

Background: BOMSS current guidelines on micronutrient replacement for patients who have undergone gastric bypass receive intramuscular (IM) injections of 1mg Vitamin B12 every three months. In contrast in the 2016 update the American Society for Metabolic and Bariatric Surgery Integrated Health Nutritional Guidelines recommend all post-WLS patients should take vitamin B12 supplementation with dose varying based on route of administration, with for example disintegrating, or sublingual tablets or liquid delivering 350–500 mcg daily. This submission explores the rationale that suggests oral supplementation might be also recommended in UK rather than IM both from an efficacy and cost saving basis.

Method: Studies published in peer-reviewed journals were considered for inclusion. The methods used and results obtained from the included papers were required to be well described with appropriate data collection and analysis performed. MEDLINE via Pubmed, Embase, Scopus, CINAHL databases were searched for the period 1978 to November 2019. The search was restricted to articles in the English language, studies performed on human subjects, but were not limited by study design. References found in these papers were assessed for relevant additional sources. The following literature search used the terms (including closely related words and synonyms): bariatric surgery combined with Vitamin, B₁₂.

Results: One double-blind, randomised, 12 month study was conducted comparing a standard multivitamin supplement containing 100% RDA for many vitamins and minerals including vitamin B12, with a multivitamin supplement specially designed for LRYGB patients containing 14000% RDA of vitamin B12. Compared to the standard product vitamin B12 levels increased significantly with no adverse events related to supplement usage. A prospective study of supplementation with 12mg thiamine, 350mcg vitamin B12 and 800mcg folic acid daily for 3 months immediately following either RYGB or sleeve gastrectomy, resulted in a 48% increase in serum vitamin B12, despite a 64% decrease in energy intake.

Conclusion: Evidence suggests high dose oral supplementation at 1000mcg is effective in maintaining the vitamin B12 levels of patients experiencing conditions in which their status compromised, similar to patients who have undergone Roux-en-Y bariatric surgery. A 2006 UK health economic study concluded switching patients with B12 deficiency from IM to high dose oral therapy and treating newly diagnosed with vitamin B12 deficiency with oral vitamin B12 from the outset could save resources in both the medium and long term. Savings were anticipated particularly in the form of nursing time. A later 2009 review reached similar conclusions. Two Canadian studies also concur.