

## ALL ABOUT VITAMINS - HANDOUT

### Recommendations for Vitamin Supplementation

SUGGESTED POSTOPERATIVE VITAMIN SUPPLEMENTATION	BYPASS (RYGB) SLEEVE (SG) LAPBAND (LAGB)	BILOPANCREATIC DIVERSION / DUODENAL SWITCH (BPD-DS) or Modified DS with Single Anastomosis (SADI)	COMMENTS
<p><b>Multivitamin-Mineral Supplement</b></p> <ul style="list-style-type: none"> <li>• Avoid time-released supplements</li> <li>• Avoid enteric coating</li> <li>• Avoid children formulas that are incomplete</li> <li>• May improve gastrointestinal tolerance when taken close to food intake</li> <li>• May separate dosage</li> <li>• <u>Do not mix multivitamin containing iron with calcium supplement, take at least 2 hours apart</u></li> <li>• Individual brands should be reviewed for absorption rate and bioavailability</li> <li>• Specialized bariatric formulations are available</li> <li>• <u>Chewable formulas may be recommended initially.</u></li> <li>• B1 &gt;12mg daily – up to 50 mg</li> </ul>	<p><b>LAPBAND:</b> 1 ProCare Multivitamin Daily</p> <p><b>RYGB/SG:</b> 1 ProCare Multivitamin Daily</p> <p><b>Choose multivitamin that contains:</b> Folic Acid/L-Methylfolate Calcium 400-800 mcg oral 800-1000 mcg Female childbearing age</p> <p><b>Zinc</b> 8-11 mg/d – Sleeve/Band 8-22 mg/d - Bypass (ProCare = 16mg)</p> <p><b>Copper</b> 1 mg/d – Sleeve/Band 2 mg/d - Bypass</p> <p><b>Vitamin B1</b> &gt; 12 mg/d – 50mg (ProCare = 20mg)</p>	<p><b>BPD-DS</b> 1 ProCare SADI/DS Multivitamin Daily</p> <p><b>Choose multivitamin that contains:</b> Folic Acid/ L-Methylfolate Calcium 400-800 mcg oral 800-1000 mcg Female childbearing age</p> <p><b>Zinc</b> 16-22 mg/d (ProCare = 30mg)</p> <p><b>Copper</b> 2 mg/d (ProCare = 3mg)</p> <p><b>Vitamin B1</b> 12 mg/d – preferably 50 mg (ProCare = 25mg)</p>	<p>Begin on day 1 after hospital discharge (or start as soon as able to tolerate after surgery).</p> <p><i>*NOTE: Your own bariatric program may have specific recommendations on when to start.</i></p>
<p><b>Cobalamin (B12)</b></p> <p><b>Available forms of:</b> Sublingual tablets, liquid drops, mouth spray, nasal gel/spray, or intramuscular injection</p>	<p>1000 ug/month</p>	<p>1000 ug/month</p>	<p>Begin 0-3 months after surgery.</p>
<p><b>Available form of:</b> Oral tablet (crystalline form)</p> <ul style="list-style-type: none"> <li>• If determined to be adequately absorbed.</li> </ul>	<p>350-500 mcg/day (Included in ProCare Multivitamin = 1000 mcg)</p>	<p>350-500 mcg/day (Included in ProCare DS/SADI Multivitamin = 1000 mcg)</p>	<p><i>*NOTE: Your own bariatric program may have specific recommendations on type of supplementation and when to start. An individualized regimen may be recommended.</i></p>



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<p>• May be included in your oral tablet multivitamin.</p> <p><b>Additional Elemental Calcium with Vitamin D3</b></p> <ul style="list-style-type: none"> <li>• <u>Recommend a brand that is highly absorbed and contains vitamin D3</u></li> <li>• <u>Research shows Calcium Citrate and TruCal are well absorbed</u> (Both are less dependent on stomach acid for absorption.)</li> <li>• <u>Less absorbed form: Calcium Carbonate (taken w/meals)</u></li> <li>• <u>Split into 500-600 mg doses- be mindful of serving size on supplement label</u></li> <li>• <u>Space doses evenly throughout day</u></li> <li>• <u>Generally recommended not to combine calcium with iron containing supplements:</u> <ul style="list-style-type: none"> <li>- <u>To maximize absorption</u></li> <li>- <u>To minimize gastrointestinal intolerance</u></li> <li>- <u>Wait two hours after taking multivitamin or iron supplement</u></li> </ul> </li> <li>• <u>Promote intake of dairy beverages and/or foods that are significant sources of dietary calcium in addition to recommended supplements, up to three servings daily</u></li> <li>• <u>Combined dietary and supplemental calcium intake &gt;1700 mg/d may be required to prevent bone loss during rapid weight loss</u></li> <li>• <u>A formula with added Mg may be recommended for DS patients</u></li> </ul>	<p><b>1200-1500 mg/daily of Calcium</b></p> <p><b>3000 IU/daily of Vitamin D</b></p> <p><i>To calculate Vitamin D: 1000 IU of = 25 mg</i></p> <p><i>NOTE: 3 ProCare Calcium Chewables Daily (Divided doses) – with ProCare Multivitamin = 1500mg Calcium, 4500mg Vitamin D3</i></p>	<p><b>1800-2400 mg/daily Calcium</b></p> <p><b>3000 IU/daily of Vitamin D</b></p> <p><i>To calculate Vitamin D: 1000 IU of = 25 mg</i></p> <p><i>NOTE: 4 ProCare Calcium Chewables Daily (Divided doses) + ProCare Multivitamin = 2,000mg Calcium, 5000mg Vitamin D3</i></p>	<p><b>Begin on day 1 after hospital discharge (or start as soon as able to tolerate after surgery).</b></p> <p><i>*NOTE: Your own bariatric program may have specific recommendations on dosages and when to start.</i></p> <p><i>The ASMBS’s recent data indicates that UP to 100% of patients have a Vitamin D deficiency. Routine screening and additional supplementation are highly recommended.</i></p> <p><i>Recommended vitamin D3 dosing is 3000 IU daily until blood levels of 25 (OH) are greater than sufficient (30ng/mL)</i></p> <p><b><u>Procare Signature Product: TruCal Calcium with Vit D3</u></b></p> <p><i>*TruCal is derived from Milk, removing water, sugars (lactose), and fats leaving just the minerals.</i></p> <p><i>*TruCal contains a broad array of minerals for bone health such as <u>Calcium, phosphate, magnesium, zinc etc. calcium citrate only has calcium</u></i></p> <p><i>*Creamier texture without the aftertaste!</i></p>



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<p><b>Elemental Iron</b></p> <ul style="list-style-type: none"> <li>• May or may not be included in your multi-vitamin</li> <li>• Dosage may need to be adjusted based on biochemical markers</li> <li>• Take separately from calcium supplements, acid reducers, and foods high in phytate or polyphenols (examples: cloves, peppermint) to increase absorption of iron</li> <li>• Encourage foods rich in heme iron</li> <li>• Vitamin C may enhance absorption of nonheme iron sources</li> </ul>	<p><b>At least 18 mg/daily (may be in multivitamin)</b></p> <p><b>OR</b></p> <p><b>*45-60 mg/day for menstruating women and those at risk for anemia</b></p> <p><b>(Included in ProCare Multivitamin with Iron – 18mg or 45mg)</b></p>	<p><b>At least 18 mg/daily (may be in multivitamin)</b></p> <p><b>OR</b></p> <p><b>*45-60 mg/day for menstruating women and those at risk for anemia</b></p> <p><b>(Included in ProCare DS/SADI Multivitamin with 60mg iron)</b></p>	<p><b>Begin on day 1 after hospital discharge (or start as soon as able to tolerate after surgery).</b></p> <p><b>*NOTE: Your own bariatric program may have specific recommendations on dosages and when to start.</b></p>
<p><b>Fat-Soluble Vitamins</b></p> <ul style="list-style-type: none"> <li>• With all procedures, higher maintenance doses may be required for those with a history of deficiency</li> <li>• Special attention should be paid to pregnant women and Vitamin A</li> <li>• Vitamin K requirement varies with dietary sources and colonic production</li> <li>• Caution with vitamin K supplementation for patients receiving coagulation therapy</li> </ul>	<p><b>Regular bariatric multivitamin should include these:</b></p> <p><b>ProCare listed in blue</b></p> <p><b>Vitamin A</b> 5,000 IU/daily - LapBand 5,000-10,00 IU/d – Bypass and Sleeve</p> <p><b>Vitamin D</b> <b>3,000 IU/daily</b></p> <p><b>Vitamin K</b> 90-120 mg/daily</p> <p><b>Vitamin E</b> 15 mg/daily <b>(ProCare 60 IU/daily)</b></p>	<p><b>Specialty formulated bariatric multivitamin should include these:</b></p> <p><b>ProCare listed in blue</b></p> <p><b>Vitamin A</b> <b>10,000 IU/daily</b></p> <p><b>Vitamin D</b> 3,000 IU/daily <b>(ProCare: 4,000 IU/daily)</b></p> <p><b>Vitamin K</b> 300 mg/daily <b>(ProCare: 400mcg daily)</b></p> <p><b>Vitamin E</b> 15 mg/daily <b>(ProCare 67 mg/daily)</b></p>	<p><b>Begin on day 1 after hospital discharge (or start as soon as able to tolerate after surgery).</b></p> <p><b>*NOTE: Your own bariatric program may have specific recommendations on dosages and when to start.</b></p>
<p><b>Optional B complex</b> <b>(B-2, B-3, B-6, B-12, B-5-ProCare)</b></p>	<p><b>1 serving/d if not included in multivitamin</b></p>	<p><b>1 serving/d if not included in multivitamin</b></p>	<p><b>*NOTE: Check with your bariatric program</b></p>



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### Pre-surgery:

- Baseline labs prior to surgery are helpful as vitamin dosages may be adjusted accordingly for you individually.

### Post-surgery:

- Vitamins are recommended life long post bariatric surgery.
- Ongoing vitamin lab levels are recommended post-surgery during the first year and then annually. Your program can recommend frequency.
- Many multivitamins contain Biotin which is helpful for hair strengthen (decreasing risk of hair breakage/loss).
- Patients who become pregnant after bariatric procedure should have nutritional surveillance and laboratory screening for nutrient deficiencies every trimester, including iron, folate, vitamin B12, vitamin D, and calcium; and after a malabsorptive procedure, screening should also include screening of fat-soluble vitamins, zinc, and copper.

### References

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