Dear Practitioner:

You may encounter patients in your practice who have had recent bariatric surgery from our program or have had bariatric surgery elsewhere at some time in the past and wish to receive their follow-up care and treatment with you. We recommend patients follow up with their own bariatric surgeon for at least the first year after their procedure because of potential complications.

Listed below are recommendations for follow-up after various types of bariatric procedures. There are protein and vitamin recommendations from our program as specified by the ASMBS. Please use these recommendations as guidelines.

Also attached are potential complications associated with each of the various procedures.

Follow-up with our program after surgery is scheduled at 2 weeks, 2 months, 6 months and 1 year and then annually.

If you have any questions, please do not hesitate to contact me.

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LABORATORY STUDIES ORDERED ON WEIGHT LOSS SURGICAL PATIENTS

ALL BARIATRIC PATIENTS
(Gastric Bypass, Sleeve Gastrectomy, Duodenal Switch and Adjustable Gastric Band Patients)

CBC
Iron studies (ferritin, Fe, Fe saturation, TIBC)
Pre-albumin
Calcium
Intact parathyroid hormone lever (PTH)
Vitamin B-12
Vitamin A
Vitamin D
Thiamine (vitamin B1)
Folate
Lipid panel
Complete metabolic profile

Hgb A1c for Type 2 diabetes

These studies are ordered at 2, 6, 12 months post-operatively and then annually and also as needed if deficient for all patients.

RECOMMENDED VITAMINS AND SUPPLEMENTS FOR SURGICAL WEIGHT LOSS PATIENTS

Gastric Bypass

Multivitamin
Iron with Vitamin C (or some other acidifying agent) – We have recently used Repliva which has less side effects with success also.
Vitamin B-12 sublingual tablets
Calcium Citrate with Vitamin D – Usually in twice daily pills of Calcium Citrate 600mg with Vitamin D
Vitamin D ("dry" tablets) 5000 IU PO daily or 50,000 IU IM weekly
Zinc
Biotin
Protein supplements 60-100 grams daily (whey protein isolate)

Duodenal Switch

Multivitamin
Iron (doesn't need acidifying agent as they have a larger stomach and their stomachs will make acid)
Possible Vitamin B-12
Calcium Citrate with Vitamin D
Vitamin A ("dry" tablets) 10,000 IU weekly
Vitamin D ("dry" tablets) 5000 IU PO daily or 50,000 IU IM weekly
Protein supplements 60-100 grams daily (whey protein isolate)

Vertical Sleeve Gastrectomy

Multivitamin
Iron
Vitamin B-12
Calcium
Zinc
Biotin
Protein supplements 60-100 grams daily (whey protein isolate)

Adjustable Gastric Band

Multivitamin
Vitamin D ("dry" tablets) 5000 IU PO daily or 50,000 IU IM weekly
Protein supplements

	DRI / RDA / AI				Dosage	Notes
	Women		Men			
Age	**19-50**	**51-70**	**19-50**	**51-70**		
Vitamin A (µg/day)	700	700	900	900	MVI 2x Daily	Take one Chewable/Liquid Multivitamin twice Bariatric Advantage® Chewable Multi Form ~or~ Centrum Adult Under 50 Chewable® ~or~ Centrum Adult Under 50 Liquid® ~or~ OptiSource® Post Bariatric Formula Chewa
Vitamin C (mg/day)	75	75	90	90	MVI 2x Daily	
Vitamin E (mg/day)	15	15	15	15	MVI 2x Daily	
Vitamin K (µg/day)	90	90	120	120	MVI 2x Daily	
Thiamin (mg/day)	1.1	1.1	1.2	1.2	MVI 2x Daily	
Riboflavin (mg/day)	1.1	1.1	1.3	1.3	MVI 2x Daily	
Niacin (mg/day)	14	14	16	16	MVI 2x Daily	
Vitamin B6 (mg/day)	1.3	1.5	1.3	1.7	MVI 2x Daily	
Folate (µg/day)	400	400	400	400	MVI 2x Daily	
Vitamin D (µg/day)	15	15	15	15	**5,000 IU Vit D3**	In addition to the amount of vitamin D found i multivitamin and calcium supplement, begin ta a supplemental vitamin D (cholecalciferol D3) Bariatric Advantage® Dry Vitamin D3 (take ~or~ Bariatric Advantage® Liquid Vitamin D3 (ta other day) ~or~ GNC Vitamin D3 5000 IU (take daily)
Vitamin B12 (µg/day)	2.4	2.4	2.4	2.4	**500 µg/day**	Take sublingual B12 lozenges or drops that dis your tongue such as: 500 mcg supplement may be taken daily ~or~ 1000-2000 mcg supplement may be taken e
Pantothenic Acid (mg/day)	5	5	5	5	MVI Daily	
Biotin (µg/day)	30	30	30	30	**300 µg/day**	Take an additional supplement if Biotin is < 10 in your multivitamin
Calcium (mg/day)	1000	1200	1,000	1,000	**1,200 -1,500 mg/day**	Chewable Calcium Citrate plus Vitamin D such GNC Chewable Calcium Plus® with Vitamin Best absorbed at 500-600 mg doses Take two hours after Multivitamin or Iron sup
Chromium (µg/day)	25	20	35	30	MVI 2x Daily	
Copper (µg/day)	900	900	900	900	MVI 2x Daily	
Iodine (µg/day)	150	150	150	150	MVI 2x Daily	
Iron (mg/day)	18	8	8	8	**18-27 mg/day (Elemental Iron) or 325 mg/day (Ferrous Sulfate)**	Ferrous Sulfate is the most absorbable form of Iro Nature Made® 65mg Equivalent to 325 mg Fe ~or~ Bariatric Advantage Chewable Iron (29mg) ~or~ Nature's Plus® Chewable Iron W/ Vit C (27m Do not take with tea, cola, coffee, calcium citrate medicine levothyroxine because they can interfer

						Menstruating women's goal intake is 50-100 mg iron/day Vitamin C aids in absorption
Magnesium (mg/day)	320	320	420	420	MVI 2x Daily	
Manganese (mg/day)	1.8	1.8	2.3	2.3	MVI 2x Daily	
Phosphorous (mg/day)	700	700	700	700	MVI 2x Daily	
Selenium (µg/day)	55	55	55	55	MVI 2x Daily	
Zinc (mg/day)	8	8	11	11	**8mg (females) 11mg (males)**	Take an additional Zinc Supplement if <100% your Multivitamin
Potassium (g/day)	4.7	4.7	4.7	4.7	MVI 2x Daily	
Sodium (g/day)	1.5	1.3	1.5	1.3	MVI 2x Daily	
Chloride (g/day)	2.3	2.0	2.3	2.0	MVI 2x Daily	

Vitamin and Mineral Supplementation Post-Op Bariatric Surgery

Chewable and liquid multivitamins are the most easily absorbed, and are recommended after all bariatric surgery procedures

POST OPERATIVE CONCERNS OF SURGICAL WEIGHT LOSS PATIENTS

Adjustable Gastric Band

Slipped Band – presents with dysphagia, vomiting and loss of restriction
Dx with x-ray
Rx by removing fluid in band and surgery to correct the problem
Band Erosion – presents with loss of restriction
Dx with endoscopy or port infection
Rx with band removal
Port Infection – treat with port removal and replacement in a remote site or remote time.
***Please note*: Adjustable Gastric Band surgery is no longer being recommended due to high failure and complication rates

All Surgeries

Frequent emesis can occur with any of the procedures and is one of the most common complications seen after surgery. In most instances, frequent emesis is caused by patients eating too fast, too much at one time, or not chewing their food well enough. Reassurance and counseling resolves these issues. Another frequent cause of emesis and/or dysphagia is gastritis or ulceration due to smoking, vaping, nicotine use, NSAID use or aspirin use.
Thiamine (vitamin B1) deficiency can cause nausea post-operatively. It can take some time for this nausea to resolve by supplementation.
Gallstones- Patients no longer have prophylactic cholecystectomy performed at the time of their bariatric procedure. Patients take ursodiol 300 mg PO BID for 6 months which prevents the formation of gallstones.

Gastric Bypass and Duodenal Switch

Internal hernia and/or bowel obstruction: It can presents with abdominal pain, vomiting and/or tachycardia. Diagnosis is done by urgent CT Scan of the abdomen and pelvis. A flat plate of the abdomen may be perfectly normal and the patient may be able to eat and be having bowel movements. With both gastric bypass and the duodenal switch, urgent surgery is the treatment of choice. In other bariatric procedures, obstruction and internal

POSTOPERATIVE CONCERNS (continued)

herniation can occur as in other abdominal surgical procedures due to adhesions as well.

Remnant (Acute) Gastric Dilation (with Gastric Bypass):
This can present with abdominal pain, vomiting, and/or tachycardia. Diagnosis is with urgent CT Scan of abdomen that shows distension of the remnant stomach. This may not be noted in the typed radiology report and should be reviewed with the radiologist. Treatment is with percutaneous drainage using drainage catheter.

Iron Deficiency anemia is common after surgery, particularly in menstruating females, if they are not taking their iron supplementation. Oral replacement and occasional IV iron infusion is given.

Elevated PTH levels imply inadequate oral intake of Calcium Citrate (Calcium Carbonate is poorly absorbed) and possibly Vitamin D. If the PTH level is elevated, increasing Calcium Citrate usually cures the problem.

Kidney Stones- These usually occur as a result of too much oxalate in the urine and form calcium oxalate stones. Patients usually require more oral calcium when this occurs (not less!) and giving calcium carbonate which is poorly absorbed will bind the oxalate in the intestine and prevent further calcium oxalate stones.

Leaks may occur within the first two weeks after surgery, which require urgent surgical evaluation and treatment. Patients may present with a variety of signs and symptoms including abdominal pain, shortness of breath, tachycardia and fever.

Gastric Bypass and Vertical Sleeve Gastrectomy

Vitamin B-12 deficiency usually occurs as a result of a patient not taking supplemental Vitamin B-12. If it is low, we recommend a B-12 injection and starting sublingual Vitamin b-12. If it remains low, then monthly B-12 injections are necessary. (Note, on very rare occasions vertical sleeve gastrectomy and duodenal switch patients may have low Vitamin B-12 levels).

Duodenal Switch only

Excessive weight loss or protein-calorie malnutrition related to inadequate protein and/or calorie intake may occur but is uncommon if patients are taking their appropriate supplements. Supplemental protein commonly corrects this problem. Occasional addition of oral pancreatic enzymes is useful. Rarely, recurrent surgery to lengthen the common channel is necessary (which is a small procedure requiring an overnight hospital stay). Careful follow up is given to patients as they approach their goal weight to insure adequate protein and calorie intake. Patients must not skip meals and should eat protein snacks as necessary.
Vitamin A and D deficiency should be replaced with supplemental Vitamin A and D as necessary.
Excessive bowel movements may occur. It is common for patients to have 4 to 8 bowel movements initially after surgery, but this commonly reduces to 2 to 3 daily. Probiotics can be beneficial. Medications such as Devrom or Lomotil is sometimes necessary and can be very useful. Rarely a surgical procedure to lengthen the common channel is necessary but very uncommon today.