

## BOMSS guidance on medications post-bariatric surgery for GPs

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### **Introduction**

This document briefly discusses medications, nutritional guidance including vitamin supplementation is detailed [elsewhere](#).

### **Prior to bariatric surgery**

Patients undergoing bariatric surgery may have a range of co-morbidities, and medications. Prior to surgery their bariatric team should consider whether any of these medications should be stopped or reduced whilst on the pre-surgery liver shrinkage diet. Bariatric teams should also consider whether absorption and efficacy of specific medications are likely to be affected by the surgery, or are contraindicated after bariatric surgery. If necessary specific advice should be sought from a pharmacist or a specialist medical team for a given co-morbidity (for example people living with epilepsy, HIV, or taking complex psychotropic medications). Further detailed advice should also be available from the bariatric unit surgeon, physician or pharmacist. More detailed perioperative advice is available [here](#).

### **First few months after surgery**

Whilst medications may be changed by the bariatric unit, GPs should be aware of the following:

- Check discharge summary for medications changes – these may vary according to the bariatric surgery procedure performed.
- In people with type 2 diabetes mellitus blood sugars may drop rapidly after bariatric surgery, and medications often need to be reduced or stopped, and monitoring of blood sugar increased (see [here](#) for further guidance) to reduce risk of hypoglycaemia.
- SGLT-2 inhibitors may be associated with a [small increase in risk of diabetic ketoacidosis in patients having bariatric surgery](#). They should usually be stopped 48 hours prior to surgery if on a pre-operative specialist diet, and for 48 hours after bariatric surgery. They are NOT usually required after bariatric surgery unless indicated for other conditions such as heart failure or chronic kidney disease. Patients who have had bariatric surgery should not be started on SGLT-2 inhibitors without detailed discussion and consideration of risks (including patients who do not have diabetes, but initiation is being considered for their cardio-renal benefits).
- Blood pressure also reduces with weight loss, and medication should be adjusted accordingly.
- Avoid drugs that irritate the gastric mucosa such as non-steroidal anti-inflammatory drugs (NSAIDs).
- Most patients will be discharged on an orodispersible proton pump inhibitor (PPI) for at least 6 months.
- In the first few weeks after surgery liquid or crushed preparations may be required. In some cases this is not possible and tablets may need to be taken in the usual form (get pharmacist

advice). If liquid preparations are used they should be low sugar to reduce the risk of dumping syndrome.

- After 6-8 weeks, once back on a normal diet return to tablets but consider staggering doses, due to the reduced capacity of the stomach.
- Slow-release and enteric coated medications may not be fully absorbed after bariatric surgery (note: this is not an issue for gastric bands or balloons).
- Avoid effervescent formulations as excess gas in pouch can be uncomfortable and trigger belching or vomiting. They are also high in salt which may be inappropriate for people with cardiovascular problems.

### ***After final discharge from bariatric surgery unit (2 years post-surgery)***

[NICE guidance CG189](#) recommends that bariatric surgery patients are followed up by the surgical unit for the first 2 years after surgery. They should then be discharged if stable to a [shared care agreement with primary care](#).

The following should be reviewed at patient's annual review appointment, or sooner as appropriate:

- Review medications for chronic conditions such as hypothyroidism, diabetes and hypertension as blood pressure and blood glucose as requirements may reduce after bariatric surgery.
- Avoid drugs that potentially damage gut mucosa, e.g. non-steroidal anti-inflammatory drugs (NSAIDs), bisphosphonates, and enteric coated or delayed release preparations. Bisphosphonates may be given by infusion if clinically appropriate.
- Monitor drugs with narrow therapeutic index for side effects or signs of toxicity e.g. Lithium and psychotropic medication
- Be aware of reduced absorption which may affect efficacy of some medications - dose or formulation changes may be required. Drugs from several different pharmacological classes may be influenced by bariatric procedures, including antiepileptic agents, immunosuppressants, tyrosine kinase inhibitors, antiretroviral therapy, psychiatric medications, hormone replacement therapy, oral contraceptive medications, pain medications, as well as others (see Table 1).
- Be aware of changes in liver first pass metabolism, gut microbiota and fat distribution, which may affect drug absorption and efficacy (see Table 1)
- Avoid delayed release medications which may not be absorbed after surgery. For example prescribing Epilim chrono or Tegretol MR for epilepsy there could be a high risk of poor absorption resulting in a seizure. On the other hand, MR Zomorph might be satisfactory if the patient remains pain free.
- Avoid medications with large amount of sugar, including over the counter preparations as they might exacerbate dumping syndrome especially in patients who have had a gastric bypass patients (note: dumping syndrome can also occur in patients who have had other bariatric surgery procedures).
- Avoid prescribing drugs that might increase appetite or cause weight gain, if possible.
- Discuss and document any medication changes with the patient, including liaising with any relevant specialist teams when necessary (for example psychiatry if on psychotropic medication), and then review appropriately.

Also see Table 1 for examples of how bariatric surgery may affect medications.

**Table 1- Examples of medications that may be affected by bariatric surgery (see [Porat et al.](#) )**

This table is not an exhaustive list of all relevant medications, and specific drug information should be checked in the BNF or with a pharmacist.

Further information on the recommended monitoring and supplementation of vitamins and micronutrients post-bariatric surgery can be found [here](#).

| Site of effect                 | Gastric bypass  | Sleeve gastrectomy   | Band  |
|--------------------------------|---|--|---|
| Stomach                        | Small gastric pouch connected to ileum bypassing some small bowel   | Reduced size of stomach  | Small gastric pouch<br>Variable stoma depending on filling of band-delayed gastric emptying |
| Stomach                        | Large tablets >10mm can get stuck in pouch, check with pharmacist, can medication be crushed or is liquid form required?  |  |   |
| Stomach                        | Avoid high volumes of liquid medicines - split dose or use more concentrated formula. Concentrated preparations should be sugar free to reduce risk of dumping.                                     |  | Avoid high volumes of liquid medicines - split dose or use more concentrated formula.       |
| Stomach                        | Reduced gastric acid production pH may affect absorption e.g. iron. Slow release (SR) or enteric coated (EC) pills may not be fully absorbed.   |  | N/A   |
| Stomach                        | Avoid drugs that irritate gastric mucosa, e.g. NSAIDs. Risk of GI bleeds, ulcers or perforations is increased.  |  |   |
| Stomach                        | Parietal cells reduced, less intrinsic factor secreted & absorption of vitamin B12 is reduced.  |  | N/A   |
| Small bowel                    | Drugs mainly absorbed in the upper intestine will have reduced bioavailability e.g. calcium (absorbed in the duodenum).   | Some effect on absorption of medications but less than for bypass. | N/A   |
| Small bowel/Liver/Gall bladder | Reduction in mixing with bile salts affects the volume of distribution of lipid-soluble drugs. Lipophilic drugs e.g. ciclosporin, phenytoin, rifampicin, & levothyroxine may need closer monitoring | N/A  | N/A   |