

Nutritional Supplements Needed After Bariatric Surgery

A large number of people in the United States are obese—defined as having a body mass index (BMI) greater than 35. Many of these individuals have turned to bariatric (weight loss) surgery to lose the extra pounds.

Numerous types of bariatric surgeries are being performed. The surgical procedures are broadly classified as either “restrictive,” meaning the size of the stomach is reduced by stapling or band placement, or “malabsorptive,” meaning that the stomach is connected with a different part of the intestine in order to bypass the area of the small intestine where food is usually absorbed. In the United States, the most common type of surgery is called the Roux-en-Y, which is primarily a restrictive procedure with a malabsorptive component.

In addition to absorbing less food after surgery, patients may also absorb fewer vitamins and minerals. Nutritional supplements are often required to correct these deficiencies. Some of the supplements that might be necessary after bariatric surgery are discussed below.



Vitamin B12

Normally, adequate amounts of vitamin B12 are obtained from eating meat and other animal products. The Roux-en-Y bypass procedure is known to affect vitamin B12 levels: 1 out of every 3 patients develops a vitamin B12 deficiency within a year after surgery. There are several factors that may contribute to this B12 deficiency: (1) a stomach that has been reduced in size produces less stomach acid, which is needed to break down meat proteins; (2) patients often cannot tolerate eating large amounts of meat after bariatric surgery, so they eat less of the foods that naturally contain vitamin B12; and (3) bariatric surgery reduces the amount of vitamin B12 that is absorbed by the body.

When people do not have sufficient amounts of vitamin B12, they cannot make enough red blood cells, white blood cells, or platelets and they develop anemia. Anemia may cause the tongue to become enlarged, red, and painful.

NAMES AND CLASSIFICATIONS FOR SOME BARIATRIC SURGICAL PROCEDURES

Malabsorptive: biliopancreatic diversion (BPD), sleeve gastrectomy, isolated intestinal bypass

Restrictive: banding or stapling of the stomach, gastropasty, Roux-en-Y

Based on “Recommended Nutritional Supplements for Bariatric Surgery Patients” by Margaret Malone, *The Annals of Pharmacotherapy*, December 2008, <http://dx.doi.org/10.1345/aph.1L321>. For Our Patients is provided by *The Annals* to help explain the latest research and information relating to your medications. These summaries are for informational purposes only and are not a substitute for professional advice from your personal medical provider. If you have questions about this material, you should discuss it with your physician or pharmacist. This summary may be reproduced without permission for not-for-profit educational purposes only. Any other use must be approved by the publisher. © Copyright 2008, Harvey Whitney Books Company, www.hwbooks.com.

FOPE24 DOI 10.1345/fop.1L321

Anemia can also cause serious, permanent, and painful changes to nerve cells.

Supplements containing vitamin B12 can prevent these complications. After bariatric surgery, patients need a much higher dose of vitamin B12 than what the government normally recommends as the RDA (recommended daily allowance). Experts suggest taking 350–1000 µg of B12 daily after bariatric surgery to prevent complications.

Folate

Folate deficiencies can occur when vitamin B12 levels are low, because vitamin B12 is needed to convert folate to its active form. After surgery, 400–1000 µg of folate daily is often recommended to prevent anemia associated with a deficiency of this vitamin.

Thiamine

Thiamine deficiency is a well-known problem after bariatric surgery, especially in patients who have persistent vomiting after surgery or who experience rapid weight loss (more than 15 pounds per month). This vitamin can become rapidly depleted in a short period of time—as little as 18–20 days.

Thiamine deficiency can cause loss of muscle coordination, abnormal eye movements, confusion, inability to sleep, and hallucinations. Patients who are not vomiting can typically get enough thiamine from their multivitamins. However, patients who have persistent vomiting after surgery may need to be treated with intravenous thiamine for 7–14 days, because thiamine deficiency can cause medical emergencies.

Calcium and Vitamin D

Calcium and vitamin D are needed for healthy bones. Depending upon the type of surgical procedure, absorption of these nutrients may be reduced. Patients most at risk of developing bone density problems after bariatric surgery are postmenopausal women and those who have the greatest weight loss after surgery.

No national guidelines currently exist for calcium and vitamin D supplementation after bariatric surgery. However, common sense suggests that patients who do not get much calcium in their diet should take supplements, usually in the form of calcium citrate. The more common form of calcium, calcium carbonate, may not be well absorbed by patients after “restrictive” bariatric procedures if the stomach no longer produces enough acid. Vitamin D is also needed to help absorb calcium.

A typical recommendation is 400–2000 IU of vitamin D3 per day, along with 1.5 g of calcium. Many people do not realize that each 500 mg tablet of calcium citrate contains only 120 mg of calcium. Thus, unless they also get calcium in their diet, patients may need to take 12 tablets each day to consume an adequate amount of calcium.

Iron

Iron deficiency and anemia due to decreased red blood cell production is especially common after bariatric procedures, for several reasons. After surgery, the stomach may not produce enough acid to absorb sufficient iron; patients may not be able to tolerate much meat (a good source of iron); and “malabsorptive” surgical procedures may bypass the parts of the intestine that formerly absorbed the most iron.

When choosing an iron supplement, you will likely be encouraged to take 325 mg of ferrous sulfate up to 3 times a day. Taking iron with vitamin C helps your body absorb more iron. Slow-release iron products are not recommended because they are not reliably absorbed. If you are unable to tolerate oral pills because of constipation or diarrhea, intravenous iron therapy may be necessary.

In addition to the vitamin and mineral deficiencies discussed above, which are common after bariatric surgeries, low levels of zinc, magnesium, vitamin A, and selenium have also been reported in some individuals. If you have had bariatric surgery—especially one of the malabsorptive procedures—you are at risk of developing nutritional deficiencies after surgery. Some complications associated with vitamin deficiencies may not be reversible, so be sure to take the supplements your doctor recommends.

FOR MORE INFORMATION

Body Mass Index Calculator from the National Heart, Lung, and Blood Institute
www.nhlbisupport.com/bmi/

Mayo Clinic
www.mayoclinic.com/print/gastric-bypass/HQ01465/METHOD=print
www.mayoclinic.com/print/gastric-bypass-diet/WT00007/METHOD=print

Medline Plus
www.nlm.nih.gov/medlineplus/weightlosssurgery.html

National Institute of Diabetes, Digestive, and Kidney Disorders
<http://win.niddk.nih.gov/publications/gastric.htm>