breastbone, moving up to the neck and throat.

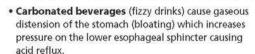
TRIGGER FOODS

Some foods are known to trigger symptoms of GERD. By keeping a food diary, you can identify your trigger foods and change your diet to reduce discomfort. Below is a list of some foods recognized to trigger symptoms of GERD and how they affect the digestive tract:



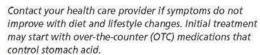
- Coffee (with or without caffeine) and caffeinated beverages relax the lower esophageal sphincter.
- Citrus fruits and juices such as orange, grapefruit and pineapple have high acid content.







- Chocolate contains a chemical called methylxanthine from the cocoa tree, which is similar to caffeine. It relaxes the lower esophageal sphincter, which causes acid reflux.
- Peppermint, garlic and onions relax the lower esophageal sphincter causing acid reflux.
- Fatty, spicy or fried foods relax the lower esophageal sphincter as well as delay stomach emptying and therefore cause acid reflux.





For more information, visit www.asge.org.

Copyright © 2014 American Society for Gastrointestinal Endoscopy

Maximizing Success After Surgery: Key Guidelines for Long-Term Weight Loss

"Outsmarting" Your Surgery

Some patients may find they don't lose as much weight as expected. This can happen if they "outsmart" or "overeat" after Roux-en-Y gastric bypass (RYGB) or gastric sleeve surgery. For instance, liquids can easily pass through the pouch and be absorbed further down in the intestine. Consuming high-calorie liquids or solids, or drinking during meals, can prevent weight loss and may even lead to regaining previously lost weight.

Stretching Your Pouch

Repeated overeating can increase pressure in the small pouch, potentially causing it to stretch and the opening to the intestine (stoma) to enlarge. These changes can result in weight gain, as they may allow larger food portions or premature emptying of the pouch. Aim to eat no more than 1 to 1.5 cups of food per meal.

Dumping Syndrome

Dumping occurs when food moves too quickly through your digestive system, which can cause a drop in blood glucose levels, even in non-diabetics. While any food can trigger dumping, it is often associated with those high in sugar or fat, as the body processes sugars rapidly. Overeating can also lead to dumping. Symptoms may be subtle at first and can last 30 to 90 minutes, including weakness, lightheadedness, sweating, chills, intense abdominal pain, cramping, nausea, diarrhea, or a sensation akin to severe motion sickness. Once dumping begins, there's little you can do to stop it; lying down may help. While most patients don't experience dumping, it's important to be aware of its possibility.

Pregnancy After Weight Loss Surgery

Women should avoid pregnancy during the rapid weight loss phase, as nutritional deficiencies may affect fetal development. It's recommended to wait at least one year after surgery before conceiving. Pre-surgery ovulation issues may resolve during recovery, increasing the likelihood of pregnancy, so caution is necessary during rapid weight loss. Once weight stabilizes, there should be no issues with pregnancy. If you do become pregnant, we will provide a letter for your Ob/Gyn.

Understanding Food Tolerance and Fullness

Patients often find certain foods that "don't agree" with them, usually those that fill the pouch quickly. If a few bites of chicken cause discomfort, it's likely because the food has filled the pouch rather than an incompatibility with the food itself. Stop eating immediately if you feel discomfort, as continuing can lead to nausea or vomiting. Train yourself to visually assess an appropriate portion before eating, ensuring bites are no larger than a nickel, and remember to put your fork or spoon down between bites.

Overeating: Recognizing When Enough Is Enough

Your brain signals fullness, but this process takes time. Eating too quickly can cause you to miss these signals and overeat. The key is to take your time during meals and learn to recognize when you're no longer hungry, rather than waiting to feel full. Your new stomach can only hold a few ounces of food, and exceeding this limit can lead to painful nausea or vomiting. Most patients experience this at least once or twice, which helps them identify their limits. Pay attention to the foods and amounts that trigger discomfort.

Pouch Irritation

Your pouch can become irritated from vomiting, dumping, or overeating. Stretching the pouch shortly after surgery can also cause irritation. If irritation occurs, it may last for a day or so, affecting subsequent meals. Even small amounts of food can trigger nausea and vomiting. If you experience pouch irritation, it's advisable to sip only liquids for two to three days to allow recovery. This approach is also useful for situations where medications or illness disrupt your ability to eat. Ensure you stay hydrated, and if you can't keep fluids down, contact the office promptly.

Vomiting/Regurgitation

Due to the size of your "new stomach", consuming too much food—sometimes even a teaspoon—can lead to vomiting or regurgitation. It may take time to accurately gauge meal sizes. Emphasizing slow eating and thorough chewing is crucial. Eating too quickly, taking bites that are too large, or consuming foods that get stuck can cause obstruction. If regurgitation or vomiting occurs more than twice a week, please schedule an appointment with the clinic.

Avoid Grazing

After a meal, wait until the next scheduled mealtime to eat again. Regular mealtimes help prevent grazing, which is a significant factor in weight loss failure. If you need a snack, choose a protein source of about 10 grams.

Hydration Guidelines

Avoid drinking fluids 10 minutes before meals, during meals, and for 30 minutes after meals. Drinking while eating can flush food through your stomach too quickly, preventing the stretch receptors in your stomach from signaling fullness.

Foods to Avoid

Certain foods may not digest well due to their fibrous properties. Avoid stringy foods like pineapple, asparagus, broccoli, artichokes, and celery, as well as dried fruits that may swell and become lodged in the stomach. Sticky foods such as bread, pasta, rice, and coconut can obstruct the pouch and hinder weight loss. Steer clear of high-calorie, low-nutrient foods like sugary drinks, milkshakes, cakes, and ice cream. Carbonated beverages, including soda and sparkling water, should be avoided for life. Alcohol can lead to dependence and should be completely avoided in the first year after surgery and consumed only rarely and cautiously thereafter.

Contact Us Anytime!

If you have questions or concerns, please call our clinic at (972) 494-3100. Addressing post-operative issues early is essential to prevent major complications. For dietary questions or concerns, don't hesitate to reach out to our registered dietitian.

Post-Surgery Health Guidelines: Key Habits for Long-Term Success

Your Primary Goal: Improved Health

To support your health, we encourage you to adopt the following principles:

- 1. **Meal Schedule:** Aim for three meals a day, and eat regularly.
- 2. **Meal Duration:** Allow 20–30 minutes for each meal, and chew your food slowly and thoroughly.
- 3. **Hydration Timing:** Stop drinking 10 minutes before a meal, resume 30 minutes after finishing, and avoid drinking during meals. Drinking while eating can flush food through the stomach too quickly, preventing the stretch receptors in your stomach from signaling fullness.
- 4. **Protein Intake:** Prioritize high-protein foods. Aim for 100 grams of protein daily to promote healing and maintain muscle.
- 5. **Prevent Dehydration and Constipation:** Sip at least 64 ounces of fluid daily, focusing on non-carbonated, low-calorie, or zero-calorie beverages.
- 6. **Avoid Alcohol and Tobacco:** These substances can harm the sensitive lining of the stomach. Alcohol is linked to a higher risk of dependence among weight loss surgery patients and can hinder weight loss.
- 7. **Medication Caution:** Do not take steroids, aspirin, or anti-inflammatory medications unless approved by your weight loss surgeon, as they can lead to ulcer formation. If another physician prescribes these, inform your weight loss surgeon. Be proactive in educating your healthcare providers about your needs.

Key Points for Healthy Eating Habits

- **Eat Slowly:** After surgery, your pouch is swollen and needs time to heal. Eating too quickly can lead to overfilling, causing discomfort, nausea, and vomiting.
- **Drink Small Amounts:** Learn to sip slowly, avoiding large mouthfuls. Use a 1-ounce (30 ml) medicine cup to gauge a safe amount.
- Recognize Fullness: Stop eating before you feel full. Listen to your body, and if you struggle to identify
 fullness, stick to the recommended portion size. Overeating can stretch your stomach and hinder weight
 loss, leading to nausea and vomiting.
- **Stay Hydrated:** Aim for at least 64 ounces of fluid daily, prioritizing protein-rich options (such as 1% or skim milk, protein drinks) as half of your intake. Avoid carbonated beverages for life and increase fluid intake until your urine is clear.
- Protein is Essential: Protein is vital for building and maintaining tissue, promoting wound healing, and
 fueling metabolism. Long-term, it helps preserve muscle mass during weight loss. Since the body doesn't
 store protein, you need to consume it at every meal. Focus on high-protein, low-fat foods like lean meats,
 fish, eggs, beans, and low-fat cottage cheese.

- Post-Surgery Appetite: It's common to have little or no appetite initially. For a short time, consuming less
 food isn't a significant issue, but staying hydrated with low-calorie liquids is essential. Use this period to
 establish healthy eating habits and avoid forcing yourself to eat.
- **Supplementing Protein:** Some patients may find it challenging to consume a sufficient amount of protein in the first few months. With careful planning, you can meet your protein goals. Protein drinks can help supplement your intake, and always prioritize protein-rich foods.

Sugar and Its Impact

Avoid foods with added sugars, as they are high in calories and low in nutritional value. Even small amounts can impede weight loss and provide few essential nutrients. Since food intake is limited after surgery, every calorie should offer nutritional value. Alcohol, which is high in sugar and devoid of nutrition, should be avoided for at least 12 months post-surgery. Remember, alcohol can affect you more after surgery than before, so limit intake to one drink per occasion and avoid carbonation. Patients who have undergone weight loss surgery are at a higher risk of developing an alcohol use disorder.

Fiber Considerations

While fiber is essential for digestion, foods high in fiber (such as bran, popcorn, and raw vegetables) can be bulky and may get stuck in your stomach. Avoid fiber pills and laxatives unless prescribed by your physician. If fiber is recommended, Benefiber™ and Citrucel are good options that can be added to drinks and soups without risking blockage.

Fat Intake

Excessive dietary fat can delay stomach emptying, and may lead to reflux, causing heartburn. It can also result in diarrhea, nausea, or discomfort. Avoid fried foods and fatty meats, and if you must use fats for cooking, opt for healthy monounsaturated fats like olive oil. By following these guidelines, you can support your recovery and enhance your long-term health.

Post-Operative Appointments

We want to remind you about the importance of attending post-operative follow-up appointments and educational sessions. These visits are essential for your long-term care and play a crucial role in ensuring your success and optimal health throughout your weight loss journey. Below is the recommended schedule for your post-operative appointments.

Remember, you can reach out to us anytime, from anywhere, for any reason—now and for the rest of your life! If you have any questions, please don't hesitate to contact the Nicholson Clinic office at (972) 494-3100.

2 Weeks	6 Weeks	4 Month	8 Month	1 Year	Yearly (if at goal)
Follow-Up	Follow-Up	Follow-Up	Follow-Up	Follow-Up	Follow-Up
Appointment	Appointment	Appointment	Appointment	Appointment	Appointment
N/A	Labs	Labs	Labs	Labs	Labs
N/A	Nutrition	Nutrition	Nutrition	Nutrition	Nutrition
	Education	Education	Education	Education	Education
Support Group					
Meeting	Meeting	Meeting	Meeting	Meeting	Meeting

Patients are encouraged to attend their post-operative appointments scheduled at 1-2 weeks, six weeks, four months, eight months, one year, and annually thereafter. If you miss these appointments, we will make at least two attempts to reach you, including one phone call and one letter. All contact attempts will be documented in your medical record.

If a patient is unreachable for three consecutive follow-up periods (six months, one year, and two years), we may stop our attempts to make contact.

If you need individual appointments with a psychologist or dietitian, they are available upon request. To schedule an appointment, please contact us at:

Clinical Psychologists

Dr. Kristi Roper Dr. Michelle Rinella		(214) 477-9275 (214) 396-3960
	Dietitian	
Roy Placconcia RD/LD		(972) 494-3100

1200 Calorie Pre-Op Diet

Start 2 weeks before surgery

Goal Weight Loss

You can expect to lose approximately 5% of your starting weight by the time of your surgery.

Medications

Please stop taking all herbal medications and supplements, as well as NSAIDs such as aspirin, Excedrin, Aleve, Advil, Motrin, and ibuprofen.

Dizziness/Headache/Light Headedness

These symptoms may arise from low blood sugar (due to diabetic medications) or low blood pressure (from blood pressure medications). If you are diabetic or hypertensive, monitor your blood sugar and blood pressure daily, as medication dosages may need adjustment. A low-carbohydrate diet can also result in a loss of sodium and other electrolytes, so be sure to sip on broth or drinks like Powerade Zero™ or Gatorade G2™ to replenish.

High Protein Shakes or Bars

You can consume protein shakes or bars for any meal or snack when you feel hungry. Aim for 4-5 high-protein drinks or bars per day, and always include one for breakfast when you wake up. **Do not skip meals.**

Protein Drink Criteria

Choose a drink that contains around 200 calories, 20-30g of protein, and less than 10g of net carbohydrates per serving (calculated as total carbs - fiber - (sugar alcohol/2) = net carbs). Some examples or protein shakes are Doc Hale Nutrition (mix with liquid of your choice), Ascent, Isopure, Premier, and Muscle Milk Light (check labels, as some flavors may not meet the criteria).

For those with dairy sensitivities, we recommend Now Sports egg protein or Evolve, a plant-based option.

Protein Bar Criteria

Look for a bar that is around 200 calories, 15-20g protein and less than 10g Net Carbohydrates {Total Carbs - Fiber - (Sugar Alcohol/2) = Net Carbs} per bar.

Some examples of Protein Bars are Bari Life, Quest, Think Thin (High Protein), Power Crunch, Pure Protein, Simply Protein, NuGo Bars (always check the label; some of the different flavors may not fit the criteria above).

Visit www.DocHaleNutrition.com for more information on recommended protein and meal replacement options.

One Meal Per Day

You may have one meal per day that includes lean meat and vegetables, but no starches. Be sure to weigh or measure all the foods you consume and keep a food diary.

Choose up to 5 ounces of lean meat, which can be baked, broiled, or grilled. Please avoid fried or battered options. It's recommended to primarily consume poultry and fish during this diet.

Note: The calorie amounts provided below are estimates. Always calculate your own calories for accuracy.

Poultry-chicken or turkey

- White meat with/without skin (~155 cal)
- Dark meat without skin (~160 cal) Cornish hen without skin
- Extra lean or lean ground

Fish

 Most fish and shellfish are lean (~130-200 cal)

Pork- fat trimmed

- Tenderloin (~200 cal)
- Boneless top loin chop and roast (~200 cal)
- Bone-in center loin chop (~280 cal)
- Bone-in rib chop (~300 cal)
- Bone-in sirloin roast (~290 cal)

Veal-fat trimmed

- Cutlet (~260 cal)
- Blade or arm steak (~160 cal)
- Rib roast (~170 cal)
- Rib or loin chop (~165 cal)

Lamb-fat trimmed

- Leg (~175cal)
- Loin chop (~205cal)

Beef

- Eye round roast and steak (~350 cal)
- Arm chop Beef fat trimmed

Beef – Less than 5 grams of fat per 3oz.

- Sirloin tip side steak (~140 cal)
- Top round roast and steak (~220 cal) Bottom round roast & steak (~185 cal)
- Top sirloin steak (~285 cal)
- Brisket, flat half (~180 cal)

Beef – Less than 10 grams of fat per 3oz.

- 95% lean ground beef (~190 cal)
- Round tip roast and steak (~175 cal)
- Round steak (~200 cal)
- Shank crosscuts (~180 cal)
- Chuck shoulder pot roast (~190 cal)
- Sirloin tip center roast and steak (~200 cal)
- Chuck shoulder steak (~250 cal)
- Bottom round steak (Western griller) (~220 cal)
- Top loin steak (Kansas City or New York strip steak) (~290 cal)
- Shoulder petite tender and medallions (~295 cal)
- Flank steak (~215 cal)
- Shoulder center (ranch) steak (~300 cal)
- Tri-tip roast and steak (~175 cal)
- Tenderloin roast and steak (Filet

Mignon)(~215 cal)
 T-bone steak (~210 cal)

Other

- Egg whites or substitute (~75 cal)
- 2% cheese or (~250 cal)
- Low fat cottage cheese (~215 cal)
- Processed meat less than 3g fat/oz. (~150 cal)

Choose <u>2 cups</u> of non-starchy veggies every day. They can be cooked or raw. Do not fry or batter. Vegetable guidelines include:

Artichoke (packed in water) (~140 cal) Asparagus (~55 cal) Green, wax, Italian beans (~70 cal) Bean sprouts (~65 cal) Beets (~120 cal) Broccoli (~65 cal) Brussels sprouts (~76 cal) Cabbage (~42 cal) Carrots (~104 cal) Cauliflower (~50 cal) Celery (~32 cal) Cucumber (~32 cal) Eggplant (~40 cal) Green onion (~24 cal) Kale(~68 cal) Mix veg (w/o corn, peas, or pasta) (~100 cal)

Mushrooms (~30 cal) Okra (~62 cal) Onions (~134 cal) Pea pods (~52 cal) Leeks (~108 cal) Peppers (~48 cal) Radishes (~38 cal) Salad greens (~18 cal) Sauerkraut (~20 cal) Spinach (~14 cal) Arugula (~ 10 cal) Summer squash (~36 cal) Tomato (~64 cal) Turnips (~72 cal) Water chestnuts (~240 cal) Watercress (~8 cal) Zucchini (~40 cal)

Choose **1 serving** of fat. Fat guidelines include:

1 tsp of olive oil (~40
cal) 2 tbs Avocado
(~60 cal) 8-10 olives
(~50 cal)
6 almonds, cashews, mixed nuts (~40-50
cal) 10 peanuts (~55 cal)
4 halves pecans or walnuts (~55 cal)

2tbs low fat mayonnaise (~30 cal) 1 tbs salad dressing (~60 cal)

2 tbs low fat salad dressing (~48 cal) 1 tbs Miracle Whip® (~50 cal)

1 slice bacon (~45 cal)

½ tbs peanut butter (~47 cal) 2 tsp tahini paste (~65 cal)

1 tsp margarine or butter (~25-35 cal)

1 tbs low fat margarine or butter (~60

cal) 2 tsp mayonnaise (~38 cal)

2 tbs half and half (~40 cal) 1 tbs cream cheese (~51 cal)

1 ½ tbs low fat cream cheese (~55

cal) 2 tbs sour cream (~62 cal)

3 tbs low fat sour cream (~53

cal) 1 tps Tartar Sauce (~74 cal)

The following items can be used to help flavor foods and should have very low to no calories.

Any spices or mixed spices Horseradish Lemon/lime juice Mustard Vinegar Buffalo sauce

Hot pepper sauce
Worcestershire®
sauce Low Sodium
Soy Sauce Salt and
pepper
Sugar substitute (like
Stevia, Splenda, Sweet'N
Low®)

*The following flavor additives or sauce should be avoided during this diet. * barbeque sauce, ketchup, alfredo sauce, honey mustard, teriyaki sauce, sweet chili sauce, pesto, brown sauce, sweet and sour sauce, and spaghetti sauce

An example of a daily meal plan may be:

- Breakfast: A shake or a bar (~200 Calories)
- Lunch: A shake or a bar (~200 Calories)
- Dinner: A meal of lean meat and vegetables (~500 Calories), 1 serving fat (~50 Calories)
- Snack: Shake or bar (~200 Calories)

*Make sure to sip on water throughout the day to get 64oz Totals to ~1200 Calories for the day



Day Before Surgery Liquid Diet & Hydration Guidelines

The day before your surgery, you must only consume liquids. This is crucial for your safety, ensuring that there is no solid food in your stomach on the day of the procedure. Be sure to stick to liquids such as water, sugar-free drinks (non-carbonated), protein shakes, and broth.

Hydration Tips:

Aim to drink at least 64 oz. of fluids daily. You can substitute water with any of the following options:

- Crystal Light® (~10 calories)
- Sugar-Free Kool Aid® (~10 calories)
- Mio Drops (non-caffeinated) (~0 calories)
- True Lemon or other flavored water additives (~0 calories)
- Nuun Tablets (non-caffeinated) (~10 calories)
- Flavored Water (e.g., Dasani®) (~0 calories)
- Unsweetened Herbal or Decaf Tea (~2 calories)
- Decaf Coffee (~2 calories)
- Sugar-Free Popsicles (~15 calories)

Please avoid beverages containing added sugars, calories, or caffeine during this time.

Post-Op Diet

Sleeve Gastrectomy/Gastric Bypass STAGE 1 – Full Liquids DAY 1-21

When to Start Stage 1

You will need to start this diet the day you come home from the hospital. The first three weeks postoperatively are crucial for minimizing complications and maximizing your recovery. Adherence to the postoperative diet will set you off on the right foot for your weight loss journey, as well as give you protection against a potential leak along the staple line of your new, smaller stomach. Following a full liquid diet for the first **3 weeks** after surgery will give your body time to heal. This diet will also help you begin to understand how much food you can eat *BEFORE* you feel too full. This is a time of learning new behaviors and developing new lifestyle habits.

The main 3 goals during Stage 1 of the diet are to:

- 1) Rest the stomach and allow it time to heal.
- 2) Stay hydrated by consuming ≥ 64oz fluid per day.
- 3) Consume adequate amounts of protein to aid in the healing process.

*Do not worry about calorie intake at this time as your body will turn to your stored fat to obtain the energy that it needs to function.

- 1-2 oz. of fluid should be sipped every 10-15 minutes while awake.
- Try and incorporate unflavored protein into all your liquids so that you can meet your protein needs
- Consume (sip) at least 4 oz. of liquids every hour and tally everything you drink for the first week to become familiar with your new normal
- All liquids must be very thin. It must be able to flow through a strainer easily. See examples below:

Protein Shakes - We suggest making your own using unflavored protein powder as this prevents flavor burnout

Broth (chicken, etc.), Bone Broth or the liquid part of chicken noodle soup, miso soup or French onion (preferably with added unflavored protein)

Sugar Free Popsicles

Skim Milk, Sugar Free Almond Milk*, Sugar Free Coconut Milk*, Sugar Free Cashew Milk*, Sugar Free Ripple*, Carb Master Milk, FairLife Skim Milk

Sugar Free Hot Chocolate

Sugar Free noncarbonated liquids (Vitamin Water Zero, Powerade Zero, Sugar Free Juice - NO TOMATO

Water, Flavored water (e.g. Dasani)

Sugar free drink mixes (add unflavored protein for a protein boost) E.g. Crystal Light, Mio Drops (caffeine free), TrueLemon

Electrolyte tablets (e.g. Nuun - caffeine free)

Decaf tea/coffee: Limit to 16 oz. per day (may use nonfat, sugar free dairy creamer) - Add a scoop of unflavored protein and a few squirts of sugar free Equal Café Creamers Caramel Macchiato to decaf coffee for a refreshing coffee drink

General Post-Op Diet Guidance and FAQs (Day 1-22)

Lactose Intolerance:

If you are unable to tolerate milk, consider using sugar-free, dairy-free alternatives available in the dairy section of your grocery store. These options can help you avoid dairy while still getting the necessary nutrients.

You can also use sugar substitutes in your coffee or tea, such as Stevia, Splenda, Sweet'N Low, Equal, or Truvia. However, keep in mind that coffee and tea (even decaffeinated varieties) are not effective hydrators.

Appetite Changes After Surgery:

It's common to experience a reduced appetite during the early post-operative period. During this time, you may consume much less food than your body typically requires, but this is generally not a concern for a limited period. The priority is staying hydrated with low- or no-calorie liquids. Focus on developing healthy eating habits that support your long-term weight loss and overall well-being. Remember, there's no need to force yourself to eat during this time.

Hydration:

Aim to drink at least 64 oz. of liquids daily. Try to consume 1-2 oz. of liquids every 10-15 minutes throughout the day to stay properly hydrated. This can include protein supplement drinks, which serve the dual purpose of meeting both your hydration and protein needs.

Protein:

It's crucial to find a protein drink you enjoy, as protein plays an essential role in the healing process during the early recovery stages. You should aim to consume at least 60g of protein each day. Look for protein shakes that contain 20-30g of protein, less than 10g of net carbohydrates, and are low in fat.

To make this easier, we offer a premium unflavored protein powder, which is versatile and can be mixed into a variety of liquids, helping to prevent the boredom of drinking the same protein shake every day for 21 days. This unflavored powder is an excellent way to increase the variety of liquids you consume during this phase of your diet.

Please avoid commercial meal replacement shakes like Atkins, Slim Fast, Boost, Pedialyte, or Ensure, as they often fail to meet the specific nutritional needs of post-op patients.

Drinking Tips:

No Straws or Gum: Avoid drinking through straws or chewing gum, as these activities can introduce air into your stomach, leading to discomfort, bloating, and gas.

No Alcohol: It's recommended to avoid alcohol for at least the first 6 months after surgery to support your recovery process.

Digestive Issues:

Nausea and constipation are common in the first few weeks following surgery, but both can typically be managed with a few adjustments.

Nausea Recommendations:

- Sip slowly and avoid gulping beverages.
- Drink a warm cup of water with lemon to help reduce mucus build-up or drainage.
- Avoid lying down immediately after drinking.
- Always take your vitamins with a protein shake, not on an empty stomach.
- Consider sipping on broth or electrolyte drinks.
- Ginger or peppermint tea can also help alleviate nausea.

Constipation:

- Aim for 10-15 minutes of walking every hour while awake to promote healthy digestion.
- Ensure you're drinking at least 64 oz. of liquids daily.
- Consider taking probiotic supplements, such as Bariatric Advantage, to support digestive health.
- Over-the-counter remedies like milk of magnesia, stool softeners, Miralax, or Smooth Move tea can help relieve constipation if necessary.

Why do I have to be on liquids only for three weeks?

After surgery, your stomach is still healing, and swelling is a normal part of the recovery process. Anything thicker than water can easily get stuck, causing a "dam" effect that prevents further intake from passing through. This buildup of pressure can stress your new staple line and increase the risk of a leak. A leak from the stomach is a serious complication that can lead to sepsis and require an extended stay in the ICU. The three-week liquid phase is designed to minimize this risk and allow your body the time it needs to heal properly.

Why do other bariatric surgeons only require two weeks of liquids? If it works for their patients, why not for me?

Congratulations on choosing the best bariatric surgery clinic in the nation! Our clinic is proud to have complication rates well below the national average. One of the key reasons for this is our careful attention to the factors that contribute to complications like leaks. We've learned that adding an extra week of liquids significantly reduces the risk of these potentially life-threatening issues. By following the recommended post-op diet, you're helping to protect yourself from this risk, giving yourself the best chance for a smooth recovery.

What about Jell-O, pudding, or ice cream?

Although these foods may eventually melt as they pass through your system, they're still thick enough to cause problems during the early stages of healing (this includes sugar-free varieties). This phase is also designed to help your body break free from any lingering sugar addiction, so we strongly recommend avoiding ice cream, smoothies, sugary lattes, and similar treats at any point in your recovery.

Can I drink soda or other carbonated beverages?

No, and here's why: Carbonated drinks are made up of one part liquid and four parts gas. When you consume these beverages, the gas expands in your new stomach, which can stretch the stomach and make it easier to overeat. This not only hinders your weight loss progress but also puts your new stomach at risk. To protect your health and maximize the effectiveness of your surgery, it's important to avoid carbonation for the rest of your life—even if the drink has gone flat.



The bottom line: If you're unsure whether something is allowed, simply strain it. Only liquids that flow easily through a strainer (like the strainer pictured above) are appropriate for this phase of the diet. If it doesn't pass through, it's not for you.

Liquid Diet (Day 1-21) Sample Menu

Below are 2 days of sample menus for the liquid diet. Use as is, or as a template, to help you better understand what your diet will look like during this phase. These menus provide 64oz of fluid and 60+ grams of protein.

Please make sure and sip the liquids at a rate of 1-2 ounces (equivalent to approximately 1 shot glass) every 15 minutes.

Day 1 Full Liquid Diet Sample Meal Plan

See below recipes on DocHaleNutrition.com under Post-Op Guidelines, Phase 1.

Time	What to have
7-8am	4oz High Protein Caramel Macchiato Decaf Coffee- add ice to chill as desired
8-9am	4oz High Protein Caramel Macchiato Decaf Coffee- add ice to chill as desired
9-10am	4oz Water
10-11am	4oz High Protein Crystal Light
11am-12pm	4oz High Protein Crystal Light
12-1pm	4oz High Protein Miso Soup. Will need to be strained through a metal strainer before consuming.
1-2pm	4oz High Protein Miso Soup. Will need to be strained through a metal strainer before consuming.
2-3pm	4oz High Protein Crystal Light
3-4pm	4oz High Protein Crystal Light
4-5pm	4oz High Protein Crystal Light
5-6pm	4oz High Protein Broth or High Protein Chicken Noodle Soup (no noodles)
6-7pm	4oz High Protein Broth or High Protein Chicken Noodle Soup (no noodles)
7-8pm	1 Sugar Free Popsicle
8-9pm	4oz Vanilla Protein Shake
9-10pm	4oz Vanilla Protein Shake

Day 2 Full Liquid Diet Sample Meal Plan

See below recipes on DocHaleNutrition.com under Post-Op Guidelines, Phase 1.

Time	What to have
7-8am	4oz High Protein Milk
8-9am	4oz High Protein Hot Chocolate
9-10am	4oz High Protein Hot Chocolate
10-11am	4oz High Protein Crystal Light
11am-12pm	4oz High Protein Crystal Light
12-1pm	4oz High Protein Cream of Mushroom soup. Will need to thin with extra 4oz of skim milk and strain before consuming.

1-2pm	4oz High Protein Cream of Mushroom soup. Will need to thin with extra 4oz of skim milk and strain before consuming.
2-3pm	4oz High Protein Crystal Light
3-4pm	4oz High Protein Crystal Light
4-5pm	4oz High Protein Crystal Light
5-6pm	4oz High Protein Broth or High Protein Chicken Noodle Soup (no noodles)
6-7pm	4oz High Protein Broth or High Protein Chicken Noodle Soup (no noodles)
7-8pm	1 Sugar Free Popsicle
8-9pm	4oz High Protein Peppermint Tea
9-10pm	4oz High Protein Peppermint Tea

Post-Op Diet

Sleeve Gastrectomy/Gastric Bypass STAGE 2 – Soft Solid Foods 3-4 oz. per meal DAY 22-42

Your surgery date:	
You will begin Stage 2:	

When to Start Stage 2

Start this diet on Post-Op **Day 22** and continue for **3 weeks**. This is still time to learn about your new body. Let your stomach be your guide on portion sizes. Stop eating **BEFORE** you feel full. Remember to **use a food scale** to weigh your food. Overeating and not chewing your food thoroughly can lead to nausea, vomiting, and stretching out your stomach.

*Start with softer foods like yogurt then transition into soft solid foods like ground turkey by the 3rd week. It is recommended to introduce new foods at dinnertime.

Stage 2 Menu: Includes foods listed on the full liquid diet plus:

- Eggs: softly scrambled, baked or poached
- Fish or salmon: grilled, baked or poached (this includes tuna in water)
- Chicken; ground, boiled, baked, canned (packed in water)
- Deli meats: thinly sliced, avoid higher salt meats (i.e. pancetta)
- Tofu (do not fry)
- Nut butters (limit to 1 tablespoon per day)
- Low fat or fat free cottage cheese, ricotta cheese, laughing cow cheese, light string cheese and thin deli sliced cheeses
- Soft cooked or canned non-starchy vegetables (if eating green beans make sure to remove strings)
- Low fat plain Greek yogurt (aim to find the lowest in sugar)
- Sugar free applesauce
- Hummus
- Avocado
- Soft bananas (remove strings) and limit to no more than 2 per week
- Beans: lentils, black beans, brown beans, non-refried beans



Foods to Avoid:

- All raw fruit
- All raw veggies, including lettuce and tomato
- Cooked or raw asparagus, celery, corn, or peas
- Cooked or raw potatoes, sweet potatoes, winter squash and plantains
- All nuts
- All high carbohydrate/sugary foods like bread, pasta, rice, crackers, tortillas, chips, dry cereal, cake, cookies, ice cream, etc.
- Caffeine
- Alcohol
- Limit artificial sweeteners

Soft Solid Diet (Day 22-42) Sample Menu

Below is a 1-day sample menu for the soft solid phase diet. Use as is, or as a template, to help you better understand what your diet will look like during this phase. These menus provide 64oz of fluid and 60+ grams of protein.

Breakfast	Lunch	Dinner	
½ cup total	½ Cup Total	½ Cup Total	
(4 oz.)	(4 oz.)	(4 oz.)	
3oz. Egg or egg whites scrambled with 1oz. Low fat cheese and spinach	3oz. Low fat deli turkey breast ½ Deviled egg made with low fat mayo or avocado	3oz. Baked fish 1oz. Cooked green beans	
1oz. Cooked zucchini 3oz. Salmon	3oz. Canned tuna in water mixed with low fat mayo, mustard or avocado	3oz. Lean chicken* (use caution) 1oz. Low fat cottage cheese	

General Recommendations for the Soft Solid Diet:

- 1 oz. of meat provides 7 grams of protein.
- Aim for **60g of protein daily**, combining both food and protein supplements.
- Drink **64 oz. of low-calorie liquids or water** each day.
- Chew, chew, chew your food thoroughly.

General Vitamin Information

All patients must take daily vitamins for life to prevent nutritional deficiencies.

During the first 6 weeks of the liquid and soft food phase, **chewable**, **liquid**, or **crushed** vitamins are preferred. After that, you can transition to **tablets** or **capsules**.

Avoid gummy vitamins as they contain added sugars and may not provide sufficient nutrients.

Vitamin patches are not recommended due to uncertain effectiveness.

Starting at **6 weeks**, your vitamin levels should be checked regularly to ensure proper supplementation and avoid deficiencies.

Multivitamins

- Choose an **over-the-counter multivitamin** that is **complete** and contains **iron**.
- It should provide at least 200% of the Recommended Daily Value for most nutrients.
- Bariatric-specific multivitamins may eliminate the need for additional vitamin D or B supplementation.

Bariatric Multivitamin Options:

- Bariatric Advantage
- Bariatric Fusion
- Vita4Life
- Celebrate Vitamins
- Opurity
- ProCare Health
- Bari-Life

Chewable Complete Multivitamins (Over-the-Counter) Options:

- Centrum Chewable
- Flintstones Complete Chewable
- Target Kids' Complete Multivitamin Chewable
- Equate Children's Chewable Complete

Calcium

- Calcium citrate is the best choice for better absorption and should be taken with vitamin D.
- Take 500-600 mg per dose, 2-3 times per day.
- Do **not take calcium** with **iron**, as it can interfere with absorption.

Vitamin D

You may need extra vitamin D (3000-5000 IU daily) if recommended by your doctor.

Vitamin B12

Additional **B-12** may be necessary, with options including:

- 1000 mcg sublingual daily
- 500 mcg nasal spray weekly
- 1000 mcg injection monthly

Vitamin B1 (Thiamine)

A 50 mg B-complex vitamin may be recommended daily.

Iron

- Additional **iron** may be needed, especially for menstruating females or those with a history of iron-deficiency anemia.
- **Do not take iron** at the same time as **calcium**, as it can reduce absorption. It is recommended to space out iron and calcium supplements at least **2 hours apart.**

Sleeve Gastrectomy Initial Vitamin Recommendations

- Complete multivitamin (2/day)
- Calcium with vitamin D

OR

- Bariatric multivitamin
- Calcium with vitamin D

Gastric Bypass Initial Vitamin Recommendations

- Complete multivitamin (4/day)
- Calcium with vitamin D
- Vitamin B12
- B-complex vitamin

OR

- Bariatric multivitamin
- Calcium with vitamin D

More In-Depth Vitamin Information - Iron

Iron plays a vital role in building red blood cells, carrying oxygen, supporting enzyme functions, boosting the immune system, aiding detoxification, and promoting growth and development.

Symptoms of Low Iron:

- Fatigue and weakness
- Pale or grayish complexion
- Blue-tinted whites of the eyes
- Shortness of breath
- Dizziness or lightheadedness
- Cold extremities
- Headaches
- Brittle nails and hair loss

Severe Iron Deficiency can lead to **iron deficiency anemia**, which may cause:

- Swollen tongue
- Loss of appetite
- Depression
- · Difficulty thinking or slowed thinking
- Leg cramps or restless leg syndrome
- Cravings for non-food items (known as **Pica**), like dirt, paper, or starch

Best Food Sources of Iron:

- Animal sources (beef, lamb, poultry, fish/shellfish, and egg yolks) are the most easily absorbed by the body.
- **Non-animal sources** include dried fruits, kidney beans, lentils, cashews, blackstrap molasses, and fortified cereals. However, the iron from animal products is significantly better absorbed.

It's crucial to follow up with your doctor for lab tests and any recommended care. If you're taking iron supplements, avoid taking them at the same time as **calcium** or calcium-rich foods, as they can interfere with absorption. Ideally, take your iron supplement with a meal that contains iron-rich foods, such as meat, to maximize absorption.



More In-Depth Vitamin Information - Calcium

Calcium is essential for healthy teeth and bones, with **99%** of the body's calcium stored in these areas. It also supports your heart, brain, nerves, muscles, and plays a key role in blood clotting, among other functions.

Many people don't realize they're not getting enough calcium until they experience symptoms. Calcium is so critical for heart and brain function that when dietary intake is insufficient, the body pulls calcium from the bones. As a result, the first signs of calcium deficiency can sometimes be an unexpected **fracture** or **tooth loss**.

Other Symptoms of Calcium Deficiency:

- Faintness
- Difficulty swallowing
- Anxiety or irritability
- Low blood pressure
- Hip or spinal pain
- Compression fractures
- Loss of height
- Brittle nails and hair

Good Sources of Calcium:

- Dairy products like milk, yogurt, and cheese
- Fortified soy, rice drinks, and fortified juice
- **Fish with bones** (e.g., sardines)
- Some **leafy greens** (though the calcium in these is not as easily absorbed)
- Calcium supplements (available as liquids, powders, tablets, capsules, and soft chews)

Your doctor may recommend a **bone density test** to assess calcium levels in your bones or ask about your diet to determine how much calcium you typically consume. If you have low calcium or bone loss, it's important to follow up with your doctor for lab tests and any additional care.

More In-Depth Vitamin Information – Folate (Vitamin B9)

Folate, also known as **folic acid** or **B9**, is a B-complex vitamin essential for brain function and maintaining mental health. It's particularly important during **pregnancy**, **infancy**, **adolescence**, and anytime the body is regenerating tissue, such as after surgery or injury.

Symptoms of Folate Deficiency:

- Fatigue, weakness, and dizziness
- Heart palpitations (rapid heartbeat) and shortness of breath
- Poor appetite, sore or swollen tongue, and diarrhea
- Irritability, depression, and even psychosis
- Muscle weakness, memory problems, and gum disease
- Mouth sores, burning sensation around the mouth, and ankle swelling
- Changes in vision

Natural Sources of Folate:

- Oranges and orange juice
- Leafy green vegetables, peanuts, peas, sprouts, liver, and soybeans

Folate is also found in multivitamins, B-complex vitamins, or as a standalone supplement in tablets or capsules.

If you've had weight loss surgery, you may not be consuming enough folate-rich or fortified foods, making it especially important to take a multivitamin with folate. If you're planning pregnancy, it's recommended to maintain healthy folate levels for at least a year before conception. Discuss testing with your doctor if you're considering pregnancy or suspect a folate deficiency. If you're deficient, follow up with your doctor for lab tests and any necessary treatment.

More In-Depth Vitamin Information – Thiamine (Vitamin B1)

Thiamine, or **Vitamin B1**, is essential for converting the energy in food into usable energy for your brain, nerves, and heart. It plays a key role in processing **carbohydrates**, **fats**, and **proteins**, with a primary focus on how the body processes sugars and starches.

Symptoms of Thiamine Deficiency:

- Nausea, vomiting, and loss of appetite
- Fatigue and difficulty concentrating
- Weakness, sleepiness, and changes in personality or memory
- Leg and foot cramps, burning feet, and headaches
- Constipation and cramping
- Severe deficiency can lead to serious problems, including:
 - Hearing loss
 - o Permanent nerve damage
 - o Coma
 - Brain damage
 - Heart issues
 - Blurred or double vision
 - Difficulty talking or swallowing
 - Facial weakness
 - o Amnesia, memory loss, or dementia
 - o Rapid heartbeat and faintness when standing
 - Leg swelling and difficulty urinating
 - Numb or painful hands/feet
 - Foot drop, leg weakness, clumsiness, and loss of balance
 - Muscle loss or difficulty with movement

Good Sources of Thiamine:

- Beans, peas, nuts, and pork
- · Also found in milk, cheese, fresh and dried fruits, and eggs

Factors that Can Inhibit Thiamine Absorption:

Coffee, black tea, and alcohol can reduce how much thiamine your body absorbs.

Thiamine is also available in **dietary supplements**.

More In-Depth Vitamin Information – Vitamin B12

Vitamin B12 is a crucial B-complex vitamin that supports the function of your nerves and plays a key role in the production of DNA and RNA in your cells. It also works with folic acid to help form red blood cells.

Symptoms of B12 Deficiency:

- Dizziness, heart palpitations (rapid heartbeat), and shortness of breath
- Poor appetite, yellowish skin, and changes in vision
- Muscle weakness, difficulty walking, and numbness or tingling in the hands and feet
- Sore or swollen tongue, burning sensation around the mouth, and irritability
- Depression, psychosis, memory loss, and confusion
- Serious deficiencies can lead to permanent nerve damage, cardiovascular issues, and even dementia.

Dietary Sources of Vitamin B12:

- Fish, dairy products, organ meats (especially liver and kidney), eggs, beef, and pork
- Plants do not produce B12, so those on a plant-based diet need to rely on supplements.

If you have had weight loss surgery, such as gastric bypass, your body may have difficulty absorbing B12 from food. In these cases, your doctor may recommend a **sublingual B12 supplement** (which dissolves under the tongue) or regular **B12 injections** to prevent deficiencies.

B12 is also found in multivitamins, B-complex vitamins, and as a standalone supplement in tablets, capsules, liquids, and sublingual forms. It is also available as a prescription in injection or nasal spray form.

If you suspect a B12 deficiency, it is important to follow up with your doctor for lab tests and any necessary treatment to prevent long-term complications.

More In-Depth Vitamin Information – Vitamin A

Vitamin A is a **fat-soluble** vitamin that plays a crucial role in the health of your **eyes**, **immune system**, **skin**, and **respiratory**, **digestive**, and **urinary systems**. It is also essential for **wound healing** and **cell reproduction**.

There are two types of Vitamin A:

- Beta-carotene, which comes from plants (such as carrots, sweet potatoes, spinach, red peppers, and cantaloupes), and is converted into vitamin A by your body.
- Retinol, or "pre-formed" Vitamin A, which is found in animal products like liver, whole eggs, and milk.

Symptoms of Vitamin A Deficiency:

- Difficulty seeing in low light or **night blindness**
- Dry, cracked lips and mouth sores
- Fatigue
- Dry, irritated eyes
- Frequent bladder or vaginal infections
- Diarrhea
- Respiratory infections
- Poor or delayed wound healing
- Dry, itchy, or bumpy skin
- Broken nails
- More frequent infections

In the early stages of deficiency, you may also notice your **eyes** feeling dry and **irritated**, or you may have trouble seeing in dim light, needing to turn on lights earlier in the evening.

Vitamin A deficiency can also cause dry hair, dry mouth, and an increased risk of infections.

More In-Depth Vitamin Information – Vitamin D

Vitamin D is a **fat-soluble** vitamin that is produced in your **skin** in response to **sun exposure** and can also be obtained through food. One way to get adequate vitamin D is by spending time in the sun, though it's important to be mindful of sunscreen, as **SPF 8** blocks nearly 100% of vitamin D production.

Vitamin D plays a vital role in helping the body **absorb calcium** from the digestive system and deposit it in places like your **bones**. It's essential for **bone health**, **muscle function**, and **immune system** support. Vitamin D also plays a key role in **growth** and **development**, and helps regulate **cell communication** in the body.

If you don't get enough vitamin D, you may develop a condition called **osteomalacia**, which leads to soft, weak bones. Symptoms of deficiency include:

- Muscle tics, twitches, or spasms (especially in the face)
- Unexplained fractures or bone pain, particularly in the hips or back
- Seizures
- Depression, including Seasonal Affective Disorder (SAD)
- Loss of balance or increased falling
- Arrhythmia or hypertension

Dietary sources of vitamin D include:

Fatty fish, dairy products, fortified soy products, eggs, and liver.

If you are supplementing with vitamin D, it is also important to ensure you are getting adequate **calcium** to support the proper functioning of both nutrients.

