

Nutrition Management After Bariatric Surgery

Federal Bureau of Prisons

Clinical Practice Guidelines

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<http://www.bop.gov/news/medresources.jsp>.

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1. Overview

Bariatric surgery refers to a variety of surgical procedures whose primary goal is weight loss through malabsorption, restriction, or a combination of the two, depending on the type of procedure performed. *Malabsorptive procedures* (biliopancreatic diversion and duodenal switch) work by bypassing the intestinal lumen where most nutrient absorption occurs. *Restrictive procedures* (laparoscopic adjustable gastric banding [LAGB], sleeve gastrectomy, and vertical banded gastroplasty) primarily limit the volume of food ingested. Roux-en-Y gastric bypass (gastrojejunostomy) achieves weight loss through a combination of malabsorption and restriction.

This document provides guidance on nutrition management of the bariatric surgery patient while incarcerated in the BOP, including recommendations for:

- Behavioral and nutritional modifications using the BOP National Menu, supplemental feeding, and nutritional supplementation
- Consultation with a BOP Registered Dietitian
- Assessment and monitoring in the Chronic Care Clinic

2. Nutrition Management

Nutrition management following bariatric surgery requires both behavioral modification of eating habits and modifications to the content and quality of food items consumed. All bariatric surgery patients are at risk for nutrition deficiencies. Dietary management is based on the amount of time since the surgery was performed, and may be divided into *early* (up to six months postoperative) and *long-term* maintenance. Nutrition therapy and nutrition needs of postoperative bariatric surgery patients can be met through texture-modified special diets, self-selection of food items from the BOP National Menu, food service supplemental feeding, and nutrition supplementation.

During the early postoperative period, the initial goals are healing of the surgery site, adequate fluid and protein intake, and avoidance of certain complications such as food impaction and vomiting.

- Immediately following surgery, all oral intake is liquid and the diet is advanced gradually to solid foods as tolerated by the patient.
- During the transition from liquid to solid food, it is common to provide nutrition using blenderized solid food and mechanically soft diets.
- In patients with LAGB, diet usually can be advanced more quickly from liquid to solid foods because the band typically is not inflated at the time it is applied intraoperatively.
- During this early period, prompt consultation with a BOP Registered Dietitian for nutrition management and patient education is recommended, as outlined in the BOP *Tele-Nutrition Operational Procedures*, available at: http://sallyport.bop.gov/co/hsd/food_svc/docs/Tele-Nutrition%20Info.jsp

BOP National Menu

Once the diet has been advanced to regular solid food, patients should be encouraged to self-select heart healthy diet options from the National Menu. Patients should also be encouraged to:

- Eat protein foods first at meals, followed by soft vegetables and fruits, and then starchy foods last.
- Wait at least 30 minutes after a meal to drink fluids; do not use a straw, which can result in swallowing air.
- Thoroughly chew food before swallowing.
- Stop eating or drinking when full.
- Avoid sugar and sweets.
- Avoid high-fat and starchy foods that may cause *dumping syndrome*, including fried meats, French fries, pastries, rolls, desserts, and chips.
- Avoid carbonated beverages.
- Avoid alcoholic beverages (prohibited in correctional environment).

Supplemental Feeding

Because smaller portions will be consumed during the three main meals, supplemental feeding or snacks should be ordered by Health Services staff, as authorized in the Program Statement *Patient Care PS 6031.03*, to be received by patients two or three times per day. The following items align with the recommendation of small feedings throughout the day and are supplemental feeding options identified in the Food Service Manual:

- ½ sandwich made with 1 slice of bread and 1 oz. of (non-pork) meat and mustard (optional)
- 1 Tbsp. peanut butter with 6 saltine crackers or 1 slice of bread
- 1 oz. slice of cheese with 6 saltine crackers or 1 slice of bread

Additional supplemental feeding provisions may be offered if special dietary needs are identified by a BOP registered dietitian.

Nutrition Supplementation

Post-operative bariatric surgery patients are required to take certain vitamin and mineral supplements for the remainder of their life. These include:

- *Multivitamin and mineral supplement*, either two regular or chewable tablets per day or liquid equivalent, based on patient preference and tolerance
- *Calcium with vitamin D*, either calcium citrate 1,200–1,500 mg per day in divided doses, or calcium carbonate 2,000 mg per day in divided doses, taken at least two hours before or after supplements with iron
- *Vitamin B12 supplement*, for all cases of Roux-en-Y gastric bypass only

Some vitamin and mineral supplements are taken only if clinically indicated for specific deficiencies:

- *Iron*, 325 mg iron (with 250 mg Vitamin C to increase absorption)
- *Vitamin B-12 supplement*, when needed after bariatric procedures other than Roux-en-Y

Nutrition supplementation for additional protein is indicated routinely during the early postoperative period. During the maintenance phase, however, protein supplementation is indicated *only* after reasonable efforts have been made through Food Service provisions, and a BOP Registered Dietitian has determined that medical diet and supplemental feeding, in accordance with BOP policy and formulary, have not been able to meet the patient's protein needs.

3. Nutrition Assessment and Monitoring

Nutrition Assessment

A complete nutrition assessment should be performed by a Registered Dietitian for all BOP inmates with a history of bariatric surgery. The assessments can be conducted at Medical Referral Centers by institutional Registered Dietitians. For Care Level 1–3 institutions, consultation with a BOP Registered Dietitian should be accomplished in accordance with the BOP Tele-Nutrition Operational Procedures.

Patient Tracking

Inmates with a history of bariatric surgery should be maintained in a chronic care clinic because of the need for lifelong nutrition management and monitoring for complications and nutrition deficiencies. This should be listed as a chronic condition on the Health Problems list in BEMR using the ICD-9 code V45.86 Bariatric Surgery Status.

Patient Monitoring

Periodic medical evaluations are recommended following bariatric surgery. During the early postoperative period, the frequency of follow-up is usually determined by the bariatric surgery team managing the case. A reasonable schedule for outpatient evaluations is shown in the table below:

After Bariatric Surgery	Frequency of Postoperative Evaluations
First 6 months	Every 4 to 6 weeks
Second 6 months	Every 3 months (i.e., at 9 and 12 months)
One Year	Annually or more often, as clinically indicated

Outpatient evaluations should include the following:

- Assess adherence to dietary recommendations by obtaining a dietary recall and checking Trufacs for commissary purchases.
- Vital signs, including weight, should be obtained and evaluated when performing a targeted physical examination, as clinically indicated, at each visit.
- Screening for nutrition deficiencies with routine laboratory testing is recommended at three, six, and twelve months postoperatively, then annually. Testing should include:
 - ▶ CBC
 - ▶ electrolytes
 - ▶ glucose
 - ▶ albumin
 - ▶ liver panel (liver enzymes, alkaline phosphatase, bilirubin)
 - ▶ lipid profile
 - ▶ iron and ferritin
 - ▶ vitamin B12
 - ▶ thiamine
 - ▶ folate
 - ▶ zinc
 - ▶ copper
 - ▶ 25-hydroxyvitamin D
 - ▶ parathyroid hormone

Non-adherence with dietary recommendations may present in a variety of ways and may impact negatively on the health of the inmate or the orderly running of the institution.

- Noncompliance with medical diet order, or supplemental feeding/snacks provided by food service
- Noncompliance with receiving nutrition supplements
- Non-compliance with behavioral modifications
- Providing supplemental feeding/snacks or nutrition supplements to other inmates

Non-adherence should be managed on a case-by-case basis, through inmate education and other appropriate interventions, and be documented in the medical record. Discontinuation of supplemental feeding/snacks or nutrition supplements may be considered by the primary care provider in consultation with the Registered Dietitian on a case-by-case basis (such as when the inmate makes commissary purchases of food that clearly deviates from recommended dietary restrictions, or is found to be giving BOP-issued snacks or supplements to other inmates).

4. Medical Judgment

The guidance in this document is based on recommendations in the medical literature and is not meant to limit or override the exercise of medical judgment by the physician responsible for medical care.

- Each case must be evaluated on its own merits and individual circumstances.
- Treatment is to be given and documented in accordance with accepted medical practice.

References

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