

Vitamin and Mineral Recommendations for RNY Post-ops

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If your vitamin and mineral regimen is deficient as shown by your lab test results, you need to completely change your supplementation plan, starting as soon as you can get to the health food/vitamin store, or as soon as an order comes from an online store like Vitalady.com. Most RNY folks should be taking everything on the following list every day (distal RNY patients should be taking MORE as noted in *italics*).

VITAMINS

Vitamin	Amount to take daily	Comments
Vitamin A	10,000 IU to <i>20,000 IU</i>	Dry form, retinol, not beta carotene
Vitamin B complex	1 or 2 tablets a day <i>2 tablets a day</i>	B-100 is preferred over “Stress B” complex, which has a different ratio of vitamins
Vitamin B-12	1 sublingual tablet or weekly 1 cc IM injection	IM injection should be 1 cc of 1000 mcg/1 ml cyanocobalamin or methylcobalamin if you can get it
Vitamin C	500 to <i>2000 mg</i>	Take with iron to aid in absorption, watch for sugar content
Vitamin D	400 IU to <i>2400 IU</i>	Dry form; take with calcium citrate
Vitamin E	400 IU to <i>1200 IU</i>	Dry form
Vitamin K	50 to 100 mcg <i>150 mcg or more</i>	Should be in your multi-vitamin; small amounts are sufficient
Multi-vitamin/mineral	1-2 tablets a day <i>2 tablets a day</i>	Make sure formulation does NOT include iron or calcium carbonate. Avoid children’s chewable formulations.

Vitamin A is necessary for tissue and bone growth, helps protect the mucous membranes, and helps maintain smooth, soft skin. Vitamin A is also essential to eye health.

The B vitamins are necessary for brain and nervous system health, play crucial roles in fat, protein and carbohydrate metabolism, and are essential for healthy hair, skin and eyes. B vitamin deficiencies can result in permanent damage.

Vitamin B-12 is required in the process of making new red blood cells and for the health of your brain and nerves. Your body can store a small amount in your liver, but it is utilized quickly during weight loss and times of stress. Vitamin B-12 deficiency can cause pernicious anemia and permanent brain, heart, and nerve damage.

Vitamin C is a powerful anti-oxidant, helping protecting cells from damage. It also helps heal wounds and fractures, builds resistance to infection, and helps maintain healthy teeth and gums. It is required for the synthesis of collagen.

Vitamin D improves absorption and utilization of calcium and phosphorous, is required for bone and teeth formation, and helps maintains a stable nervous system and normal heart action. Sunlight is insufficient for post-ops.

Vitamin E plays a vital role as an antioxidant. It works synergistically with selenium to help maintain the skin and mucous membranes. It is also important for healing and tissue development.

Vitamin K plays an important role in the intestines and aids in converting glucose into glycogen for storage in the liver, promoting healthy liver function. It is also essential for bone formation and blood clotting.

Multiple vitamin-mineral formulations should be viewed as the backbone to any supplement program. They contain trace amounts of many supplements missed in the single-item tablets and capsules. Be careful with “natural source” minerals; check for a statement that the product is free of lead and other poisonous heavy metals.

MINERALS

Calcium as calcium citrate, minimum 2000 mg elemental a day (men too). Take with magnesium but not with iron. Take in 500 mg doses spaced at least 2 hours apart. Take the last dose at bedtime and take an extra dose if you happen to wake up in the middle of the night. **DO NOT EVER TAKE CALCIUM CARBONATE** (Tums®, Viactiv®, Caltrate®). **Note:** mineral labels can be confusing. See the section about how to read a mineral label.

Magnesium as magnesium citrate or amino acid chelate 400-1000 mg a day. OK to take with calcium but not with iron. Magnesium can be taken all at once or throughout the day. Start out with 200 mg and increase dosage every few days until the desired level is reached; decrease dosage slightly if loose stools result. Preferred dosage is 1 part elemental magnesium to 2 parts elemental calcium or 1000 mg magnesium to 2000 mg calcium, but this ratio is not accurate for each person. Increasing the dosage until you get loose stools and then backing off a little seems to work best for most people.

Iron may not be necessary for every post-op, but it is likely to be needed by most, including many men. Carbonyl iron seems to be best at building healthy ferritin levels (long-term iron stores). Many people find that the number of milligrams should match the number of centimeters of their bypass (per day, and not over 200 mg unless your doctor recommends it and then tracks your progress). Chromagen® Forte is an Rx iron preparation that has worked well for many post-ops. Ferrous gluconate and polysaccharide iron have also worked well. **AVOID FERROUS SULFATE.** It is a known GI tract irritant. **DO NOT TAKE IRON WITHOUT TALKING TO YOUR DOCTOR FIRST, OR AT LEAST, WITHOUT REVIEWING YOUR RECENT LABS.** It is possible to overdose on iron. Don't forget to keep even carbonyl iron (which claims to be non-toxic) away from children because they are easily iron-poisoned.

Zinc is needed for energy, immune function and other processes in the body. You need at least 50 mg a day. Zinc oxide has the lowest bioavailability; zinc gluconate or zinc amino acid chelate are better.

Copper, manganese, boron, and isoflavones all assist the body in the absorption of calcium, so look for a calcium formulation that contains these. They will be there in small amounts (1-50 mg) but that is all that is required.

READING MINERAL LABELS

Here's the way to decipher mineral supplement labels (per serving; check labels carefully for the number of tablets/scoops/capsules required to make up a serving):

If the label says...	It means....	And you should...
500 mg calcium as calcium citrate	500 mg elemental calcium	Take 4-6 doses per day
500 mg calcium from calcium citrate	500 mg elemental calcium	Take 4-6 doses per day
500 mg calcium (calcium citrate)	500 mg elemental calcium	Take 4-6 doses per day
500 mg calcium citrate	About 125 mg elemental calcium	Take four capsules, 4-6 times a day
1000 mg calcium citrate	About 250 mg elemental calcium	Take four capsules, 4-6 times a day
500 mg calcium	A mystery.	DO NOT PURCHASE. If you can't even tell what kind of calcium it is (carbonate, citrate, etc.) THROW IT AWAY!

WHEY PROTEIN

Whey protein should be consumed by most if not all post-ops on a daily basis for life. Whey protein helps reduce carbohydrate cravings, helps with weight loss, and ensures good protein nutrition status. Women need at least 60 to 90 grams, split into 30 gram servings, with 90 to 120 grams being a good start for men. Stay under 5 grams of sugar per 30 grams of protein; a few grams of fat are good because they can increase feelings of satisfaction, and it improves the "mouth feel" of the drink. Read the label carefully for serving size information. Often 1.5 to 2 scoops will be required to get a 30 gram protein serving.

Mix your protein with water, ice, and sugar-free flavored syrups to taste, or with plain ice water, in a covered cup or blender. It is acceptable to add powdered calcium citrate and magnesium citrate to protein shakes, if desired. You will need to shake/stir the resulting beverage several times while drinking it. Warm water's OK, boiling water's not. Don't blend or shake hot drinks, they will explode out of the container! Instead, swirl the protein powder into the warm water with a spoon. Consume each shake within 30 minutes to avoid unhealthy bacterial growth.

Soy protein is a very poor substitute for whey. Carnation® Instant Breakfast® (CIB), Ensure®, Slim-Fast®, and anything, including whey protein, that's shaken or blended with milk or fruit juice should be avoided because of its extremely high sugar content. Anything with caseinate in it should be avoided by those sensitive to milk.

Suggestions for good whey proteins include blends like Champion Nutrition Pure Whey Protein Stack, Champion Nutrition Pro-Score 100, and HDT™ Pro Blend 55, and isolates like Syntrex Innovations Nectar™, Nature's Best Isopure®, and IDS™ Multi-Pro Whey Isolate. Note that some post-ops experience dumping syndrome after consuming isolates. If this happens to you, switch to protein blends.

OTHER HELPFUL ITEMS

Coromega™ is emulsified fish oils, incredibly rich in Omega-3 essential fatty acids, in a form that we can absorb easily. One to two packets a day seem to work best. This is great for helping to resolve eczema and dry, scaly skin. It is also helpful in many cases of asthma. Note that fish oil capsules are not the same and do not work after RNY.

Devrom™ makes intestinal gas and stools have little to no odor. The active ingredient is bismuth subgallate, a moderately poisonous heavy metal, and it's probably unwise to consume the full dosage of three tablets a day for more than two weeks at a time. Try eliminating "white" foods - white bread, white flour, sugar, potatoes, white rice, milk (or any milk-type product like soy milk or rice milk), and onions, for some people.

Hair, Skin and Nails vitamins are useful for some people, and include biotin, which can be especially helpful to those with fragile, brittle nails and hair. Don't let them SUBSTITUTE for anything in your supplement program.

Milk Thistle herb is useful for elevated liver enzymes, a common side effect from fast weight loss. Common dosage is two to three 500 mg capsules a day. Check with a naturopath for more specific dosage advice.

Relora-T™ - some people swear by this supplement for reducing carbohydrate cravings.

ABOUT BARIATRIC AND LIQUID VITAMINS

Bariatric vitamins would be great if we were all the same, but of course, we are not. The vitamin and mineral "systems" are expensive and hard to tweak if something is out of balance. They also sometimes mix iron and calcium in the same dose, an absorption no-no. However, some brands have excellent chewables that are ideal for the immediate post-op period, and potentially, beyond, if you don't mind the expense. I personally LOVE the taste of Bariatric Advantage cinnamon calcium citrate, but at \$13 for just 24,000 mg of elemental calcium, that's over \$1.60 per day. They're part of my plan as a treat. My usual tablets of calcium citrate cost less than \$0.50 a day.

Liquid vitamins make some pretty strong claims, many of which are not backed up by science and our actual experience in this community. One brand commonly marketed to post-op bariatric patients is Isotonix® which contains 60% sugar by weight. A full day's program nets 30 grams of sugar, and since many surgeons are encouraging people to take all but the calcium at once, they are advocating an 18-gram sugar dose in the morning and 12 grams at night. This doesn't make sense, since many of those same surgeons tell their patients to stay below 6-10 grams of sugar PER MEAL. These are often sold through multi-level marketing which means you might encounter high-pressure selling techniques. See my Live Journal for more information:

<http://www.livejournal.com/users/opabinia/1516.html> and here: <http://www.livejournal.com/users/opabinia/3421.html>.

Regular tablet vitamins/minerals will run \$30-50 a month depending on how generous you are with the more expensive items like Coromega™. Bariatric systems usually run \$60-120 a month. Equivalent amounts of Isotonix® run over \$150 a month, though sales reps will try to convince you that "less is more" - no, it's not. 250 mg is NEVER more than 500 mg of the equivalent ingredient! Unfortunately, they are good at obfuscating the actual ingredients by using more unusual forms of various items so it can be hard to tell that you are getting ripped off. Compare the RDA percentages for each vitamin and mineral ingredient carefully.

DAILY SUPPLEMENT SCHEDULE

You may feel overwhelmed when reading this document. You were probably told to just take a few Flintstones® and a few Tums® each day. Consider adapting this sample schedule to fit your lifestyle and nutritional needs.

Time	What to take	What to eat or drink
7 am (or upon awakening)	Calcium citrate, 500 mg elemental Vitamin D, 200-400 IU Magnesium citrate, 200 mg elemental	Whey protein shake, 30 gm
8 am	Vitamin B-12 sublingual tablet	Breakfast
9 am	Iron supplement(s) Vitamin C, 500 mg	Glass of water
11 am	Calcium citrate, 500 mg elemental Vitamin D, 200-400 IU Magnesium citrate, 200 mg elemental	Glass of water
12 noon	n/a	Lunch
1 pm	Multi-vitamin B-100 tablet	Glass of water
2 pm	n/a	Whey protein shake, 30 gm
3 pm	Calcium citrate, 500 mg elemental Vitamin D, 200-400 IU Magnesium citrate, 200 mg elemental	Glass of water
4 pm	Multi-vitamin B-100 tablet	Glass of water
5 pm	Iron supplement(s) Vitamin C, 500 mg	Glass of water
6 pm	n/a	Dinner
7:30 pm	n/a	Whey protein shake, 30 gm
8 pm	Vitamins A & D capsule Vitamin E capsule Zinc tablet	Glass of water
10 pm (bedtime)	Calcium citrate, 500 mg elemental Vitamin D, 200-400 IU Magnesium citrate, 200 mg elemental	Whey protein shake, 30 gm
Middle of the night, if you wake up for any reason	Calcium citrate, 500 mg elemental Vitamin D, 200-400 IU Magnesium citrate, 200 mg elemental	Glass of water

CONCLUSION

It's easy to keep yourself well-nourished after RNY gastric bypass if you have the right information, and doing so will probably extend your life; certainly, it will increase the quality of your life by helping you remain strong and healthy. There's also some evidence that post-ops who maintain excellent nutrition at all times have lower eventual weight regain ("bounce back") than people who neglect their nutrition. This is believed to be due to processes known as hypertrophy and hyperplasia of the mucosal epithelium, wherein the body develops new intestinal capacity so that it will be adequately nourished. These processes cause the small intestine to grow longer, to increase in diameter, and to grow additional nutrient-absorbing villi. This sounds good, but it also leads to increased absorption of calories from food, without increasing vitamin and mineral absorption (because the duodenum is still bypassed). Thorough supplementation provides minimal caloric intake while maintaining adequate nutrient levels.

ABOUT ME

I have been researching post-op nutrition issues and living the post-op life since 2001. It is my passion to make sure that post-ops have better nutritional information so that they can improve and perhaps even save their own lives. My original open RNY was a success, in that I went from BMI 54.9 to 23.2 in 9 months, but I had significant hypertrophy, return of all co-morbidities, and associated weight regain to BMI 38, and I've recently undergone a revision to a distal RNY with a 60" common channel (April 28, 2005 with Dr. Ki H. Oh and Dr. Myur Srikanth).

I've carefully followed and kept track of what works for us and what doesn't. Most doctors have ZERO training in human nutrition and even bariatric surgeons usually don't know what they're talking about. Sadly, this means that many of us get BAD information from them. If you need professional nutritional assistance, consider seeking out a naturopath. Naturopathic doctors (ND) complete four years of classes in clinical nutrition, Eastern medicine, homeopathic medicine, botanical medicine, psychology, and counseling in addition to standard medical training and can be very helpful to you in your quest for good health through great nutrition. Insurance almost always reimburses for their services.

Disclaimer: I am not a medical person, nor have I evaluated your personal situation. These guidelines are intended as a good starting place to do your own research, discussion points for you and your physician, and suggested improvements in your post-op nutrition plans. Few, if any, of these recommendations will hurt most people, but please consult a medical professional before starting any nutritional supplementation if you have concerns.

Julia Ziobro

125 cm non-transected proximal RNY 09/17/01 - Revision to 60" common channel transected distal RNY 04/28/05
<http://www.livejournal.com/users/opabinia/>

Useful websites for post-ops:

<http://groups.yahoo.com/group/Graduate-OSSG> (must be 1 year post-op to post, anyone can read)

<http://groups.yahoo.com/group/OSSG-protein>

<http://groups.yahoo.com/group/OSSG-nutrition>

<http://groups.yahoo.com/group/OSSG-vitamins-minerals>

<http://groups.yahoo.com/group/OSSG-anemia>

<http://groups.yahoo.com/group/OSSG-osteoporosis>

<http://groups.yahoo.com/group/OSSG-pregnant> and <http://groups.yahoo.com/group/OSSG-breastfeeding>

http://www.livejournal.com/users/wls_support and <http://www.livejournal.com/users/wls>

<http://usagiedu.com/articles/intrehab1/intrehab1.pdf> Hypertrophy article

<http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat4.section.13622> 1994 NIH Consensus Statement on Calcium

"Ati sarvatra varja aeth... anything excessive is bad."

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I heartily endorse the [Vitalady.com](http://www.vitalady.com) business because it is owned and operated by long-term successful RNY post-ops who are committed to helping other post-ops become healthy, but have not sought permission to include them in this document. I do not and will not receive any financial or other consideration for this endorsement.

I try to answer all emailed questions that I receive but I am an individual with a busy life and cannot always do so. If I don't get back to you quickly enough, post your question in one of the online groups above after checking the archives for similar information. This information is to be considered my informed opinion ONLY. Group archives belong to and are the responsibility of the group.

If you find a factual error, have new information, or disagree with me, please [email](mailto:jziobro@vitalady.com) your information to me for consideration.

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