Bariatric surgery – pregnancy management

Target audience	Maternity
Patient group	Pregnant women

Summary

The purpose of this guideline is to provide evidence-based recommendations for the care and management of pregnancy following bariatric surgery.

Obesity is becoming increasingly prevalent in the UK population and is one of the commonest-occurring risk factors in obstetric medicine. In Lanarkshire, 31.1% of pregnant women have a BMI of 30 and above (1).

Approximately 80% of patients undergoing bariatric surgery are women, many of whom are of child-bearing age (2). As bariatric surgery has been shown to improve fertility, pregnancies following bariatric surgery are becoming increasingly common (3). The most common procedure is a gastric sleeve. See appendix 1 for further information on types of bariatric surgery.

GLP-1 medications for weight loss should not be taken in pregnancy or just before trying to get pregnant as there is not enough safety data to clarify whether there may be harmful fetal effects. As this guideline specifically covers bariatric surgery and pregnancy, further detail is not included here, however UK government advice released in 2025 is available (4).

A review of current evidence concluded that there are better overall obstetric outcomes after bariatric surgery, compared with women with a BMI >40 kg/m^2 who are managed conservatively (5). This includes a reduction in the prevalence of gestational diabetes, hypertensive disorders and macrosomia (6). A minimum waiting period of 12-18 months after bariatric surgery is recommended before conception (5).

However, it has been recognised that changes in gut anatomy and physiology with the potential for malnutrition incur increased potential for adverse perinatal outcome (2). Adverse outcomes include small for gestational age (SGA) babies and fetal growth restriction (FGR), preterm birth, congenital abnormalities, admission for neonatal intensive care and perinatal mortality (7).

Although rare, maternal bariatric post-operative complications can occur during pregnancy and include:

- Malabsorption syndromes such as anaemia

- Gastric dumping
- Bowel obstruction due to internal herniation/stenosis
- Anastomotic ulceration and breakdown
- Gastric band complications including slippage, migration and leakage (7)

In the MBRRACE-UK- Saving lives, Improving Mothers Care (2020) report, two maternal deaths were highlighted with bowel perforation at the site of the anastomosis from a gastric bypass (8). Correct diagnosis can be challenging as many women often experience epigastric pain and vomiting in pregnancy, highlighting the importance of a careful history and examination for any woman presenting to maternity services with epigastric pain and a history of bariatric surgery.

Pre-pregnancy

A minimum period of 12-18 months after bariatric surgery is recommended before attempting a pregnancy as this is the period during which rapid weight loss occurs and nutritional deficiencies can be treated (5).

The National Institure for Clinical Excellence (NICE) recommends follow-up for 2 years within the bariatric service, which should include dietary and nutritional assessment and monitoring. They also suggest annual monitoring of nutritional status and appropriate supplementation following bariatric surgery (9).

Women who are planning to conceive should be advised to take Forceval capsules (**not the soluble tablets**) 1 tablet daily, which can be prescribed by GP's in Lanarkshire. An alternate is 1 tablet daily of an over-the-counter pregnancy vitamin and mineral supplement (e.g. Pregnacare, Boots Bump and Beyond Pregnancy Multivitamin or Tesco Health Pregnancy Support Multivitamins and Minerals) for three months prior to conception and throughout pregnancy. For women with a BMI < 30, this contains sufficient folic acid.

Folic acid 5mg dialy should be taken by all women planning a pregnancy and during the first trimester after bariatric surgery who have a BMI of 30 or above.

Vitamin B12 supplementation should continue in the same regime as for all patients after bariatric surgery (1mg hydroxocobalamin intramuscularly every 3 months).

Adcal D3 two tablets daily should be offered to meet calcium and vitamin D requirements.

Iron supplementation of 45-60mg daily is recommended, either with over-the-counter preparations or with ferrous fumarate once daily.

Antenatal care

Women with previous bariatric surgery have high-risk pregnancies and should have consultant-led antenatal care (5).

The type of bariatric surgery should be clearly documented on BadgerNet. (See Appendix 1)

Booking bloods should be performed at first contact with patient to establish baseline nutritional status and monitor adherence to nutritional supplementation.

Baseline/booking blood tests (2):

- FBC
- U&E's
- LFT's
- Serum folate/B12

- Ferritin
- Serum vitamins A, D, E, K
- Calcium/phosphate
- Magnesium
- Selenium/zinc/copper
- Parathyroid hormone
- HbA1c (may be repeated during pregnancy depending on individual risk factors)

Check coagulation profile, U&'E, magnesium, phosphate calcium, vitamins A/D/E/K, parathyroid hormone and LFT's again in the third trimester and 6 months after booking bloods are performed.

The blood collection tubes for these samples will be indicated on the sample labels after making the request on TrakCare.

Samples for selenium, zinc and copper should be taken in a dark green tube. Samples for serum vitamin A, D, E, K should be taken in an EDTA (purple top) tube with the women in a fasting state and exposure of the blood tubes to light should be minimised (e.g. place sample bag brown envelope). Parathyroid hormone should also be tested in a fasting state and requires a separate EDTA (purple top) tube.

FBC, ferritin/folate/B12/vitamin A should be checked every trimester and does not require a fasting sample.

If specific deficiencies are noted or there are risk factors for nutritional deficiencies (e.g. hyperemesis), then the above recommendations for monitoring may need to be individually adjusted and appropriate supplementation provided. Those who have had a gastric bypass procedure are at higher risk of nutritional deficiencies compared to those who have had restrictive procedures such as a gastric band or gastric sleeve procedure.

If a woman develops hyperemesis, offer thiamine and vitamin B supplementation at standard doses for patients who have not had bariatric surgery.

Check the woman's weight at every appointment to monitor gestational weight gain (see appendix 2) (10).

Women with a BMI of 30 and above can be offered referral to the Healthy Lifestyle In Pregnancy service. Referral can be made via BadgerNet and information on the service with a link to the website is within the BadgerNet reading library. Previous bariatric surgery should be noted in the free text box of the referral form.

If patient is currently under the care of the bariatric service, then advise women to contact the service to inform them of pregnancy. If woman is having nutritional complications during

pregnancy and the woman does not already have a bariatric dietitian (e.g. surgery performed abroad) please refer to the dietitian via the Trakcare workbench.

Patients with a gastric band will need to contact their surgical team to discuss any band adjustments that need to be made during the pregnancy. If the woman does not have a lead consultant surgeon locally and advice is required as to whether a gastric band needs adjusted, the band fill nurse can be contacted on DECT 6251 for advice in the first instance.

Women with risk factors from gestational diabetes (as per local guidance), should have screening for gestational diabetes. For those who have had a gastric sleeve or bypass, home capillary blood glucose (CBG) monitoring for two weeks can be offered between 24-26 weeks gestation. Women should be offered a referral to the diabetes team for provision of a CBG monitor. Women with a gastric band are at a lower risk of dumping syndrome and can be offered an OGTT.

Offer 4-weekly serial growth scans from 28 weeks of gestation due to the increased risk of SGA babies following bariatric surgery, irrespective of current BMI.

Women who have had bariatric surgery require standard assessment for thromboprophylaxis.

If constipation is troublesome, it is recommended to avoid bulking agents such as fybogel and high sugar-containing products such as lactulose.

Acute presentations in pregnancy

If a patient presents with epigastric pain in pregnancy and a history of bariatric surgery they should be reviewed by a registrar (ST2 or above) and have a low threshold for imaging/discussion with senior obstetricians/surgical colleagues.

Post natal

Gastric bypass surgery is regarded as a contraindication to NSAID's use in the post-natal period (8).

Follow-up should be arranged by the woman with their own bariatric service and GP to resume standard care.

The WHO recommend breastfeeding exclusively until 6 months of age. Once breastfeeding is established it uses approximately 500 calories per day but it is not recommended to increase dietary intake unless the woman is underweight or losing weight. If choosing to breastfeed, forceval once daily can be continued on prescription by a woman's GP.

Postnatal contraception

- **Best options:** Long-acting methods (implant, IUS, IUD) and injectable contraceptives are preferred due to their high effectiveness and lack of reliance on absorption.
- **Avoid:** oral contraceptive pills (especially combined ones) as they are generally less effective post-bariatric surgery due to absorption issues (11).

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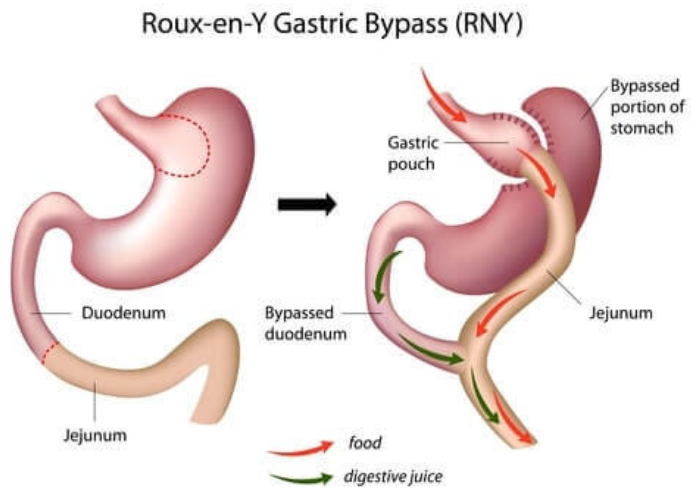
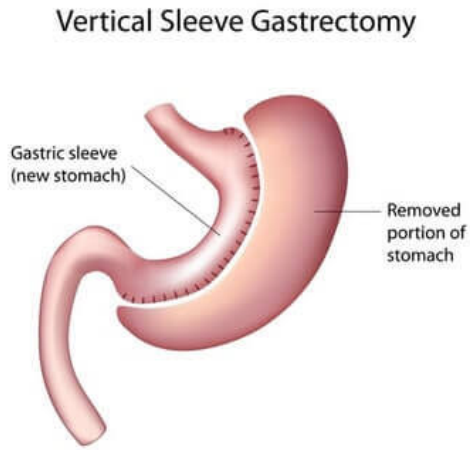
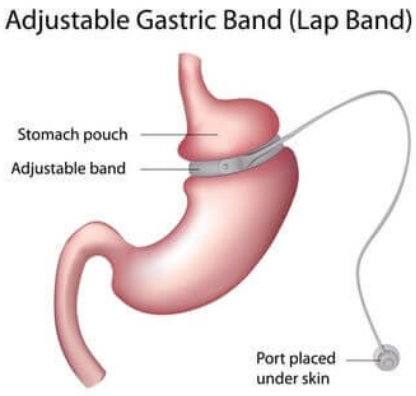
Appendix 1

	A gastric pouch is created by stapling off a small portion of the stomach. This is then attached to the jejunum, resulting in the food bolus bypassing the majority of the stomach, duodenum, and the first segment of jejunum. Nutrients will only be absorbed distal to these bypassed segments.
	The greater curvature of the stomach is excised, reducing the stomach volume by about 75% and therefore reducing appetite.
	Minimally-invasive and reversible. Involves placing a silicone band around the top of the stomach in order to reduce the size of stomach and therefore appetite. It can be adjusted via the port placed under the skin on the abdomen in order to change the size of the pouch.
(Diagrams reproduced from online resource www.bariatric-surgery-source.com, accessed on 23/07/2024).	

Appendix 2

Pregnancy weight category	Body mass index (kg/m2)	Recommended range of total weight gain (kg)
Underweight	Less than 18.5	12.5 – 18
Healthy weight	18.5 – 24.9	11.5 – 16
Overweight	25.0 – 39.9	7 – 11.5
Obese	30 or over	5 - 9

Table from: Weight gain during pregnancy. Committee Opinion No. 548. American College of Obstetricians and Gynecologists. Obstet Gynecol 2013;121:210–2.

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