UNIVERSITY OF CALIFORNIA, DAVIS MEDICAL CENTER

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Bariatric Surgery Quick Reference Guide for the Primary Care Practitioner

Bariatric Follow-Up Appointments:

- Any patient who had Bariatric Surgery at UCDMC, please refer back to the UCDMC program for all follow up needs.
- Any patient with a history of Bariatric Surgery with a surgical concern (regardless of location of initial bariatric operation), please refer to UCDMC Bariatrics for evaluation.
- Patients who had Bariatric Surgery outside of UCDMC requiring long term follow up care, please refer to the following recommendations.

Postoperative Follow-Up, ≤ 3 Months s/p Surgery

- Global postoperative period. Please refer back to the patient's Bariatric Surgeon.

6 Month Postoperative Follow Up: Medical Considerations

- Lab Evaluation: CMP, CBC, Iron, Ferritin, Transferrin, TIBC , Folate, Lipid Panel, Vitamin B1, Vitamin B6, Vitamin B12, Vitamin C, Vitamin D – 25 Hydroxy, HgbA1C, CRP, RBC Folate, Homocysteine, Zinc, Insulin
- Evaluation of GI symptoms
- Supplementation as outlined in Micronutrient Guidelines

12 Month & Annual Postoperative Follow Up: Medical Considerations

- Lab Evaluation: CMP, CBC, Iron, Ferritin, Transferrin, TIBC, Folate, Lipid Panel, Vitamin B1, Vitamin B6, Vitamin B12, Vitamin C, Vitamin D – 25 Hydroxy, HgbA1C, CRP, RBC Folate, Homocysteine, Zinc, Insulin
- Evaluation of GI symptoms
- Supplementation as outlined in Micronutrient Guidelines

Insurance Coverage Considerations (Subject to Change)

- Many insurance companies require 6 months of documentation of attempted weight loss by the PCP prior to granting Bariatric surgical coverage. This includes ***monthly*** visits documenting the patient's current weight, use of NO weight loss medications, and listing weight loss at the primary diagnosis each visit. Current insurance carries with this requirement include United Health Care, Aetna, Cigna, Tricare & UCD Blue Shield CalPers.
- If required, the patient may still be referred and evaluated during this time by the Bariatric team.

Nutrition Considerations & Supplementation Key Points

Choosing an appropriate multivitamin: Multivitamins must contain: 100% of DRI of Vitamin K, biotin, zinc, thiamin, folic acid, iron, and copper. ***Gummy vitamins will never meet this requirement.*** ***Multivitamins must contain at least 18 mg of iron per pill. To be taken ~2 hours apart from calcium supplements***

Determining patient's total daily dose of calcium:
- 1200 mg/day for men and premenopausal women
- 1500 mg/day for postmenopausal women
- Split doses about 4 hours apart, must contain Vitamin D

Vitamin D: Most patients need 2,000 – 4,000 IU of Vitamin D-3 daily to maintain Vitamin D, 25 hydroxy levels above 30 ng/mL. Titrate dose to achieve desired lab value.

Required Lifelong Postoperative Micronutrient Supplementation Regimen for Bariatric Surgery Patients:

Surgery: **Roux en-Y Gastric Bypass:**
- Multivitamins 1 TAB PO BID
- 1200-1500 mg calcium total daily, in 2-3 divided doses (do not take with multivitamin)
- Vitamin B-12 500 mcg SL/PO QD
- Vitamin D-3, 2,000 – 4,000 I.U. PO QD

Surgery: **Vertical Sleeve Gastrectomy:**
- Multivitamins 1 TAB PO BID (Decreased to 1 multivitamin PO QD at 6 months postoperatively if labs are appropriate).
- 1200-1500 mg calcium total daily, in 2-3 divided doses (do not take with multivitamin)
- Vitamin B-12 500 mcg SL/PO QD
- Vitamin D-3, 2,000 – 4,000 I.U. PO QD

Surgery: **Adjustable Gastric Band:**
- Multivitamins 1 TAB PO QD
- 1200-1500 mg calcium total daily, in 2-3 divided doses (do not take with multivitamin)

Nutritional Needs Postoperatively:

Protein: 1-1.5 gm/kg of IBW for a BMI of 24
Fluids: 30 ml/kg of IBW for a BMI of 24
Kcals: Please refer to RD for calorie levels for weight loss, weight maintenance or weight gain.

Treatment of Micronutrient Deficiencies

Vitamin B-1 (Thiamin): 100 mg/day X 2 weeks in those with active neurologic symptoms and/or hyperemesis followed by 10-50 mg/day oral doses until symptoms resolve. Severe deficiency: 500 mg/day IV thiamin followed by 250 mg/day for 3-5 days or until symptoms resolve. Persistent vomiting can cause deficiency

Vitamin B-12 deficiency <200 pg/mL, (suboptimal status <400 pg/mL): If less than 200 pg/mL, treat with IM injection 1000 mcg/mo, recheck in 1-2 months

Vitamin D, 25 Hydroxy <10 ng/mL: Treat with Vitamin D-2 50,000 IU weekly X 12 weeks, then Vitamin D-3 - 2,000 – 4,000 I.U. PO QD daily indefinitely.

Vitamin D, 25 Hydroxy <20 ng/mL: Treat with Vitamin D-2 50,000 IU weekly X 8 weeks, then Vitamin D-3, 2,000 – 4,000 I.U. PO QD indefinitely.

Folate: If low, take 1 mg folic acid daily X 2 weeks

Iron: Ferritin less than 30 ng/mL – be concerned. Ferritin less than 20 ng/mL and/or iron deficiency anemia: treat with 150-200 mg of elemental iron daily until normal levels are achieved. May consider Venofer infusions 200 mg (10 mL) IV weekly x 5 doses.

Vitamin K: 1 mg/day when INR > 1.4, 5-10 mg Vitamin K TID orally

Copper: Mild-moderate deficiency: 4-8 mg oral copper sulfate or gluconate per day until levels normalize and symptoms resolve. Severe deficiency: 2-4 mg IV copper daily X 6 days, then follow with 4-8 mg/day until levels normalize

Zinc: Treat with 50 mg elemental zinc X 1-2 weeks, long term supplemental can induce copper deficiency. 1 mg of copper for every 8-15 mg elemental zinc needed to prevent copper deficiency.