BOMSS overview of GP management of patients post-bariatric surgery

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Bariatric surgery is a safe and effective treatment for obesity, and many of its related comorbidities. It works by influencing complex biological processes including influencing the gut hormones that control appetite and satiety, reducing the absorption of nutrients, and mechanical effects. A fuller description of the types of surgery with illustrations is available on the BOMSS website.

Bariatric surgery impacts nutritional intake and after surgery specific dietary changes are recommended, including - small portions, more frequent meals, adequate protein intake, and the addition of daily multivitamin and mineral supplements (O'Kane, Bettini, Busetto).

There is a potentially serious risk of malnutrition if the patient receives inadequate follow up or is unable to adhere to the nutritional guidelines. Patients may be at risk of protein malnutrition, which can be caused by vomiting from an overtight gastric band, anastomotic stricture, chronic diarrhoea/malabsorption or insufficient dietary protein or nonadherence with dietary advice. The incidence of iron deficiency anaemia, vitamin D deficiency, B vitamins especially thiamine and B12 deficiency is increased following gastric bypass, sleeve gastrectomy and duodenal switch. Patients who undergo more malabsorptive operations such as a duodenal switch, single anastomosis duodenal ilieal bypass (SADI), or long limb gastric bypass are at additional risk of developing deficiencies in fat soluble vitamins and require long term specialist care. Most GPs are unable to request blood tests for fat soluble vitamins A, E and K or prescribe the appropriate supplements.

NICE CG189 guidance on obesity emphasised the importance of regular post-operative follow-up with a minimum of two years in the bariatric surgical service. Following discharge from the bariatric surgical service, "there should be at least annual monitoring of nutritional status and appropriate supplementation according to need following bariatric surgery, as part of a shared care model of chronic disease management". Some examples of possible shared care models can be found here.

This document gives an overview of GP management of patients who have had bariatric surgery. Additional resources and documents to support GPs are available on the BOMSS webpages, in particular:

- BOMSS GP consultation guide for post-bariatric surgery annual reviews
- BOMSS pre-consultation questionnaire for patients
- BOMSS post-bariatric surgery nutritional guidance for GPs
- BOMSS guidance on medications post-bariatric surgery for GPs

Organisational requirements for post-bariatric surgery annual reviews

- Keep a coded register of all patients who have had a bariatric surgery procedure, using a major active problem code.
- Ensure there is a final discharge letter with detailed follow up recommendations available from the bariatric surgical unit, and if not contact the unit to obtain one.

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- Add a one year recall on your computer system, at point of discharge from bariatric unit.
- Send annual recall letter to patients advising them to book an appointment for the recommended annual post-bariatric surgery blood tests, which should then be followed by a GP review appointment once the blood results are available – see BOMSS post-bariatric surgery nutritional guidance for GPs for more information on the recommended tests.
- Consider sending the patient the BOMSS pre-consultation questionnaire for patients prior to their review appointment to identify potential problems. If using this questionnaire ask the patient to bring the completed form with them to the appointment.
- Consider using a post-bariatric surgery computer template to record information at annual review appointments.

If a patient does not attend for a GP annual review appointment then the GP should contact the patient to invite them to attend emphasising the importance of continued follow-up (three attempts to contact should be made over 12 months and if no response this should be repeated annually).

Summary of review appointments

Be careful to avoid stigmatising language or blaming the patient for weight regain. Some weight regain is expected due to powerful biological drivers even with good adherence to dietary advice.

The appointment should focus on the whole person and their experience, not just their weight. Consider an opening question such as "how do you feel in general after your bariatric surgery?"

Consider using the BOMSS GP consultation guide for post-bariatric annual reviews. Key aspects of the consultation are described in detail in the consultation guide and more detailed guidance on nutritional issues are given in the BOMSS post-bariatric surgery nutritional guidance for GPs, but include:

- Confirm date and type of procedure, pre-surgical weight, lowest post-surgery weight, and current weight
- Identify possible biological complications of surgery (abdominal pain, vomiting, dumping, reactive hypoglycaemia (see below), excess skin)
- Review blood results and action appropriately.
- Brief nutritional review pre-consultation questionnaire including alcohol intake
- Review chronic obesity related comorbidities (such as Type 2 diabetes, hyperlipidaemia, hypothyroidism, OSA and blood pressure) if not done recently.
- Patients with a pre-surgery diagnosis of type 2 diabetes mellitus should remain on the retinopathy screening register long term even if their blood sugar is normal, and their diabetes is in remission. They still require diabetes annual reviews and HbA1c blood tests as hyperglycaemia may recur long term.
- Review medications as appropriate. The pharmacodynamics and absorption of some medications may be affected by bariatric surgery, especially gastric bypass. Avoid NSAIDS or drugs that are gastric irritants. Oral contraceptives may not be fully absorbed so advise on contraception if appropriate. Further information is available in the BOMSS guidance on medications post-bariatric surgery for GPs.

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- Check patient is having the recommended nutritional supplements (see full BOMSS nutritional guidance and BOMSS post-bariatric surgery nutritional guidance for GPs).
- Consider psychological as well as physical problems (body dysmorphia, depression, anxiety, emotional eating, new addictive behaviour). If surgery specific problems are identified refer to a psychologist or mental health practitioner experienced in helping people who have had bariatric surgery.
- Consider whether the individual has enough social support as this is a key indicator for psychological wellbeing and subsequent health behaviours. Recommend bariatric surgery specific or other forums and avenues for support if needed.
- Discuss preconceptual planning if appropriate. 5mg of folic acid is usually recommended. If the patient intends to become pregnant or informs the GP that they are pregnant they will need review of multivitamins to avoid those with vitamin A in the retinol form. Forceval is usually a safe recommendation if pregnant. Follow current recommendations on managing women with BMI >30 kg/m^2 if appropriate.
- GP should make an urgent referral to consultant-led care if the patient becomes pregnant.

Red flag symptoms that may require re-referral to bariatric unit

Useful guidance on primary care management of complications post-bariatric surgery for primary care is available here.

- Infection at gastric band access port - referral required unless it directly follows the surgery or a band fill injection and responds rapidly to antibiotics.
- Sweating, dizziness, or fainting after eating or drinking - this may be from post-prandial reactive hypoglycaemia especially if provoked by high-glycaemic index foods or drinks. The symptoms may include flushing, weakness and loss of consciousness and can be severe, and may impair driving, and have implications for the DVLA. Specialist referral to an endocrinologist is recommended for confirmation of the diagnosis, which can be complex as symptoms may overlap with dumping syndrome, and a dietetic referral in the interim can be helpful if there is likely to be a long wait.
- Difficulty swallowing and/or vomiting - this may be due to stomach pouch or oesophageal dilation, gastric band problems, scarring or ulcers and needs prompt investigation. People are at risk of developing thiamine deficiency if they experience prolonged vomiting, rapid weight loss, poor dietary intake, alcohol abuse, oedema or symptoms of neuropathy. Symptoms of thiamine deficiency include ataxia, confusion, neuropathy, or cardiac insufficiency. If thiamine deficiency is suspected, either because of risk factors or clinical symptoms, oral or intravenous treatment should be initiated immediately and not delayed pending tests results and the patient should be urgently referred for medical assessment.
- Abdominal pain - this may be related to internal hernias, adhesions, gallstones or unrelated to bariatric surgery, and needs assessing. Mechanical problems can develop several years after the primary surgery.
- Heartburn/reflux/coughing at night - this may respond to simple PPI medication but should be investigated if persists.
- Minimal weight loss after bariatric surgery, or very rapid weight gain might raise the suspicion of unusual or genetic causes of obesity requiring referral for investigation.

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- Diarrhoea, or abdominal pain after eating or drinking. This may indicate dumping syndrome which is caused by the release of gut hormones and the rapid entry of water into the gut. It is classified as early or late dumping. Early dumping is most common type (40% after RYGB and SG), late dumping is experienced by around 25% of patients (Bettini et al). Early symptoms are predominantly vasomotor (palpitation, flushing, faintness) and gastrointestinal (abdominal pain, diarrhoea, bloating and nausea) and occur within 15 min after meal. Late symptoms (tremor, perspiration, aggression, fatigue, weakness, confusion, hunger and syncope) occur in 1–3 hr after eating when the blood sugar drops to lower level. These patients should be referred to a bariatric dietitian.
- Confusion, eye problems, hair loss, pins and needles and a wide variety of other neurological disturbances. These can occur with vitamin and mineral deficiencies. This should be investigated and referral made if concerned. Serious neurological problems are associated with thiamine (B vitamin) deficiency and require urgent treatment (as per BNF) and referral.
- Excess skin - physical or psychological problems related to excess skin are common, including repeated infections and ulceration. Serious physical problems should prompt consideration of referral to plastic surgery service for assessment. However, apronectomy is not funded in many areas, and local BMI criteria may apply.
- Psychological distress - whilst bariatric surgery may often improve mood, it can also be associated with mood changes, body dysmorphia, the development of new addictions (alcohol, shopping, gambling), eating disorders, and relationship problems. Consider referral to a mental health practitioner or psychologist as appropriate. Dr Denise Ratcliffe has written a very helpful book which you could recommend - Living with Bariatric Surgery Managing your mind and your weight.
- Weight regain - this should be managed by appropriate dietary advice or support to develop healthy eating behaviours in the first instance. Re-referral or discussion with a specialist weight management (Tier 3 or 4) service should be considered if further surgery or pharmacotherapy is an option. Additional tips for weight loss maintenance are available from the European Association for the Study of Obesity website: https://easo.org/practical-tips-for-patients-after-bariatric-surgery/
- It may be helpful to signpost organisations that help support people living with obesity
    - European Association for the Study of Obesity (EASO) Tips for weight loss maintenance after bariatric surgery European Association for the Study of Obesity website.
    - Obesity UK - a charity that supports people living with obesity including online support groups.
    - Obesity Empowerment Network (OEN) - an advocacy organisation to give people affected by obesity a public voice.
    - European Coalition of People living with Obesity (ECPO) - works collaboratively across Europe to improve the lives of people who are living with obesity through advocacy, policy and education.
    - Irish Coalition of People living with Obesity (ICPO).

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