R64. (2019*). Zinc supplementation should be included as part of a routine multivitamin-multimineral preparation with 8 to 22 mg/day to prevent a deficiency state; the amount indicated varies depending on the bariatric procedure performed, with greater amounts required for Roux-en-Y gastric bypass (RYGB) and biliopancreatic diversion without/with duodenal switch (BPD/DS) **(Grade C; BEL 3)**. Routine aggressive case finding for zinc deficiency utilizing serum and plasma zinc determinations should be performed after malabsorptive bariatric surgical procedures (RYGB and BPD/DS) **(Grade C; BEL 3)**, and zinc deficiency should also be considered in any patient after a bariatric procedure with chronic diarrhea, hair loss, pica, significant dysgeusia, or in male patients with unexplained hypogonadism or erectile dysfunction **(Grade D)**. Treatment of zinc deficiency should target normal biochemical levels with 1 mg/day copper also supplemented for every 8 to 15 mg/day elemental zinc provided **(Grade D)**.

R65. (2019*). Routine aggressive case finding for copper deficiency using serum copper and ceruloplasmin may be considered for all patients who have undergone Roux-en-Y gastric bypass (RYGB) or biliopancreatic diversion without/with duodenal switch (BPD/DS) at least annually, even in the absence of clinical signs or symptoms of deficiency **(Grade C, BEL 3)**, but especially in patients who are experiencing anemia, neutropenia, myeloneuropathy, or impaired wound healing **(Grade D)**. Copper supplementation (2 mg/day) should be included as part of a routine multivitamin-multimineral preparation; further supplementation varies depending on the surgical procedure performed, with greater amounts required for patients who have had RYGB or BPD/DS **(Grade D)**. In severe deficiency, treatment can be initiated with IV copper (3 to 4 mg/day) for 6 days **(Grade D)**. Subsequent treatment of severe deficiency, or treatment of mild-to-moderate deficiency, can usually be achieved with oral copper sulfate or gluconate 3 to 8 mg/day until levels normalize and symptoms resolve **(Grade D)**. Patients being treated for zinc deficiency or using supplemental zinc for hair loss should receive 1 mg of copper for each 8 to 15 mg of elemental zinc, since zinc replacement can cause copper deficiency **(Grade C; BEL 3)**. Copper gluconate or sulfate is the recommended source of copper for supplementation **(Grade C; BEL 3)**.

R66. (2019*). Thiamine (vitamin B1) supplementation above the recommended dietary allowance (RDA) is suggested to prevent thiamine deficiency **(Grade D)**. Routine thiamine screening may be considered following bariatric procedures **(Grade C; BEL 3)**. Aggressive case finding for thiamine deficiency and/or empiric thiamine supplementation is indicated for high-risk postprocedure patients, such as those with established preprocedure risk factors for thiamine deficiency, females, African Americans, patients not attending a nutritional clinic, patients with gastrointestinal symptoms, patients with heart failure, protracted vomiting, parenteral nutrition, excessive alcohol use, neuropathy or encephalopathy **(Grade C; BEL 3)**, or small intestinal bacterial overgrowth (SIBO) **(Grade C; BEL 3)**. All post-WLS patients should take at least 12 mg thiamine daily (**Grade C; BEL 3)**. A 50-100 mg daily dose of thiamine from a B-complex supplement or high-potency multivitamin may be needed to maintain sufficient blood levels of thiamine and prevent thiamine deficiency in some patients **(Grade D)**. Patients with severe thiamine deficiency (suspected or established) should be treated with intravenous (IV) (or intramuscular if IV access is not available) thiamine, 500 mg/day, for 3 to 5 days, followed by 250 mg/day for 3 to 5 days or until resolution of symptoms, and then to consider treatment with 100 mg/day, orally, usually indefinitely or until risk factors have resolved **(Grade C; BEL 3)**. Mild deficiency can be treated with IV thiamine, 100 mg/day, for 7 to 14 days **(Grade C; BEL 3)**. In patients with recalcitrant or recurrent thiamine deficiency with one of the above risks, the addition of antibiotics for SIBO should be considered **(Grade C; BEL 3)**.

R67. (NEW). Commercial products that are used for micronutrient supplementation need to be discussed with a health-care professional familiar with dietary supplements, since many products are adulterated and/or mislabeled **(Grade D)**.

R68. (2013*). Lipid levels and the need for lipid-lowering medications should be periodically evaluated **(Grade D)**. The effect of weight loss on dyslipidemia is variable and incomplete; therefore, lipid-lowering medications should not be stopped unless clearly indicated **(Grade C; BEL 3)**.

R69. (2019*). The need for antihypertensive medications should be evaluated repeatedly and frequently during the active phase of weight loss **(Grade D)**. Because the effect of weight loss on blood pressure is variable, incomplete, and at times transient, antihypertensive medications should not be stopped unless clearly indicated; however, dosages may need to be titrated downward as blood pressure improves **(Grade D)**.

R70. (NEW). Close attention to dosing of diabetes medication is recommended for those having had sleeve gastrectomy, Roux-en-Y gastric bypass, or biliopancreatic diversion without/with duodenal switch, since these patients generally have dosing reduced in the early postoperative period, whereas those having had laparoscopic adjustable gastric banding require significant weight loss before dosing must be reduced **(Grade B; BEL 2)**. Patients with type 2 diabetes who had their diabetes medication stopped after bariat-