

NUTRITION - Madigan Metabolic and Bariatric Surgery

Following the recommended dietary guidelines after undergoing Bariatric Surgery is extremely important. These guidelines and recommendations have been carefully crafted by an expert team of health care providers with the goal of limiting the amount of calories you consume, while simultaneously providing you

with balanced meals and nutrition. Following the recommendations on the following pages will help prevent nutritional deficiencies, preserve existing muscle mass, and achieve your desired weight loss and wellness goals. This new way of eating may seem overwhelming in the beginning, but over time most patients find these recommendations and guidelines become an unconscious part of their daily routines. If you find you are having trouble following these dietary guidelines please contact the Bariatric Clinic for additional resources, we are always here to assist you in reaching your wellness and weight loss goals.



CLEAR AND FULL LIQUID DIET (WEEKS ONE AND TWO)

The first two weeks after returning home you will be on a liquid diet. This will include clear liquids for day 1 and 2, full liquids beginning day 3. Use the information below to keep on schedule and well as helping you choose options for liquid nutrition.

Drink fluids in a $\frac{1}{4}$ cup portion or 2 ounces every 15 minutes and sip on the fluid over 10 – 15 minutes. Try to drink about $\frac{1}{4}$ cup of protein fortified fluid each hour and sip on $\frac{1}{4}$ cup of fluid to stay hydrated every 15 minutes in between, about 1 cup or 8 ounces total each hour.

Use the clock as an outline to get enough fluid and protein in order to maintain adequate hydration and protein throughout the day. The clock represents one hour.

Example:

- When the long hand is on the 12 drink 2 ounces of fluid for hydration.
- When the long hand is on the 3 drink 2 ounces of fluid for hydration.
- When the long hand is on the 6 drink 2 ounces of a protein drink.
- When the long hand is on the 9 drink 2 ounces of fluid for hydration.

Note:

- Sip on ¼ cup of fluid over 15 minutes. **Do NOT drink too quickly or gulp fluids.**
- Drink fluids from a smaller cup; 2 or 3 ounce cup.
- Drinking too quickly or drinking too much at one time may cause pain or discomfort.

DEHYDRATION:

Dehydration is the number one complication of weight loss surgery.

Symptoms of dehydration:

- Fatigue
- Nausea
- Dry mouth
- Dark or concentrated urine
- Low urine output

If you are having difficulty drinking fluids each day and are suffering any of the listed symptoms of dehydration give our clinic a call to discuss your intake.

CHOOSING A PROTEIN SUPPLEMENT:

There are two types of fluid you will need after surgery:

- Fluids for hydration
- Fluids for protein

Choose a liquid protein supplement with 10 grams or less of sugar and 20 grams or less of carbohydrates. Choose a liquid protein supplement with at least 15 grams of protein in an 8 to 12 ounce serving.

LACTOSE INTOLERANCE:

Lactose intolerance is your body's inability to digest the naturally occurring sugar, or lactose found in milk and dairy products.

Symptoms of lactose intolerance:

- Cramping
- Gas (Flatulence)
- Bloating
- Loose stools
- Nausea

If you cannot tolerate lactose after surgery, look at soy-based protein products, soy milk, almond milk, or Lactaid.

LIQUIDS TO DRINK WHEN YOU RETURN HOME

HYDRATION:

- Decaf Coffee or Tea (Splenda, Equal, Truvia, and Stevia are allowed)

- Clear fruit juice, (Diet or Sugar Free): Apple, Grape, Cranberry
- Sugar free non-carbonated beverages (Ex: Crystal light, sugar free Kool-Aid, or Lemonade)
- Vitamin Water zero
- Mio
- Dasani flavored water
- Dasani Drops may be placed in water
- Metro Mint Water
- Skinny water
- Gatorade G2
- Propel
- Sugar free gelatin
- Sugar free popsicles
- Chicken, Beef, or Vegetable Broth
- Water

PROTEIN:

Clear Liquid Protein (1st 24hrs after surgery)

- Nectar Protein Powder
- Healthwise High Protein Fruit Drink (bottle or packets)
- Cytomax
- Healthwise Bouillon
- Isopure Liquid
- New Whey 42
- Healthwise Sugar Free Protein Jello

Full Liquid Protein (Start Post-Op Day 1)

- Muscle Milk Light
- ChocoRite
- Met Rx Meal Replacement
- Nectar Protein Powder
- Nectar Medical Protein Powder
- Healthwise High Protein Hot Chocolate
- Healthwise High Protein Fruit Drink
- Met Rx RTD 51
- Pure Protein (RTD)
- Fit Freeze
- Chike Protein Powder
- GenoPro Powder

Other Full Liquids (Start Post-op Day 3)

- Low fat skim or 1% milk, Soy Milk, Almond Milk, Lactaid
- Strained Low Fat Cream Soups
- Low Sugar Low Carb Protein Supplements

****NO BUBBLES, NO SUGAR, NO CAFFEINE****

LIQUID DIET WITH SEMI-SOLIDS (WEEK THREE)

Key Points:

1. All liquids from week one and two are allowed with the addition of some semi-solid foods.
2. Semi-solid foods are those that are eaten with a spoon with the consistency of applesauce. **AVOID:** skins, seeds, or chunks.

3. Semi-solids allow the diet to progress slowly but continue to limit stress on the stomach and intestines as it heals.
4. Liquids and semi-solids provide a concentrated source of nutrition that will empty from the stomach easily and allow for healing.
5. Try a semi-solid food about every three to four hours for four to six semi-solid meals per day.
6. Try no more than ¼ cup of semi-solid foods at a time.
7. Try only one new food at a time.
8. **DO NOT DRINK FLUIDS WHILE EATING**, stop drinking fluids 30 minutes before meal and wait until 30 minutes after finishing a meal.
9. Continue to use all fluids on the Clear Liquid for Hydration list from Week One to prevent dehydration.
10. **NO CARBONATION, CAFFEINE, OR SUGAR CONTAINING FLUIDS.**
11. Take fluids in 2 ounces or ¼ cup portions and sip over 10 to 15 minutes.
12. Sip slowly, **DO NOT GULP, DO NOT USE STRAWS, DO NOT USE SIPPY CUPS, AND DO NOT USE SPORTS BOTTLE TOPS.**
13. Try to keep a constant trickle of fluid through your body all day between trials of semi-solid foods.
14. The fluid goal is a total of 64 ounces of fluid each day to stay hydrated.
15. **The protein goal is 60 to 80 grams of protein each day from fluids and semi-solid foods (80 to 100 grams per day for SIPS).**

SEMI-SOLIDS AND LIQUIDS

Allowed Semi-Solid Foods:

1. Strained soups, broth, and low fat cream base soups (try mixing jar baby food meats into your soup to increase your protein).
2. Lite/low fat strained yogurt or plain Greek yogurt.
3. Low fat 1% cottage cheese or ricotta cheese.
4. Protein fortified cooked and mashed or pureed potatoes and non-gas forming vegetables (Carrots, squash, green beans, or peas). **See blending tips.**
5. Mashed black, pinto or navy beans low fat, fat free or vegetarian refried beans or hummus.
6. Protein fortified sugar free and low fat or fat free pudding. **See tips on how to increase protein.**

Semi-Solid Foods to AVOID:

1. Any soup with meat, vegetables, rice or noodles (Cream of potato or tomato)
2. Full fat yogurt with fruit or seeds
3. Oatmeal
4. Full fat dairy and cheese
5. All other mashed fruits and vegetables
6. Regular refried beans or cooked beans and lentils

7. Full fat, sugar containing puddings

ADDITIONAL TIPS:

- **Blending:** Cook all vegetables until they are fork tender (able to cut, mash or pull apart with a fork) cut food into thumbnail size pieces, then place in a blender with enough broth, water, or low fat milk to cover the blades. Blend until the food has reached an applesauce-like consistency. Strain out lumps, seeds, or stringy pieces that do not blend completely.
- **Blending or pureeing meat is NOT recommended:** It is very difficult to achieve a safe consistency. You may use a jar of baby food like Gerber stage two chicken, ham, turkey, or beef.
- **Fortifying foods with protein:** Try adding unflavored protein powder (Nectar medical protein powder or Genopro protein powder) to foods like mashed potatoes and pureed vegetables to improve the protein content of the food, or, try adding two tablespoons of non-fat dry milk powder to semi-solid foods. Two tablespoons of dry milk powder adds about five grams of protein.
- **Fullness:** As you begin to add semi-solids you may begin to feel fullness. For most people fullness after weight loss surgery feels like pressure, tightness, or heaviness in the center of your abdomen near the breast bone.

SOFT FOODS (WEEK FOUR):

Goal 70 – 90 grams/day (80 – 100 grams per day for SIPS/DS)

- Speak with a Madigan Army Medical Center Dietitian to learn how to safely and healthfully reintroduce soft foods, plan meals and make healthful food choices to aid in continued weight loss and healing.
- Due to the change in the size and function of your stomach after surgery, there are foods and fluids that should be **limited or avoided for about the first two months** after surgery.

FOODS TO AVOID ON THE SOFT DIET:

- Carbonated Drinks
- Sugar sweetened, caffeinated beverages (**use diet or sugar free**)
- Simple carbohydrates like chips, crackers, rice, pasta, and noodles
- Shredded coconut (**use coconut extract**)
- Tough dry meats (steak, pork chops) (**use moist heat preparation, stew, boil roast**)
- Rubbery meats like ham and hotdogs

- Skins, membranes and seeds of fruits and vegetables (**peel and/or section prior to eating**)
- Fibrous vegetables (**Ex. Corn, celery, sweet potatoes**)
- Fresh doughy bread like yeast rolls and biscuits (**use toast, or crackers**)
- Fried or high fat foods (**bake, broil, grill, use added fats conservatively**)
- Whole milk products (**use skim or 1% milk products**)

Protein and Fluid Are Still a Priority:

- Daily protein goal is 70 – 90 grams (80 – 100 grams for DS/SIPS)
- Daily fluid goal is 64oz (Decaffeinated, non-carbonated, and low calorie)

General Guidelines:

- Meal times should be every 3 – 4 hours
- Start with a meal volume of about 2 ounces approximately ¼ cup total
- A minimum of 2 ounces of this should be a high protein food
- Try only one new food at a time
- Do **NOT** consume liquids with meals (30 minutes before or after is recommended)
- Always eat your protein first
- Avoid extremes in temperature
- Stop eating when feeling full
- Chew food thoroughly
- Allow a minimum of 30 minutes to finish your meals

FULLNESS:

****For most people fullness will feel very different from before surgery****

Learn to recognize when you are full. Signs of fullness may be a pressure tightness or heaviness in the center of your abdomen, just below the breastbone or feelings of nausea, or heartburn. **STOP EATING WHEN YOU FEEL FULL.**

Common Causes of Nausea and Vomiting:

- | | |
|-------------------------------|-------------------------------|
| • Eating too fast | • Drinking liquids with meals |
| • Not chewing well | • Eating solid foods too soon |
| • Eating too much at one time | |

Reintroduce meats in the following order:

1st: Flaky fish and seafood

2nd: Soft cooked eggs

3rd: Ground or tender cooked beef, pork, and poultry

RECOMMENDED:

HIGH PROTEIN:

- Eggs - soft scrambled or poached
- Light/low fat yogurt
- Flaky whitefish
- Tuna
- Small shrimp, scallops, or crabs
- Tender cooked or ground beef, pork, poultry
- Beans and lentils
- Fat free refried beans
- Low fat deli meats thinly sliced
- Low-fat cottage cheese
- Shredded or soft skim or 1% milk fat cheese
- Tofu (soy)

OTHER FOODS:

- Oatmeal
- Cream of wheat
- Soggy cold cereal
- Soft cooked vegetables peeled and seeded (should be able to mash with a fork)
- Soft fruit without the skin, canned soft fruit in natural juice
- Cauliflower soft and mashed
- Low fat strained soups without large chunks of meat or vegetables
- Soft lettuce (green or red leaf or bib lettuce)

AVOID:

Sticky Foods:

- Fresh bread
- Sticky rice
- Pasta
- Macaroni and cheese
- Melted stringy cheese (pizza)
- Peanut butter

Crunchy/Fibrous Foods:

- Raw vegetables
- Skins and membranes of fruit and vegetables
- Nuts and seeds
- Popcorn
- Chips, crackers
- Coconut
- Iceberg lettuce

Tough or Rubbery Foods:

- Tough meats like steak, pork chops, ham, hot dogs

High Fat Foods:

- Butter, margarine, oils
- Salad dressing
- Sour cream
- Cream cheese
- Mayonnaise
- Gravy
- Fatback/bacon
- Sausage
- Whole milk
- Whole milk cheese
- Fried foods
- Processed meats
- Chips and Desserts

***Always eat protein first**, chew well and eat slowly taking about 30 minutes to finish a meal. It is wise to avoid raw meat and other undercooked food that could potentially cause food poisoning such as raw seafood, sushi, or raw oysters until three months after surgery date.

PROTEIN SOURCES – FULL LIQUIDS

<u>Full Liquids</u>	<u>Grams of Protein</u>
2 oz. skim milk	2
2 oz. protein fortified milk (8 oz. milk + 2 Tbsp. nonfat dry milk powder)	3
2 oz. soy milk	2
2 oz. low sugar supplement (Bariatric Shakes)	7
2 oz. slim fast lower carb	4
2 oz. no sugar added carnation instant breakfast with skim milk	3

PROTEIN SOURCES – PUREED FOODS

<u>Pureed Foods</u>	<u>Grams of Protein</u>
2 oz. cottage cheese	7
2 oz. hummus or pureed cooked beans	3
2 oz. plain low fat Greek yogurt	6
2 oz. low fat ricotta cheese	7
2 oz. protein fortified soup (Health Wise)	7.5

PROTEIN SOURCES – SOFT FOODS

<u>Food Item</u>	<u>Grams of Protein</u>
2 oz. fat free refried beans	4
2 oz. beans: black, pinto white, navy, garbanzo, black-eye, kidney	4
2 oz. steamed soy beans edamame	7

<u>Dairy</u>	<u>Grams of Protein</u>
2 oz. low fat cottage cheese	7
2 oz. lite or cream cheese	8
2 oz. low fat Greek yogurt	6
2 oz. sugar free pudding	3
2 Tbsp. non-fat milk powder	5
1 oz. reduced 2% fat cheese	7

<u>Meat and Seafood</u>	<u>Grams of Protein</u>
1 oz. egg	7
1 oz. tuna, fish, seafood	7
1 oz. imitation crab	3.4

1 oz. chicken, turkey	7
1 oz. lean beef or pork (loin or round)	7

Meat Alternatives

	<u>Grams of Protein</u>
1 oz. egg whites (about 1 egg white)	6
½ vegetable soy burger patty low fat	8.5
2 oz. tofu (soy)	7

PROTEIN SOURCES

Animal Protein:

Fish, chicken, turkey, beef, pork, lamb, eggs, cheese, milk, yogurt, cottage cheese

****Note:** If you find animal sources of protein difficult to tolerate try the vegetable sources of protein, they are usually a little easier to digest. **

Vegetable Protein:

Cooked dry beans (pintos, black-eye peas, soybeans, kidney, and navy), lentils, and other legumes, tofu, tempeh, seitan (flavored wheat gluten), miso, soy milk, nuts.

Tips for Adding Protein:

- Add eggs to salads, make low fat egg salad, and add eggbeaters or non-fat dry milk powder to smoothies.
- Add diced meats to soups, salads, and sauces.
- Add tuna, salmon, shrimp, or crab meat to casseroles and salads.
- Add low fat cheese to sauces, soups, eggs, potatoes, salads.
- Try cottage cheese with fruit, green salads, or mix into casseroles.
- Use low fat cheese as a snack, 1 oz.
- Use milk, soy milk, or Lactaid to make hot cereals; add to cream soups and fruit smoothies.
- Use low-fat, light, or plain Greek yogurt as a snack or add to fruit smoothies.
- Fortify your milk by adding 1 cup of dry milk powder to 1 quart of skim or 1% milk.
- Use peanut butter on crackers or toasted bread.
- Add beans to soups, salads, and casseroles.
- Add tofu to soups, salads, and casseroles.
- Use silken tofu in fruit smoothies.

HOW TO MAKE YOUR TRANSITION TO SOLID FOODS A SUCCESS:

- **Try one new food at a time.**

This helps you identify those foods you tolerate and those you do not tolerate quite well initially.

- **Eat slowly and be aware of when you feel full.**

Your new stomach is very small and will fill very quickly. Take 30 minutes to finish your meal.

- **Chew well.**

Your new stomach has decreased ability to mechanically and chemically digest food.

- **Take small bites.**

Small bites are necessary to avoid filling your stomach too quickly which may cause abdominal pain, cramping, or nausea and vomiting.

- **Do not drink fluid with your meals.**

It is important to save the room in your new stomach for nutritious food. Drinking with meals may limit your ability to take adequate amounts of nutrition in the early months after surgery. Drinking with meals may cause food to empty from your stomach more rapidly and cause stomach cramping and other unpleasant side effects.

- **Drink enough fluid between meals to meet your fluid requirements.**

Since you will not be able to drink with your meals it is important to get in the habit of sipping on low or no calorie, decaffeinated liquids throughout the day to stay well hydrated.

- **Avoid sticky foods.**

Soft white bread, rolls, buns, pasta (especially if overcooked and large pieces), rice that clumps together, macaroni and cheese are some foods that may cause nausea, stomach cramping and sometimes vomiting.

- **Avoid crunchy, hard to digest foods for the first 2-3 months.**

This includes raw vegetables, nuts, popcorn, chips, coconut, olives, pickles, tough fruit/vegetable skins, dried fruit, corn, iceberg lettuce. Some people may tolerate these foods after graduation to regular consistency foods at about 2-3 months post-op if eaten slowly and chewed very well.

- **Avoid tough or rubbery meats.**

Avoid steak, pork chops, ham, and other tough meats for the first few months. Meat is great source of protein, but it is easier to digest when prepared moist and tender, and chewed well. Try a slow cooking method to make it tender, such as a crock-pot, boiling or cooking at a low temperature over a long period of time.

- **Avoid extreme temperatures in foods and beverages.**

Very hot and very cold foods may cause cramping and pain. We suggest that all foods and fluids be introduced at a moderate temperature to establish tolerance. Sensitivity to temperature is usually temporary and will usually resolve within several weeks.

- **Limit high fat and high sugar foods.**



After Roux-en-Y Gastric Bypass surgery; Sweets, deserts, fried, greasy, and rich foods are likely to cause a side effect called dumping syndrome. Lap-Band and Gastric Sleeve procedures do not typically result in this side effect.



DUMPING SYNDROME

Dumping syndrome is a side effect due to the change in size and function of the bypassed stomach. Most Roux-en-Y Gastric Bypass patients will experience the problem to a minor degree after surgery. The severity of Dumping Syndrome can depend on the volume of food eaten, consistency, sugar and/or fat content. There are two phases: Early and Late Dumping. Some patients only experience one or the other, while some will experience both. Symptoms of early Dumping may begin as early as 45 minutes after a meal. Symptoms of late Dumping may occur up to 2-3 hours after eating.

Signs and Symptoms of Early Dumping:

- Abdominal cramping and diarrhea
- Fatigue
- Sweating
- Rapid heart rate
- Decreased blood pressure
- Flushing
- Dizziness
- Shortness of breath

Late Dumping:

- Shakiness
- Cold sweats
- Fatigue
- Decreased blood pressure
- Headache

FREQUENTLY ASKED NUTRITIONAL QUESTIONS

What is lactose intolerance and what are dairy alternatives?

Lactose intolerance is your boy's inability to digest the naturally occurring sugar, or lactose found in milk and dairy products. If you don't tolerate lactose after your surgery, look for soy-based protein or try Lactaid.

I have heard that some people have taste alterations after surgery, should I expect this?

Taste changes and alterations are not uncommon after surgery; don't be surprised if the protein drink you chose before surgery does not taste as good after surgery. Just try some alternates until you find one acceptable.

How do I avoid the Dumping Syndrome?

See the previous page for explanation of dumping syndrome.

- Do not use straws
- Avoid carbonation
- Avoid extreme temperatures too hot or too cold
- Sip slowly do not gulp
- Limit sugar and fat content

I have heard that some people experience bad breath or body odor after surgery, is this true?

You may experience bad breath as a result of rapid weight loss and your body's use of fat as an energy source. To Remedy: increase your intake of fluid to help flush the byproducts out of your system.

Is it normal to have pain after I drink?

Pain, pressure, or discomfort just below the breastbone after drinking or eating is usually due to eating or drinking too much too fast. To Remedy: wait about 30 – 60 minutes, or until the sensation has resolved. Sip more slowly, take very small sips, and avoid extremes in temperatures chew well, take small bites and eat very slowly. Pain or discomfort that does not resolve is not normal and you should call the clinic.

Why is carbonation not allowed after surgery?

Carbonated drinks or drinks with fizz contain carbon dioxide gas. This gas expands when it reaches your stomach and can cause pain or discomfort.

Why is caffeine limited after surgery?

Caffeine is a diuretic which means that will encourage your body to lose water. Since dehydration is the primary complication of any weight loss surgery we do not want any additional challenges to staying well hydrated.

How do I find the Bariatric surgery support group?

Visit our website to find the time and location of our support group meetings.

What if I just can't drink the protein shakes while on the liquid diet? (They are too sweet or make me nauseous).

Remember that staying hydrated is your primary concern. Focus on taking non-carbonated, non-caffeinated, and low or no calorie fluids frequently to prevent dehydration. If you are not able to drink a protein supplement you may wish to try fortifying broth or soup with a protein powder or non-fat dry milk powder. (2 Tbsp. of powdered milk provides approximately 5 grams of protein.)

Soup must be smooth liquid consistency and without chunks. For safety, run the soup through a fine mesh strainer to remove any chunks or particles.

When is it appropriate to start solid foods?

At the end of your three weeks on a mostly liquid diet you should be scheduled to follow up with the Dietitian to review how to safely and successfully reintroduce soft foods. We recommend that you not start on soft foods until you have received instructions from the Dietitian. To schedule an appointment with the Dietitian for soft diet instructions, please call 253-968-0547 (Option 2).

Can I drink alcohol again after surgery?

Alcohol has a much more pronounced effect after surgery. Most people feel the effects of alcohol after just a few sips. In addition alcohol provides empty calories that can sabotage your weight loss goal. For this reason we recommend that patients avoid alcohol for at least 1 year after surgery. After that alcohol should be used rarely and in small amounts in a safe environment.

What should I do if I have nausea that won't go away and is not related to eating?

Nausea is not uncommon after weight loss surgery. Try to increase your fluid intake.

Dehydration is a common cause of nausea. If your nausea persists with at least 64oz. of fluid each day, we recommend that you call the clinic to discuss your symptoms.

What should I do if I am vomiting?

Vomiting is usually related to eating or drinking too much too quickly, swallowing too big of a bite or not chewing well. Vomiting that is not associated with eating or drinking is not common. If you are experiencing nausea and vomiting on a daily basis, we recommend that you call the clinic to discuss your symptoms.

VITAMIN AND MINERAL SUPPLEMENTS

Must be Chewable or Liquid

Vitamin B-Complex (Start when you return home after surgery or to be determined by your Bariatric Surgeon.) A chewable or liquid form of B-complex is recommended for the first month after surgery and optional thereafter.

Vitamin B-12 (Start when you return home after surgery or to be determined by your Bariatric Surgeon.) A sublingual form of B-12 is recommended (dissolved under the tongue). The daily requirement is 350 – 500mcg in addition to what is in the multivitamin.



Multivitamin (Start when you return home after surgery or to be determined by your Bariatric Surgeon.) Must be chewable or liquid.

Calcium (Start when you return home after surgery or to be determined by your Bariatric Surgeon) Calcium should be a **citrate** form and chewable.

You should take enough additional to achieve a total calcium intake of 1200 – 1800mcg of calcium daily, from multivitamins and additional calcium (depending on the type of procedure). Separate calcium supplement doses from multivitamin and iron supplement by at least 2 hours.

Vitamin D (Start when you return home after surgery or to be determined by your Bariatric Surgeon.) Take vitamin D and calcium together to help absorption. Take enough additional vitamin D to achieve a total of 3000iu daily from multivitamin and additional vitamin D.

Iron (Bypass, Duodenal Switch, and SIPS only)

Additional iron above that found in the multivitamin is recommended for menstruating women and patients who have a history of iron deficient anemia. A chewable or liquid form is recommended. Take an additional 18 – 27 mg of elemental iron daily to achieve a total of 45 – 60 mg.

KIDNEY STONE PREVENTION:

(For patients with a history of **Calcium Oxalate** kidney stones **ONLY**)

- Kidney stones are caused by a buildup of certain minerals in the urine. Oxalate is a mineral that can cause kidney stones in some people. If you have had calcium oxalate kidney stones in the past, you may be more likely to develop these again after Bariatric surgery. If you have had this type of kidney stone before, a low-oxalate diet (or simply cutting back on high-oxalate foods), reducing salt intake, and drinking plenty of water can help prevent new stones from forming.
- Meats and animal products usually have little to no oxalate. Drink at least 8 cups of fluid every day. You should limit oxalates in your food to **40-50mg per day**.

Low Oxalate Foods – have less than 2 mg of oxalate per serving

Choose freely from these food options (but consider your other dietary goals)

Moderate Oxalate Foods – have 2-6mg of oxalate per serving

Limit to no more than **3 servings of these foods per day**

High Oxalate Foods – have more than 7mg of oxalate per serving

ONLY FOR PATIENTS W/ CALCIUM OXALATE KIDNEY STONES

Low Oxalate

Beverages

- apple juice
- cider
- grapefruit juice
- lemon juice
- lemonade/limeade
(made without peel)
- lime juice
- milk (skim, 2%, whole)
- pineapple
- tea, instant
- water

Dairy

- milk (skim, 2%, whole)
- buttermilk
- yogurt with allowed fruit
- cheese

Moderate Oxalate

- coffee (limit to 8 oz/day)
- cranberry juice
- grape juice
- orange juice
- orangeade

High Oxalate

- any juice made from high oxalate fruits (see fruits on next page)
- chocolate, plain*
- chocolate milk
- cocoa*
- coffee powder (instant)*
- Ovaltine
- tea, brewed*

- chocolate milk

ONLY FOR PATIENTS W/ CALCIUM OXALATE KIDNEY STONES

Low Oxalate Meats

- beef, lamb, pork
- eggs
- fish/shellfish
- poultry

Meat Substitutes, Beans, Nuts, Seeds

- lentils
- water chestnuts

Moderate Oxalate

- beef kidney
- liver

- garbanzo beans, canned
- lima beans
- split peas, cooked

High Oxalate

- none
- almonds
- baked beans canned in tomato sauce
- cashews
- green beans, waxed and dried
- peanut butter*
- peanuts*
- pecans*
- sesame seeds
- sunflower seeds
- tofu (soybean curd)*
- walnuts

Fruit

- apples, peeled
- avocado
- bananas
- cantaloupe
- casaba
- cherries, bing
- coconut
- cranberries, canned
- grapes, green
- honeydew
- mangoes
- nectarines
- papaya
- raisins
- watermelon

- apples with skin
- apricots
- black currants
- cranberries, dried
- grapefruit
- oranges
- peaches
- pears
- pineapple
- plums
- prunes

- blackberries
- black raspberries*
- blueberries
- red currants
- dewberries
- figs, dried
- grapes, purple
- gooseberries
- kiwi
- lemon peel*
- lime peel*
- orange peel
- red raspberries
- rhubarb*
- strawberries
- tangerines

Grains and Starches

- bread
- breakfast cereals
- noodles, egg or macaroni
- rice, white or wild

- barley, cooked
- corn bread
- corn tortilla
- cornmeal
- cornstarch
- flour, white or wheat

- Fig Newtons
- fruit cake
- graham crackers
- grits, white corn
- kamut
- marmalade

	<ul style="list-style-type: none"> - oatmeal - rice, brown - unsalted saltine or soda crackers - spaghetti in tomato sauce 	<ul style="list-style-type: none"> - soybean crackers* - wheat germ*
Low Oxalate Vegetables	Moderate Oxalate	High Oxalate
<ul style="list-style-type: none"> - acorn squash - alfalfa sprouts - cabbage - cauliflower - peas, frozen and fresh - peppers, red - radishes - turnips, roots - zucchini - squash 	<ul style="list-style-type: none"> - asparagus - artichokes - brussels sprouts - broccoli - carrots - corn - cucumbers, peeled - kohlrabi - lettuce - lima beans - mushrooms - onions - potatoes, white - peas, canned - snow peas - tomato, fresh - tomato sauce 	<ul style="list-style-type: none"> - beans (green, wax, dried) - beets (tops, roots, greens) - celery - chives - collards - dandelion - eggplant - escarole - kale - leeks* - mustard greens - okra* - parsley - parsnips - peppers, green - pokeweed* - rutabagas - sorrel - spinach* - summer squash - sweet potatoes* - Swiss chard* - tomato soup - vegetable soup - watercress - yams
Fats/Oils		
- all	- none	- none

The information in the above section pertains only to patients that have a history of Calcium Oxalate kidney stones. If you are unsure about your history of kidney stones, please discuss with your medical provider.

SMOOTHIES AND SHAKES

Chocolate Monkey Shake

8 oz. of water or 4 oz. of soy milk + 4 oz. of water

1 scoop chocolate protein

½ a banana

Place water in the blender first, followed by protein powder, then additions. Blend on low then high till well blended.



Strawberry Banana Smoothie

8 oz. of water or 4 oz. soy milk + 4oz of water

1 scoop vanilla protein

½ banana

3 whole frozen strawberries

Place water in the blender first, followed by protein powder, then additions. Blend on low then high till well blended.

Banana Split

8 oz. of water or 4 oz. soy milk + 4 oz. of water

1scoop of vanilla protein powder

½ banana

¼ cup chopped pineapple

2 frozen strawberries

Place water in the blender first, followed by protein powder, then additions. Blend on low then high till well blended.

Blueberry Smoothie

8 oz. of water or 4 oz. soy milk + 4 oz. of water

1 scoop of vanilla protein powder

½ cup frozen or fresh blueberries

Place water in the blender first, followed by protein powder, then additions. Blend on low then high till well blended.

Silky Latte

4 oz. silk brand Mocha soy milk

4 oz. water

1 scoop vanilla protein powder

2 – 3 ice cubes

Place liquid in the blender first, followed by protein powder, then additions. Blend on low then high till well blended.

Peanut Butter Cup

8 oz. water or 4 oz. soy milk + 4oz water

1 scoop chocolate protein powder

1 tbs. peanut butter

2 – 3 ice cubes

Place liquid in the blender first, followed by protein powder, then additions. Blend on low then high till well blended.

Peach Cobbler Protein Shake

8 oz. water or 4 oz. soy milk + 4 oz. water

1 scoop vanilla protein powder

¼ cup frozen sliced peaches

Dash of cinnamon

Dash of nutmeg

2 – 3 ice cubes

Place liquid in the blender first, followed by protein powder, then additions. Blend on low then high till well blended.

Yogurt Smoothie

1 container of light or nonfat yogurt

½ cup fat free milk

¼ cup powdered milk

½ banana or ½ cup canned lite peaches

Place ingredients in a blender and blend until smooth.

Tropical Shake

1 packed of vanilla Carnation instant breakfast

1 cup fat free milk

1 scoop vanilla designer Whey protein powder

½ banana

¼ tsp. coconut extract

3 ice cubes

Place all ingredients in a blender and blend until smooth.



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