Preparing for and Managing Pregnancy after Bariatric Surgery

Introduction

For most women, pregnancy after weight loss surgery can be much safer and easier than before; there are some special considerations to bear in mind.
This leaflet provides information about planning pregnancy, during pregnancy and after pregnancy. For individual advice please contact the bariatric surgery team.

Summary of recommendations

We recommend:

- You review which contraception method is best for you, taking into consideration the effects of your bariatric surgery
- Your pregnancy planning should happen at least 18 months after bariatric surgery, when your weight has stabilised
- You inform the bariatric surgery team that you are planning a pregnancy or, if unplanned, as soon as you are aware of the pregnancy
- You follow the guidance of vitamin and mineral supplementation and monitoring for all stages of pregnancy
- You follow the dietary advice to benefit both you and your baby
- You inform your Midwife and Obstetric Consultant about your bariatric surgery, you would be classed as a high risk pregnancy if you become pregnant within the first 2 years of your bariatric surgery

Pregnancy after bariatric surgery

Pregnancy should not be planned until your weight is stable; this is usually after the first 12-18 months from your surgery.

There is a risk of nutritional related problems for both baby and you and this time will also allow you to focus on and adapt to life after bariatric surgery. It will give you time to reintroduce a varied, well balance diet to support you and your growing baby. Studies show that pregnancy before this time, when weight loss is rapid there is a higher rate of:

- **Nutritional deficiencies** such as low folic acid which can cause neural tube defects (problems with development of baby's brain, spine or spinal cord)
- **Pregnancy related complications:** increased risk of preterm delivery, having a smaller baby resulting in higher rate of admission to neonatal intensive care

We advise all women who are planning pregnancy or who are pregnant to contact their GP or bariatric surgery team.

For pregnancy it is important that your nutritional health is as good as it can possibly be to provide the best environment for your baby to grow and develop; and for your own health and wellbeing towards motherhood.

After bariatric surgery, the portion sizes of food you can eat are reduced in size and with some procedures there is a risk of malabsorption. These factors increase your risk of developing vitamin and mineral deficiencies. You can help to achieve good nutritional health by choosing healthy, nutritious foods and drinks and taking the recommended vitamin and mineral supplements. This will also help you to manage your weight throughout the pregnancy.

compassionate care

Healthy eating

Healthy eating guidelines when planning and during a pregnancy:

It is important to eat a good variety of foods from the following food groups:

- Beans, pulses, fish, eggs, meat and other vegetarian sources of protein eg tofu, Quorn, TVP
- Dairy and dairy alternatives (such as soya products)
- Fruits and vegetables (this includes fresh, frozen, canned, dried or juiced) aim for 5 a day
- Potatoes, bread, rice, pasta and other starchy carbohydrates, if you have room for these at mealtimes
- Continue to prioritise protein containing foods at your mealtimes (including dairy and dairy alternatives)

Healthy Start is a government scheme that offers food vouchers to eligible pregnant women and families with a child under four years old. You can purchase milk, fresh or frozen fruit and vegetables with the vouchers as well as Healthy Start vitamins for your baby. Talk to your midwife, GP or health visitor if you think you may qualify for this.

Top tips for healthy eating

1. **Follow the "20-20-20 " rule.** Your mouthful of food should be the size of a 20 pence coin. Chew each mouthful 20 times and wait a minute in between swallows. A main meal should take between 20-30 minutes to eat.

2. **Have three regular healthy meals a day, four to five hours apart.** Healthy snacks can be included if needed. Eating regularly gives you more control over your eating by helping you:
   - Feel less hungry and so reduces the likelihood of overeating
   - Can reduce the frequency of morning sickness/pregnancy related nausea
   - Regulate how your body burns calories
   - Keep your blood insulin and sugar levels stable
   - Think less about food between meals
   - Let your body learn when it's time for your next meal
   - Find it easier to recognise when you have had enough to eat at a meal, and stop eating

3. **Have breakfast.** Breakfast kick-starts your metabolism and helps keep your blood sugar levels stable to reduce cravings and overeating.
   Try to eat breakfast within one hour of getting up to get the best effects. If that is not possible, eat something as soon as you can and aim to eat a little earlier each day. Good choices are foods which are:
   - High in fibre (Weetabix/supermarkets own brand, porridge or granary toast)
   - High in protein (skimmed/semi-skimmed milk, boiled/poached/scrambled egg or yoghurt) see 'special dietary considerations' section for advice about eating eggs

4. **Mindful snacking.** Snack requirements after bariatric surgery are individual and depend on factors including overall nutritional intake, activity levels, portion sizes and weight.

   ### Healthier snacks

   - Low fat rice pudding
   - Peanut butter/low fat soft cheese/a slice of lean meat on oatcakes/wholegrain crackers/rice cakes
   - Fruit (banana, apple, orange, melon, berries etc.)
   - Diet yoghurt
   - Unsalted nuts/seeds
   - Vegetable sticks with hummus
   - Plain popcorn
   - Hard-boiled egg

5. **Read food labels.** This can help you to make healthier choices. For information about reading and interpreting food labels, please see the NHS website or ask your dietitian for further information.

6. **Understand your eating behaviours.** Sometimes people eat in response to how they feel: this could be a positive or negative emotion. A common example is eating due to boredom. This can lead to difficulties managing weight and nutrition. It can be useful to use distraction (telephone a friend, do a puzzle or read). It is important to prioritise time for yourself, spend time with loved ones and do things you enjoy.

If you are struggling with your mood please discuss this further with your antenatal team or your GP. Alternatively, you can self-refer for support from Talking Therapies (details at the end of the booklet).

Special dietary considerations

There are certain foods which are best avoided when planning or during pregnancy as they may make you unwell or harm your baby. For further detailed information please refer to the NHS website.

Foods to avoid:

- Pate, all types, including vegetable pate
- Raw or undercooked eggs (ensure white and yolk are solid unless chicken eggshell is stamped and meets British Lion Code of Practice)
- Raw or undercooked meat, including meat cooked rare
- Cured, cold meat that has not been cooked
- Game shot with lead pellets
- Unpasteurised dairy products including milk, yoghurts and soft cheeses
- Uncooked, mould ripened and blue-veined soft cheese
- Liver or liver products, including fish liver oil supplements (due to high amounts of vitamin A)
- Alcohol – experts are still unsure exactly how much, if any, is completely safe for you to have while you are pregnant, so the safest approach is not to drink any alcohol during pregnancy

Fish to avoid or limit:

Aim for at least two portions a week, including one portion of oily fish. Fish types below are to be avoided or limited:

- Avoid raw fish and shellfish (due to risk of food poisoning)
- Avoid shark, swordfish or marlin (due to high levels of mercury)
- Limit tuna to no more than two fresh steaks (1 steak = 140g cooked/170g raw) or four cans of tinned tuna (1 can = 14g when drained) per week (due to high levels of mercury)
- Limit oily fish (such as salmon, mackerel, sardines, trout, herrings, pilchards and fresh tuna) to no more than two portions per week (due to pollutants). A portion is 140g
- **Sushi** - all fish used in sushi must have been frozen first. This is because wild fish can contain tiny parasites. If you cannot be sure of whether the fish has been frozen first it is best to avoid sushi containing raw /uncooked fish. Safer alternatives include cooked sushi (chicken / tuna) or vegetarian alternatives.

Food related illness in pregnancy:

Toxoplasmosis is a parasite that is found in the faeces of infected cats and in infected meat. This can cause miscarriage or stillbirth and serious complications to your baby.
Listeriosis (food poisoning) is caused by a bacteria called listeria and can be harmful to your baby.

You can reduce your risk of these by:

- Washing hands before preparing food
- Washing utensils and other kitchen items and worktops thoroughly after using them to prepare raw foods
- Avoiding the foods listed under Food to Avoid
- Washing fruit and vegetables thoroughly before eating
- Storing raw foods away from ready to eat foods and at the correct temperature
- Ensuring pre-prepared meals are steaming hot all the way through
- Do not reheat takeaways, especially rice
- Avoiding direct contact with cat faeces or soil, change cat litter trays daily (get someone else to do this or wear disposable rubber gloves and wash hands thoroughly afterwards)
- Keeping pet bowls separate and wash away from food preparation areas
- Wash dishcloths and tea towels at a high temperature

Dairy alternatives

If you prefer dairy alternatives, such as soya milk and yoghurts, choose unsweetened, calcium-fortified versions. Be aware that many other alternatives contain far less protein than dairy, such as oat milk, coconut milk and nut-derived milks.

Caffeine and herbal tea

Too much caffeine can result in poor growth of your baby or miscarriage. New-born babies can also suffer caffeine withdrawal symptoms and be irritable and hard to settle. You should have no more than 200mg caffeine per day.

- 1 mug instant coffee = 100mg
- 1 mug filter coffee = 140mg
- 1 mug tea (including green tea) = 75mg
- 250ml can of energy drink (for example Red Bull, Monster, Kick) = 80mg
- 50g bar plain chocolate (UK) = less than 25g
- 50g bar milk chocolate (UK) = less than 10mg

As there is limited evidence available on consuming herbal and green teas during pregnancy the Food Standards Agency advises to have no more than four cups a day. Seek advice from your midwife or GP if you are unsure about which herbal products are safe.

Salt

High salt intake can raise your blood pressure. High blood pressure has been linked to the development of pre-eclampsia. Reduce your salt intake by:

- Adding small quantities in cooking and not at the table
- Using other spices/flavourings where possible
- Having more home-cooked foods rather than processed foods like sausages, savoury snacks and packet soups

Fluid

Aim for at least 1.5 - 2 litres (6-8 glasses) of fluid every day for good health. Water is best but squash with no added sugar and fruit tea are good options. Unsweetened fruit/vegetable juice counts towards your five a day but should be limited to 150ml per day.
Sipping fluids, little and often and ensuring that you leave 30 minutes gap between eating and drinking can help you to manage your hydration and avoid feeling too full, particularly in the later stages of pregnancy.

Important vitamins and minerals

Folic acid

All women who are trying to become pregnant should take a folic acid supplement for at least three months before starting to try for a baby and continue until the 12th week of pregnancy. This is important as it reduces the risk of birth defects of the brain, spine or spinal cord (neural tube defects).
All women with type 2 diabetes mellitus and/or a BMI above 30kg/m2 need to take **5mg of folic acid per day.** You will need to get this on prescription from your doctor as it is not available to buy.
If your BMI is < 29.9kg/m2 an additional 400microgram/day folic acid supplement is recommended until the 12th week of pregnancy. 400microgram supplements are available to buy over the counter in large supermarkets and chemist shops.

Calcium

It is important that you are getting enough calcium during pregnancy and breastfeeding to support your own bone health as the baby will take what's needed from your stores.
Aim for at least three portions of calcium rich foods per day such as low-fat dairy, green leafy vegetables, fortified breakfast cereals and fish with edible bones (mackerel/sardines etc.)
For example:

Food	One portion
Cheese	Matchbox size or 30g
Skimmed or semi-skimmed milk	200ml
Yoghurt	120g
Calcium fortified breakfast cereal	30g
Sardines (with bones)	½ tin
Tinned salmon (with bones)	½ tin
Broccoli	Two spears or 85g
Spring greens	Three heaped tablespoons or 75g

Vitamin D

For the general population, it is recommended that all women take 10micrograms (mcg/ug) of vitamin D whilst pregnant and during breastfeeding. After bariatric surgery, vitamin D is included in the routine supplement recommendations. Over time, the amount of vitamin D taken may vary depending on blood test results. Please ensure you are having at least **25 micrograms each day**, written as 25mcg/ug or 1000IU (international units) on the label.

Iron

Some women can develop iron-deficiency anaemia during pregnancy. This can make you feel tired, breathless and dizzy. It is important to make sure you eat plenty of iron rich foods such as:

- Red meat
- Green leafy vegetables like spinach and kale
- Beans and lentils
- Dried fruit
- Fortified breakfast cereals

Having iron rich food with a source of vitamin C helps your body to absorb the iron better, so try to eat fruit, vegetables or drink 100ml pure fruit juice. Be aware that tea and coffee reduce iron absorption so avoid drinking these with meals or with your vitamin and mineral supplements.

Vitamin A

Too much vitamin A can be harmful for your baby, so it is advised that you make sure you are taking an appropriate vitamin and mineral supplement (see below). Avoid supplements containing retinol, but vitamin A in the form of beta carotene is safe to take in pregnancy. Avoid cod liver oil supplements, liver and liver products.

Iodine

Iodine is important for the development of your baby's brain. You may be iodine deficient if you do not consume sufficient fish or dairy products. Most A-Z vitamin and mineral supplements and pregnancy specific multivitamins contain the recommended dose. It is worth discussing with your health professional if you have any concerns.

Vitamin and mineral supplements

The following table outlines the recommended vitamin and mineral supplements and changes when planning, during and after pregnancy. Individual advice may be given by a health care professional.

After bariatric surgery

Supplements	Product name	Where to get it from	How much to take	How long to take it for
Folic acid	Folic acid	On prescription form GP (the dose you need is not available to buy)	400mcg once a day if BMI <29.9 **Or** 5mg once a (if BMI >30 or have type 2 diabetes mellitus)	At least 3 months before pregnancy and until 12th week of pregnancy
A-Z complete multivitamin, mineral and trace elements	Forceval capsule. This is the best choice. This is suitable as the vitamin A is in the form of beta carotene.	On prescription from GP	One a day	For life
	If the above is not tolerated, the alternative is a **pregnancy specific** multivitamin and mineral supplement. The standard A-Z complete multivitamin, mineral and trace element supplements are not suitable due to vitamin A being in the form of retinol. Excess retinol should be avoided during pregnancy as it is harmful to the baby.	Buy from shop (such as pharmacist, supermarket or online)		When planning for and during pregnancy. After pregnancy return to previous A-Z supplement.

Calcium and vitamin D (combined supplement)	Adcal D3 …….. Equivalent supplements providing a total of at least 1000mg calcium and 20mcg vitamin D per day.	On prescription from GP …….. On prescription from GP or buy from shop, pharmacist, supermarket or online	One tablet, twice a day ……	For life
Thiamine	Thiamine (also known as vitamin B1	Buy from shop such as pharmacist, supermarket or online.	50-100mg once a day (50mg is sufficient but is poorly available, 100mg is widely available. Split 100mg into halves using a pill cutter and take half a tablet a day)	Advised if you experience regular vomiting associated with morning sickness.

Weight management

Weight gain is natural during pregnancy but gaining too much weight is not healthy for you or your baby. It is important that you do not lose weight during pregnancy, however limiting the amount of weight you gain can reduce the risk of gestational diabetes, miscarriage, high blood pressure, pre-eclampsia, blood clots needing a caesarean section and for your baby being a larger birth weight, birth defects, still-birth and obesity in childhood and later life.

Health care professionals use the following reference table, the antenatal team will give you individual guidance and advice about your weight.

Pregnancy weight category	Body Mass Index (kg/m2)	Recommended range of total weight gain in pregnancy (kg)
Underweight	Less than 18.5	12.5-18
Healthy weight	18.5-24.9	11.5-16
Overweight	25-29.9	7-11.5
Obesity	30 and greater	5-9

Reference: Institute of Medicine 2009 Gestational Weight Gain Guidelines.

Regular monitoring of your weight can help you to keep track. We recommend you do not do this more frequently than weekly as weight can fluctuate daily.

I thought I needed to eat more during pregnancy?

A common myth in pregnancy is that you need to eat more calories (i.e. “eating for two”). This is not the case; in fact, energy needs are the same up until the last trimester of your pregnancy where energy needs then increase by 200 calories per day. This equates to roughly half a sandwich or a glass of milk. The best thing that you can do for your baby is to eat a healthy balanced diet, be physically active and limit the amount of weight you gain.

Nausea

Nausea ("morning sickness") is very common in early pregnancy. It can be unpleasant but usually clears up during weeks 16 to 20 of pregnancy. The following may help you:

- Allow yourself plenty of time in the morning to get up. If possible, avoid foods or smells that make you feel sick
- Wear comfortable clothes without tight waistbands
- Some have found wearing an acupressure band on the wrist helped. There have been no reports that this is harmful, although some women have experienced numbness, pain and swelling in their hands
- Eat something like dry toast or a plain biscuit before getting up
- Rest. Tiredness can often make symptoms worse
- Drink plenty of fluids, such as water, sipping them little and often rather than in larger amounts and avoid 30 minutes before and after eating
- Include carbohydrates such as bread, rice, potatoes and pasta in your meals as these can be easier to eat
- Avoid foods high in sugar or fat
- Eat cold meals, this can help if the smell of food or cooking smells makes you feel sick
- Try foods or drinks that contain ginger such as ginger ale or ginger biscuits. Some women find this can help
- Nausea and vomiting in pregnancy is called hyperemesis gravidarum (HG) and can be very serious, requiring specialist treatment. If you have persistent problems with nausea and vomiting, you should discuss this with your GP or Antenatal Team if you have concerns.

For further information on other problems please refer to the NHS website.

Considerations for patients with a gastric band

If you have a gastric band, the bariatric team may recommend that you have your band adjusted or emptied during your pregnancy, for example if you experience nausea and vomiting or loss of appetite. This will help ensure you are able to tolerate a good variety of foods to help the baby grow and develop.

Breastfeeding

During your pregnancy your midwife will discuss breastfeeding and your baby. Here are some key facts:

- Breast milk is perfectly designed for your baby and it has a wide variety of benefits for both you and your baby.
- Breastfeeding uses around 500 calories a day. If you are overweight, you do not need to eat extra calories for this. This will help to manage your weight once you have given birth
- The World Health Organisation recommend exclusive breastfeeding for six months and then slowly commence weaning for the first year and beyond
- Public Health England recommends specific vitamin and mineral supplements for women who are breastfeeding. However, you will get everything you need from the vitamins and minerals we advise you to take after bariatric surgery. Please refer to 'Vitamin and mineral supplements' section of this leaflet for advice on supplement changes after you have given birth. Please note that the advice is the same whether you breastfeed or not
- If you would like to discuss the information further please speak with your midwife, GP or health visitor.

Activity and exercise

Activity during pregnancy is safe and has physical and psychological benefits. There is evidence that active women are less likely to encounter problems in later pregnancy and labour. Women who remain active through their pregnancy or who start to become more active:

- Have better control of their weight
- Reduce their risk of weight-related complications (such as pre-eclampsia, low back pain and gestational diabetes)
- May go through labour more easily
- Find it easier to lose weight after the birth
- Moderate exercise where you can hold a conversation is recommended. If you become breathless whilst talking, the exercise is too strenuous.
- There are some situations where women are advised by a health care professional not to exercise, for example if you have vaginal bleeding, uncontrolled high blood pressure, at high risk for preterm birth or foetal growth restrictions. If you are unsure about your situation or have any concerns, please speak to your antenatal team or GP.

Exercise has other positive effects such as:

- Giving you more energy, lifting mood, relieving stress and anxiety
- Lowering your blood pressure and improving your cholesterol levels
- Reducing your risk of developing diabetes and heart disease
- Improving how well your heart and lungs work
- Strengthening your bones and toning your muscles
- Making you more flexible and mobile
- Improving your self-confidence and self-esteem

If you are already active, continue your normal daily physical activity or exercise for as long as you feel comfortable. You may need to slow down as you reach the later stages of pregnancy; do not exhaust yourself.

Aim to increase your activity to 30 minutes, four to five times a week. If you have not been active before, begin with 10-20 minutes, three times per week and increase gradually.

A pedometer is a good way of monitoring your activity levels. Once you have a baseline, aim to build up your steps by 10% each week aiming towards the recommendations of 10,000 steps per day. You can use apps to record your activity progress.

Exercise to avoid in pregnancy

- Do not lie on your back for prolonged periods, particularly after 16 weeks. The weight of your bump presses on the main blood vessel bringing blood back to your heart and this can make you feel faint
- Avoid contact sports such as kickboxing, judo or squash and those that are vigorous/high-impact that may risk injury, falls or excessive joint stress eg horse riding, skiing, ice hockey, gymnastics, netball and cycling
- Avoid scuba diving. The baby has no protection against compression sickness and gas embolism (gas bubbles in the blood stream)
- Avoid exercising at heights over 2,500m above sea level until you have acclimatised. You are at risk of altitude sickness

Exercise tips

- Always warm up before and cool down afterwards
- Any amount is better than nothing but where possible try to keep active on a daily basis
- Avoid any strenuous exercise in hot weather
- It can be difficult to manage hydration after bariatric surgery and during pregnancy so remember to stay hydrated before, during and after exercising by sipping water little and often
- If you go to classes, inform your teacher of your pregnancy and how many weeks you are. It is important to check that they are properly qualified to teach women who are pregnant
- Water will support your weight so swimming is a popular exercise during pregnancy. Some pools provide aqua natal classes with qualified instructors
- For ideas of safe exercises refer to the NHS website

After a gastric bypass, a small number of women may experience hypoglycaemia (low blood sugars) with increased activity. The symptoms include dizziness, blurry vision, feeling faint, sweating and vacancy. If you notice a change in how you feel, please speak with one of the bariatric team members.

Nutritional blood tests before, during and after pregnancy

This table outlines what you need to get tested and when.

<table>
<tr><th colspan="2">Nutritional blood tests</th><th>Planning pregnancy</th><th>During pregnancy</th><th>After pregnancy</th></tr>
<tr><td>Routine for all surgeries</td><td>• Full blood count
• Urea and electrolytes
• Phosphate and Magnesium
• Liver function tests
• Ferritin
• Folate
• Vitamin B12
• Calcium
• Parathyroid hormone (PTH)
• 25 (OH) Vitamin D
• Vitamin A
……
If you have had a gastric bypass also require tests of:
• Selenium
• Copper
• Zinc</td><td>Test at least once</td><td>Test each trimester</td><td>Test 3 months after birth. Continue to test every 3 months if you are breastfeeding.
……
Test 3 months after birth Continue to test every 6 months if you are breastfeeding</td></tr>
<tr><td></td><td>• HbA1c</td><td colspan="3">If you had Diabetes before bariatric surgery or gestational diabetes</td></tr>
</table>

Further information

NHS website
Provides reliable, up to date information about nutrition, healthy eating and activity (included guided exercises) for planning and during pregnancy
www.nhs.uk

NHS start4life
Useful tips and advice for pregnant women and families. Provides information about the Healthy Start Team

Talking Therapies:
Talking therapies offer a wide range of options to support people with emotional or mental health problems; further information is available on their websites:
Calderdale@insighthealthcare.org
kirkleesiapt.co.uk

If you would like any more help or support or if you have any comments about this leaflet or the service you have received you can contact :

Melanie Langley

(Bariatric Surgery Specialist Dietitian)

Telephone: 07836711515

or

Cara Barnes

(Bariatric Surgery Specialist Nurse)

Telephone: 07824599736

www.cht.nhs.uk

If you would like this information in another format or language contact the above.

Potřebujete-li tyto informace v jiném formátu nebo jazyce, obraťte se prosím na výše uvedené oddělení

Jeżeli są Państwo zainteresowani otrzymaniem tych informacji w innym formacie lub wersji językowej, prosimy skontaktować się z nami, korzystając z ww. danych kontaktowych

ਜੇ ਤੁਸੀਂ ਇਸ ਜਾਣਕਾਰੀ ਬਿਸੇ ਹੋਰ ਪ੍ਰਾਰੂਪ ਜਾਂ ਭਾਸ਼ਾ ਵਿੱਚ ਲੈਣਾ ਚਾਹੁੰਦੇ ਹੋ,
ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਉਪਰੋਕਤ ਵਿਭਾਗ ਵਿੱਚ ਸਾਡੇ ਨਾਲ ਸੰਪਰਕ ਕਰੋ।

اگر آپ کو یہ معلومات کسی اور فارمیٹ یا زبان میں درکار ہوں، تو
براۓ مہربانی مندرجہ بالا شعبے میں ہم سے رابطہ کریں۔

"إذا احتجت الحصول على هذه المعلومة بشكل مغاير أو مترجمة إلى لغة مختلفة فيرجى منك الاتصال بالقسم المذكور أعلاه"