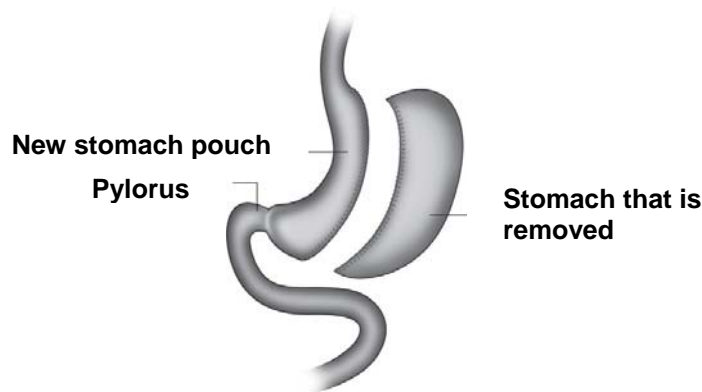


# Dietary advice following a sleeve gastrectomy

This information has been given to you to provide dietary advice following a sleeve gastrectomy and has been developed by bariatric dietitians. If you have any further questions or concerns, please do not hesitate to contact the nutrition and dietetics department (contact details given at the end of this leaflet).

## What is a sleeve gastrectomy?

The sleeve gastrectomy is a weight loss operation. The outside part of the stomach is removed, leaving a new smaller long narrow stomach pouch (see picture below). The volume of the stomach is reduced by about 75 percent (from around two litres to approximately 100ml).



Reproduced with permission from John Wiley and Sons 2012

The main effect of the surgery is to dramatically reduce the amount of food that you are able to eat. Additionally, the operation may make you less hungry since the part of the stomach that is removed produces a hunger hormone called Ghrelin. Many patients are surprised to find that they do not fancy food as they used to and some also notice changes to the taste of food.

Although this surgery will help you to lose weight, you are still in control of the food choices you make. While the surgery does some of the work in helping you to eat less, you need to make healthy choices and exercise regularly to get the best weight loss result.

## Food reintroduction following your sleeve gastrectomy

Following your surgery you will need to go through several stages, slowly progressing from liquids through to solid food. This is to avoid putting pressure on the scar in your stomach as it heals and helps you to adjust to your new smaller stomach. Initially you will find that you feel full very quickly and do not feel hungry, so you will only want to eat very small amounts. Over the next few weeks, as the swelling goes down and the stomach recovers you should progress to be able to eat three small meals a day.

Stage	Time Period	Diet Type	Definition
0	First day	Sips of clear fluid	Not cloudy or milky
1	Weeks 1 and 2	Liquid diet	Can easily be sucked through a straw
2	Weeks 3 and 4	Puréed diet	Completely smooth with no lumps
3	Weeks 5 to 8	Soft diet	Can be mashed with fork
4	After 8 weeks	Normal diet	All textures, but low in fat and sugar

## Stage 0: Clear fluids (first day after surgery)

As well as the reduced stomach size, the surgery will also cause some temporary swelling of your new stomach. It is possible that you will not manage much on the first day of the operation but don't panic, this is quite normal.

You will be encouraged to have small sips of water. Most people only manage a few sips at a time and it's not uncommon to feel some discomfort and gas on the first day. It is important to stay well hydrated and you should aim to drink around two tablespoons of clear fluids per hour. As well as water, you can drink black tea/coffee, and diluted no added sugar cordial or squash. When you feel full, **stop**, as drinking too much could cause vomiting. Once the surgical team have given authorisation, you can move onto stage 1 (liquids).

## Stage 1: Liquid diet (weeks 1 and 2 after surgery)

- All drinks should be smooth (no bits or lumps) and thin enough to be sucked through a straw (although we do not recommend that you drink using a straw, as this could cause you to swallow air which can be uncomfortable).
- Start with sips and if these feel comfortable, gradually increase the amount you take in one go. Be careful not to gulp your drinks as this may result in vomiting. Aim for 1-2 small cups of fluid per hour.
- Aim to have a minimum of 2-2 ½ litres (3-4 pints) of fluid each day to avoid becoming dehydrated. *At least 1-1.5 litres of this should be **protein-rich, nutritious liquids** (see below).*
- Avoid all fizzy drinks.
- While it is fine to drink tea, coffee, squash, water etc. you should make sure these are in addition to nutritious liquids, **not instead of**.

## Nutritious liquids:

- High protein milk (mix 1 pint of semi-skimmed or skimmed milk with 4 tablespoons of dried skimmed milk powder)
- Meritene shakes and soups (formerly called Build-Up) – available in pharmacies.
- Complan shakes and soups – available in supermarkets and pharmacies
- Slimfast (powders or ready to drink) – available in supermarkets
- Smooth soup (homemade or tinned) fortified with 1-2 tablespoons skimmed milk powder.
- Smoothies. (Fruit blended with milk or yoghurt) Homemade will be best. Shop-bought varieties will be too high in sugar.
- Unsweetened fruit juice (limit to 1-2 small glasses a day and dilute 50:50 with water)

## Example meal plan

Breakfast	High protein milk (200ml)
Mid morning	Fruit smoothie (200ml)
Lunch	Homemade or tinned soup fortified with 102 tablespoons dried skimmed milk powder
Mid Afternoon	Slimfast (200ml)
Dinner	Complan or Meritene (shake or soup), or High protein Milk (200ml)
Supper	High protein Milk (200ml)

**Additional fluids, such as water, tea, coffee and diluted sugar free soft drinks, to be taken throughout the day between these meals.**

## Recipes for stage 1

### High-protein milkshake

2oz / 60g / 4 tablespoons skimmed milk powder

1 pint / 570ml cold skimmed milk

Vanilla extract or unsweetened cocoa powder (optional)

**Method:** Mix the milk powder and flavouring (if using) with a little of the milk to form a paste. Stir in a pint of cold skimmed milk, and serve.

### Fruit smoothie – makes 2 servings

½ pint / 250ml high-protein milk

¼ pint / 100ml low fat yogurt

3oz / 100g fresh soft fruit, such as bananas, berries, peaches

**Method:** Combine all ingredients in a blender and blend until smooth. Add extra milk or water as needed. Serve chilled on ice.

### **Fruit punch (10g protein per serving)**

1/3 pint/200ml sugar-free non-carbonated drink (such as Ribena™)

1oz / 30g skimmed milk powder

4 ice cubes

**Method:** Combine all ingredients in a blender until smooth.

### **Custard – make as directed on packet using high-protein milk**

Homemade and ready-made custards are also suitable so long as they are thin enough to pass through a straw. Add extra milk as required.

## **Stage 2: Purée diet (weeks 3 and 4)**

- It is still important to avoid lumps at this stage. Make sure foods are blended well using a hand blender or a food processor. A sieve can be used to remove any seeds or pips. Always try to blend lumps into the purée rather than straining them out because the lumps are often rich in protein (for example pieces of meat, fish or beans).
- The texture of your foods at this stage should be like yoghurt. You may need to add extra liquid to achieve the right texture. Try using stock, gravy, cooking water from vegetables or low fat sauces for savoury foods, and fruit juice for puréeing fruit and desserts.
- Have 4-6 small meals a day. If you can only manage very little (less than 4 tablespoons) then try to have something every 2 hours (this is at the beginning only).
- Start with about 2-3 tablespoons per meal and increase this gradually if and when this feels comfortable to about 4-6 tablespoons.
- Chew well and eat slowly. **Stop as soon as you feel full.**
- Make sure you include a **protein** source at each meal. This is important to help your recovery and to keep you feeling full. You should aim for 60g protein per day.
- You can slowly build up to thicker purées if tolerated. By the end of week four you should be able to manage a thick purée such as smooth mashed potato.
- You still need to make sure you drink 1.5 litres (2½ pints) of water or other liquids every day. Take it in small 100–200ml glassfuls and drink between meals, not with your meals.

## **Meal ideas for stage 2**

**Remember to purée with a hand blender or food processor first.**

Breakfast	Low fat yoghurt or fromage frais ½ -1 soggy weetabix or ready brek (add warm milk to make runny) Homemade fruit smoothie (fruit blended with yoghurt or milk)
Main Meals	Thick, smooth soup (add skimmed milk powder if it doesn't contain meat, fish, chicken or lentils) Puréed baked beans and mashed potato Puréed fish in sauce or fish pie with mashed potato Puréed meat/ chicken/ fish stew with puréed vegetables and mash

Puréed Shepherds or Cottage pie  
Puréed pasta with cheese and vegetable sauce  
Puréed pasta bolognaise  
Scrambled egg (very soft and sieved)

Snacks                      Blended tinned fruit (unsweetened)  
                                Low fat yoghurt or fromage frais  
                                Low calorie dessert or mousse  
                                Sugar-free custard with stewed apple or mashed banana

If you find it easier you may wish to purchase and purée a low calorie ready meal. Meals that will purée well include fish pie with potato top, stews, casseroles, Shepherds or Cottage pie, cauliflower cheese and bolognaise. Half a ready-meal for one person will usually be plenty at this stage.

### **Stage 3: Soft diet (weeks 5 – 8)**

You should continue to eat the same sorts of foods you were eating during stage 3 (puréed diet), but they no longer need to be puréed. Foods at this stage should be soft enough that they will fall apart when pressed with a fork or spoon.

You should continue to eat small quantities of these foods, spread out over 3 - 4 meals or snacks. Make sure you still take small mouthfuls and chew each one well before swallowing. Listen to your body and when you feel full, **stop**.

### **Stage 4: Regular diet (after 8 weeks)**

You are now ready to continue on your long-term eating plan. Remember, you are not just eating small amounts to reduce your calorie intake and lose weight – you should also be aiming for a healthy nutritious eating plan. Each person differs in the foods they can eat, but there are **six golden rules** that you should follow if you are dedicated to maximising the benefit of your weight loss surgery:

- 1. Eat three meals per day** – your new smaller stomach size and the reduction in hunger hormones should mean you are satisfied by eating three meals a day without getting hungry in between meals. Beware of developing 'grazing' patterns of eating small snacks throughout the day. Avoid skipping meals, even if you don't feel hungry as going for long periods without eating can actually hinder weight loss.
- 2. Eat healthy, solid food** – soft food slips down easily and whilst this has the benefit of being easier to manage, you will likely end up eating more over the course of the day. Many soft foods are also higher in fat or carbohydrates and as a consequence you may be consuming more calories than you should, causing your weight loss to slow down or stop.

Choose solid foods without lots of sauce (such as a small meal of chicken and vegetables) as these stay in the stomach for longer and are more satisfying. You will therefore eat less overall and stay fuller for longer.

3. **Eat slowly and stop as soon as you feel full** – most people who are overweight are used to rushing their meals, which leads to overeating as there is a delay between the stretching of the stomach wall and your brain realising that you are full. Eating too quickly often means you won't be chewing your food properly. Take tiny bites (cut meat up to the size of a pencil-top rubber) and chew each piece at least 20 times or until it becomes a paste. Remember to stop eating as soon as you start to feel full or you may overstretch your new stomach.
4. **Do not eat between meals** – you should not need to eat between meals because of hunger if you are eating three sensible meals per day.
5. **Do not drink at meal times** – liquids speed up the passage of food through the stomach, so can cause you to feel hungry again shortly after you have eaten. On the other hand, if you have a drink immediately before your meal you may find that your stomach feels full and you can't eat your meal. For these reasons, you should avoid fluids half an hour before your meals, and for one hour afterwards.
6. **All drinks should be virtually zero calories** – as liquids pass through your stomach so easily, high-calorie drinks will simply add calories to your daily intake without filling you up. High-calorie drinks include alcohol, fruit juices, smoothies, sweetened (sugar-containing) squash/cordial, non-diet soft drinks, sports drinks, milk and milk-based drinks such as milkshakes. Milk is a good source of calcium and skimmed milk in reasonable quantities is fine, but other high-calorie liquids should be limited. **All carbonated (fizzy) drinks should be avoided as the gas can over-stretch your new stomach pouch.**

**Important:** If you find you are having difficulty tolerating the texture of the foods at any stage, go back to the previous stage for a couple more days, then try again. Everyone heals and progresses at different speeds.

If you are concerned at any time, contact one of the dietitians and they will call you to discuss things further. If you feel that you may need additional support, you can make an appointment to come into the hospital.

# What is a healthy diet?



There are five main food groups and a healthy diet should include a mix of them:

**Protein foods** (meat, fish, eggs, beans). Include two to three 60–90g (2–3oz) portions of protein per day. You should remember to chew meat, chicken and fish thoroughly before you swallow. The recommended bite size is the size of a pencil-tip eraser.

**Milk and dairy** (milk, cheese, yogurt). Choose low-fat cheese and limit the amount to 30–60g (1–2oz). Choose skimmed milk and low fat yogurt varieties.

**Fruit and vegetables.** Try to have four to five portions per day. Salads tend to be easily digested by most people following a gastric bypass, and vegetables are filling as well as nutritious.

**Carbohydrates** (bread, rice, pasta, potatoes, cereals). Use wholegrain versions of these where possible, as they are more nutritious. Aim for one small portion (60–90g / 2–3oz) at each meal.

**Fats and sugary foods** (sweets, cakes, puddings, desserts, chocolate, oils). Use a small amount of olive or vegetable oil for cooking and replace puddings with a low fat yogurt. Beware of soft, calorie-laden foods such as chocolate, sweets or ice cream – these are often higher in fat and less filling than other foods.

**For best weight loss, limit the following foods:**

- High calorie drinks (full-fat milk, milkshakes, alcohol, fruit squashes, juice)
- Cakes, biscuits and desserts
- Cereals with added sugar
- Fats and fatty foods – butter, oils, snack foods (such as crisps and peanuts), chips
- Creamy soups

## **Multivitamins and minerals after a sleeve gastrectomy**

Following your surgery, it is unlikely that you will be able to get all the vitamins and minerals essential for good health from your food alone. It is therefore important that you take daily multivitamin and mineral supplements for the rest of your life. Your GP can prescribe these for you. You will usually be prescribed Forceval and additional calcium/vitamin D, but you may receive other prescriptions depending on your individual needs.

It is also important that you have regular blood tests to check your nutritional status and identify deficiencies. Appointments will be made for you at the hospital over the next two years. Following this, you should arrange to see your GP for a blood test once a year.

If your blood test indicates a vitamin or mineral deficiency, you may be prescribed additional supplements to resolve this.

## **Pregnancy after bariatric surgery**

Women are advised to avoid pregnancy for the first 12 to 18 months after surgery when weight has stabilised. This is because the effects of rapid weight loss on a developing baby are not yet well understood. However, many women do become pregnant during this time and go on to have a successful pregnancy. Pregnancy in women who have had bariatric surgery is thought to carry less risk than pregnancy in women with morbid obesity.

It is important to remember that as you lose weight your fertility may increase so you should make sure that during this time you are taking appropriate contraceptive precautions. If you do become pregnant after bariatric surgery you should undergo nutritional screening every trimester and have more regular appointments with your obstetric team to monitor the growth of your baby.

Patients who have had bariatric surgery are at risk of nutritional deficiencies and must take vitamin and mineral supplements as recommended. As part of preconception care women are advised to avoid vitamin and mineral preparations which contain vitamin A (retinol form) in the first 12 weeks of pregnancy. Your bariatric team can advise you on a multivitamin that is safe to take during pregnancy. Women with obesity or diabetes should also take a higher dose of folic acid than is usually recommended. Please discuss this with your health professional.

If you do become pregnant at any point after bariatric surgery you should:

- Tell your midwife you have had bariatric surgery
- Contact the bariatric surgery team as soon as possible

## **Frequently asked questions**

### **Are there any foods I should avoid after a sleeve gastrectomy?**

You should be able to eat most foods after a sleeve gastrectomy, and the diet we recommend you follow in the long-term is a healthy, balanced diet with plenty of lean protein and fibre. To get the best weight loss outcome you must limit your intake of high fat and sugar foods as described above.

The only other item we would recommend you avoid is fizzy drinks of any kind as much as possible as they can create pressure in the stomach causing pain and stretching.



As explained above, some foods will be more challenging to eat than others. This does not mean you should avoid them. As much as possible, try to consume solid textures that require plenty of chewing as these will help you to feel fuller for longer.

### **Can I drink alcohol after a sleeve gastrectomy?**

It is not recommended that you drink alcohol for the first two months after the operation. It is likely that you will feel the effects of the alcohol much more quickly than before. Take special care when driving as it may affect your legal limit and your reaction speed.

Remember that alcohol is very high in calories (particularly alco-pops and stronger wines or lagers) and contains few other nutrients (also known as 'empty calories'). It can also stimulate appetite, which is another reason not to limit your intake.

## **Possible problems and solutions after a sleeve gastrectomy**

### **Vomiting**

You should not expect to be sick after a sleeve gastrectomy. If you are, it is likely you have either:

- Eaten too much
- Eaten too quickly
- Not chewed the food enough – remember to chew to a paste before swallowing.
- Had a drink too near to the meal.

Ask yourself if any of these could be likely causes and try to avoid repeating the 'mistake' at the next meal. It can take a number of weeks – months to learn how to adapt your eating so try not to panic if you don't get the hang of it straight away.

If you continue to be sick and it cannot be explained by any of the more common causes above, you should contact your surgeon or GP as soon as possible.

### **Constipation**

If you are suffering with this, check you are drinking enough fluid. You should have at least 2 litres a day. Try to choose more high fibre foods such as wholegrain products and include plenty of fruit and vegetables. Regular exercise will also help to alleviate constipation. If constipation persists then you can safely take laxatives such as Resource Optifibre, lactulose, milk of magnesia or Senna. Speak to your pharmacist or GP if you are unsure.

### **What to do if food gets 'stuck'?**

This may happen if you have eaten a food that was too solid, eaten too fast or too much, or as a result of eating more 'challenging' foods. This will feel uncomfortable and you may wretch or vomit.

It usually resolves itself, but you can try repeatedly swallowing small quantities of cold sparkling water or Diet Coke, as the fizz may help to dislodge the lump. If the trouble persists, please contact your surgeon or GP as soon as possible. In an emergency you should attend your nearest Accident and Emergency department.

## Where can I get more information?

### The British Obesity Surgery Patient Association

[www.bospauk.org](http://www.bospauk.org)

### Weight Loss Surgery Information

[www.wlsinfo.org.uk](http://www.wlsinfo.org.uk)

### Weight Concern

[www.weightconcern.com](http://www.weightconcern.com)

### British Obesity and Metabolic Surgery Society

[www.bomss.org.uk](http://www.bomss.org.uk)

## Contact us

If you have any questions or concerns, please contact the nutrition and dietetics department on **020 7188 4128**. To contact a specific bariatric dietician, please refer to the Bariatric Contacts List you were given at the Bariatric Education group session.

**For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit [www.guysandstthomas.nhs.uk/leaflets](http://www.guysandstthomas.nhs.uk/leaflets)**

### Pharmacy Medicines Helpline

If you have any questions or concerns about your medicines, please speak to the staff caring for you or call our helpline.

**t:** 020 7188 8748 9am to 5pm, Monday to Friday

### Your comments and concerns

For advice, support or to raise a concern, contact our Patient Advice and Liaison Service (PALS). To make a complaint, contact the complaints department.

**t:** 020 7188 8801 (PALS)      **e:** [pals@gstt.nhs.uk](mailto:pals@gstt.nhs.uk)

**t:** 020 7188 3514 (complaints)      **e:** [complaints2@gstt.nhs.uk](mailto:complaints2@gstt.nhs.uk)

### Language Support Services

If you need an interpreter or information about your care in a different language or format, please get in touch:

**t:** 020 7188 8815      **e:** [languagesupport@gstt.nhs.uk](mailto:languagesupport@gstt.nhs.uk)

**Leaflet number: 3628/VER2**

Date published: August 2016

Review date: August 2019

© 2016 Guy's and St Thomas' NHS Foundation Trust