

Getting the best out of weight loss (bariatric) surgery

General Surgery Department

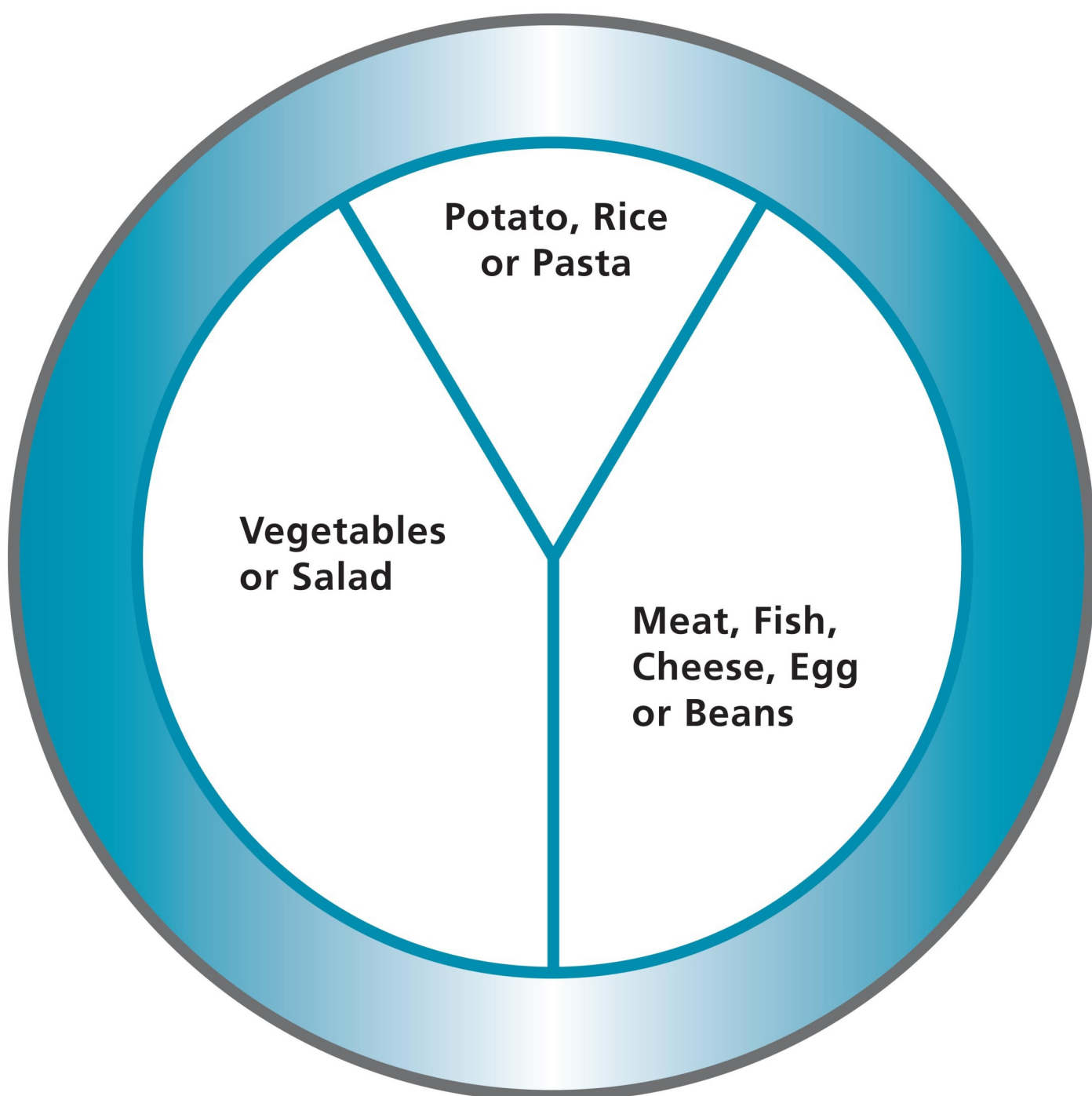
Information for patients

Last reviewed: January 2024

Updated: March 2024

Next review: January 2027

Leaflet number: 828 Version: 5.2



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Front cover

The diagram shows the recommended size plate to use when serving food after surgery. This should measure 15 to 18 cm across. See page 16 for more information.

Your diet whilst you wait for surgery

Key points whilst you wait for your operation:

- Eat meals and snacks every 2 to 3 hours.
- Keep a food diary if this helps.
- Make sure you do not gain weight.
- Contact your Dietitian if you need support with maintaining good eating habits.

If you have diabetes, have a blood sugar test (HbA1c) every 3 months.

If HbA1c is above 8.5% or 70mmol/mol your surgeon may ask your diabetes team for a review before your surgery can go ahead.

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Your diet just before weight loss surgery (pre-operative diet)

Key points 2 weeks before your operation:

- Measure out the small portions listed on page 4 **or** choose healthy ready meals containing 300 calories or less.
- Keep a food diary to make sure you eat only 1000 calories each day.
- Eat regular meals and snacks to help you manage hunger.
- Ask your GP to change your medicines to liquid or chewable forms (see page 6)

Follow a 1000 calorie diet for 7 to 14 days (or longer if advised by your surgeon) before your operation to reduce liver size. This will make sure your operation can be carried out safely.

If you do not follow the diet, your operation will be cancelled. Please ask your Dietitian if you are unsure about how to follow this diet.

When you follow a strict diet which is low in starch, sugar and fat, your body uses the energy stored in the liver to meet its needs. The liver loses fat and water and becomes smaller. You may lose a lot of weight during this time.

Continue to eat small meals and snacks every 2-3 hours. Food portions will be very small during this time. You can use electronic food scales to make sure you eat the correct amounts.

Enjoy your last "normal" meal **before** you start this diet. Eating a normal meal the night before your operation makes your liver increase in size so your operation may not go ahead.

If you take insulin for diabetes, you will need to reduce the dose and test blood sugars regularly to avoid low blood sugar (hypos). Please speak to your Practice Nurse or Diabetes team to agree a plan before you start the pre-operative diet.

Suggested meal plan just before surgery (pre-operative diet)

Breakfast:	1 portion starchy food
Mid-morning:	50 calorie snack
Lunch:	1 portion protein 1 portion starchy food Large helping of vegetables or salad
Mid-afternoon:	50 calorie snack
Evening Meal:	1 portion protein 1 portion starchy food Large helping of vegetables or salad
Mid-evening:	50 calorie snack
Milk:	200ml semi-skimmed or 300ml skimmed milk for drinks and cereals per day
Drinks:	Drink at least 2 litres (8 mugs or 10 cups) of fluid daily including water, diet squash, tea or coffee without sugar You can drink up to 150ml fruit juice per day Avoid fruit smoothies, energy drinks, milkshakes and alcohol

See pages 4 and 5 for meal ideas

1 portion starchy food is:	1 portion protein food is:
25g (3 dessertspoons) of breakfast cereal or porridge oats	50g cooked red meat (75g raw)
1 wheat biscuit or wheat pillow	100g cooked poultry (150g raw)
1 slice of bread	150g cooked white fish or prawns
1 mini pitta bread	140g (1 medium tin) tuna in brine
1 thin tea plate sized chapatti without fat	2 eggs
Half a large wrap or 1 small wrap	35g hard cheese
1 crumpet	140g cottage cheese
2 large or 3 small crackers, crispbreads or rice cakes	120g Quorn
100g cooked potato (2 egg-sized)	125g (4 dessertspoons) baked beans or cooked lentils
70g (3 dessertspoons) cooked couscous	
50g (2 dessertspoons) cooked pasta or rice	

Most people feel more hungry than usual on this diet. To manage increased hunger:

- Eat meals and snacks very regularly, 2 hours apart if needed.
- Eat the suggested portion of meat or fish and starchy food with plenty of vegetables or salad.
- Plan your meals to suit eating more vegetables and salad (see ideas below).
- Choose more satisfying foods such as wholemeal or granary bread and crackers.
- Choose drier meals. These need more chewing which helps you control hunger; (adding sauces or gravy adds unwanted calories).
- Eat raw vegetables between meals, drink a large glass of water or sugar-free squash, or have 1 extra portion of fruit daily.

Ideas for 50 calorie snacks

- 100g fruit (for example 1 apple, 1 pear, 1 small banana, 2 plums, 2 satsumas or 2 kiwis).
- 2 dried prunes or 3 dried apricots or 15g (1 dessertspoon) raisins.
- 125g pot of low calorie yogurt (for example, Weight Watcher's, Muller Light).
- 1 water biscuit with half a teaspoon low fat spread and 1 slice wafer thin meat.

Ideas for light meals

- 1 slice toast (no spread) with 2 medium poached eggs.
- 100g cooked jacket potato (no butter), 125g baked beans, large helping of salad.
- 1 slice bread (no spread), large helping of salad, 4 wafer thin slices of ham.

(Use lemon juice, balsamic vinegar and herbs/spices to add flavour to salads)

Ideas for main meals

- Stir-fry 150g lean raw chicken breast (use oil spray). Add a large helping of vegetables (for example carrots, cabbage, beansprouts, mushrooms) and cook for 5 minutes. Serve with 3 dessertspoons cooked noodles. Sprinkle with 1 tablespoon soy sauce (optional).
- Bake 150g raw white fish topped with sliced peppers, courgettes and tomatoes and seasoned with lemon juice, garlic and black pepper. Cook in the middle of a hot oven for 20 minutes covered and 10 minutes uncovered. Serve with 3 dessertspoons cooked couscous flavoured with lemon and parsley or mint.

You can also swap a main meal for either:

- a ready meal containing 300 calories or less (add extra vegetables or salad)
- 1 serving of high protein or meal replacement soup or shake (see below).

For 2 weeks before your operation you can prepare for the diet after surgery as follows:

1. 2 or 3 days each week, replace 1 meal with a high protein drink or shake. You can buy these ready-made or make them at home. Once you know which you prefer you can buy a selection, or have the ingredients ready for when you leave hospital (see page 7 for more details). **Avoid replacing all your meals with shakes.** This leads to boredom and may make following the fluid diet after surgery more difficult.
2. Start taking a daily multivitamin and mineral supplement. You will need to change to a chewable or soluble vitamin for the first 6 weeks after surgery (see page 22).

Your diet after surgery

After surgery, eating and drinking will be very different to how it was before your operation. Drinking and eating very slowly gives you time to recognise the changes in the way your body manages food and drink. We have given you general guidelines but this process should be taken at your own pace.

After your operation you will lose weight for different reasons depending upon the type of surgery you have. All operations make your stomach smaller. This helps you to only eat very small amounts of food. See pages 20 and 21 for specific information about your procedure.

Drinking fluids only for the first 4 weeks will:

- allow stitches or staple lines to heal.
- avoid tummy (stomach) discomfort, pain or being sick (vomiting).
- avoid blockage of the narrow stomach pouch (if you had a sleeve gastrectomy) or small stomach outlet (if you had a gastric bypass).
- help you to lose weight.
- start the process of learning new eating habits to support long term weight management.

Protein - eating a high protein diet is important after surgery:

- It helps your body to heal.
- It makes sure that weight lost is mostly fat and stops you losing muscle. This helps you to avoid regaining weight in future.
- It helps you to feel full. This is important in the long term when hunger may return.

Aim to eat at least 60g protein daily. Your Dietitian can calculate how much protein you need.

Follow this plan:

Weeks 1 to 4:	liquids only
Weeks 5 to 6:	soft diet
Week 7 onwards:	normal diet

Eating solid foods earlier than 6 weeks can damage the staple lines. By 6 weeks after your operation these will have healed. You can then return to taking tablet vitamins and your usual medication.

Medication after surgery

- Your usual tablets should have been changed to liquid, chewable or other non-solid forms or you will be advised to crush tablets where possible for 6 weeks after surgery. Very small tablets for example, Thyroxine, some statins and the contraceptive pill can be taken as normal. Ask your GP to change your prescriptions before your operation.

After sleeve gastrectomy and gastric bypass you should be discharged on 2 medications:

- Enoxaparin (injection to stop blood clots) to be taken for **14 days** after surgery.
- Lansoprazole Dispersible (acid-reducing medicine) to be taken for **6 weeks** after surgery. This protects staple lines from getting ulcers whilst they heal. Please take this as prescribed and ask your doctor to repeat the prescription as needed. You need to take Lansoprazole whether you have acid symptoms or not.

After gastric bypass you should be discharged with Forceval soluble vitamins (see page 22)

Please check your medicine when you go home and ask for them if they have not been included.

If you need pain relief try liquid or soluble Paracetamol and dilute liquid with water if too thick.

Avoid Ibuprofen, Naproxen and Diclofenac (non-steroidal anti-inflammatory drugs) after surgery. Even when taken with Lansoprazole or similar there is a higher risk you will get an ulcer.

Key points:

- Sip slowly and do not gulp. Take less than a teaspoonful of fluid per sip to start with.
- Complete the fluid charts (pages 10 and 11) through the day.
- Drink 100ml fluid every hour. Increase up to 2000ml fluid daily by day 7.
- Try a range of high protein drinks. If these are too thick at first, drink clear fluids and protein water only and start protein shakes by day 5.
- Choose milk, tea and coffee, sugar-free squash, soup and smoothie but no fizzy drinks
- Avoid drinking anything other than thin smooth fluids for the first 4 weeks.
- Take a soluble or chewable multivitamin (see page 22).

Weeks 1 to 4: Fluids only

Your fluid diet should include high protein drinks and other fluids for hydration. Aim for:

- 2000ml fluid in total each day as soon as possible to avoid constipation.
- 60g protein.
- a soluble or chewable vitamin supplement daily for the first 6 weeks. See page 22 for details.

High protein drinks

At first drink 700ml daily. Most are milk-based and can be sweet or savoury.

You can start by making up high protein milk (see recipe on page 9). Use this to make homemade or powdered commercial drinks. Add more high protein milk if needed to make sure all fluids will pass through a straw. There are many protein drinks available. Some examples are listed below but there are many more in shops or online:

- Slimfast (2 scoops powder). This has 15g of protein when mixed with 250ml milk
- Complan (1 sachet powder). This has 16g of protein when mixed with 200ml milk
- Supermarket's own meal replacement drinks (powder). These have 14g of protein when mixed with 250ml milk
- Slimfast (ready to drink). This has 15g protein per 325ml
- Other ready to drink high protein shakes, for example, Weetabix high protein (21g protein per 275ml)
- Homemade high protein shakes, smoothies and soups (see recipes on page 9)
- Protein water (20g protein or more per 500ml bottle)
- Protein yogurt (15 to 20g per small pot) diluted with high protein milk (see page 9)
- Protein shot diluted with water if needed

Drink small amounts every hour to reach 700ml daily. Record what you drink on the charts (page 10).

Other fluids

Aim for 1000ml daily (5 cups, 4 mugs or 2 x 500ml water bottles or a combination):

- Oxo, Marmite, Bovril, soups (sieve to remove any food pieces)
- Sugar-free or diet squash (avoid fizzy drinks which overfill the stomach)
- Unsweetened fruit juice (no more than 150ml daily, add water to reduce acid)
- Water, still mineral water or flavoured water with sweetener
- Tea or coffee with skimmed milk and sweeteners instead of sugar
- Sugar free jelly or ice-lollies (make these with protein water to boost protein intake)

Aim to drink 100ml in total every hour at first. Increase fluids up to at least 2000ml daily.

Aim to drink 1500ml by day 5 and 2000ml by day 7 to avoid constipation.

If you cannot manage protein shakes in the first few days after surgery, drink 1000 to 1500ml clear fluids daily including protein water. By day 5 you should find protein shakes easier to manage.

Protein drinks can become thicker if left to stand. You can add milk or water to thin them down.

For all fluids

- Take lots of sips of fluids throughout the day. Use the charts to record how much fluid you are drinking.
- Sip slowly and wait for a minute or two between sips to recognise when your stomach pouch is full.
- Always stop drinking when you feel full. At first this is likely to be after 50ml.
- Using a straw helps you to sip rather than gulp fluids. This can add air into the pouch which can be uncomfortable in the early stages. If you can sip without gulping, you do not need to use a straw.

Tip: If you are drinking enough fluids, your pee (urine) should be light yellow.

- Most people are not hungry at this stage so getting into the habit of sipping fluids all day takes time and patience. Drinking fluids should become a habit. Do not wait until you feel hungry or thirsty.
- Drink more high protein fluids over the first month as shown in the charts.

Many people become bored with a fluid only, milk based diet. Add variety to your fluid diet as follows:

- Have a wide range of protein soups and shakes. Look for supermarket protein yogurts or drinks.
- Make your own high protein drinks. Use the recipes below or add unflavoured protein powders.

If you do not like or cannot have milk

- Look online or in health food shops for dairy-free protein powder and follow manufacturer's instructions for use. Check the label for protein content and aim for 60g protein daily.
- Add unflavoured protein powder to soups or smoothies
- Make shakes by adding unflavoured dairy-free protein powder to lactose-free or soya milk and yogurt (see below for flavour ideas)
- Look for high protein milk-free drinks such as flavoured protein waters, available online or in larger supermarkets. Many contain 20g protein or more per bottle.

Recipes for protein drinks

High protein milk (40g protein per 570ml (1 pint), 14g per 200ml)

570ml (1 pint) skimmed or semi-skimmed milk (19g protein)

60g (4 heaped tablespoons) skimmed milk powder (21g protein)

Mix the milk powder to a paste with a small amount of milk. Once dissolved whisk in the rest of the milk.

Use wherever milk is needed for example:

- Thin custard (should pass through a straw).
- Chilled milk to make up shakes or to add to tea and coffee.
- Hot milk to make cream-based soups, low calorie bedtime drinks or latte.

Fruit smoothie (12g protein per serving, makes 2 servings)

250ml high protein milk (18g protein)

100g low calorie or natural yogurt (6g protein)

100g fruit, fresh or tinned for example banana, strawberries, tinned apricots or peaches in juice

Combine ingredients, blend until smooth and serve with ice. Add extra milk to thin if needed.

Variations on sweet milky drinks

- Mix flavours of milk shake for example vanilla and strawberry, chocolate and banana.
- Add low calorie ingredients to improve flavours for example:
 - Neutral or vanilla shake with instant coffee or malted milk powder;
 - Strawberry shake with fresh strawberries (blend and sieve before serving);
 - Chocolate shake with instant coffee or peppermint or orange essence.

High protein soup (15g protein)

1 sachet cream cup soup (for example tomato, vegetable, chicken, mushroom)

200ml high protein milk

Mix soup powder and a small amount of milk to make a paste. Heat the remaining milk to just under boiling and stir in to the paste until dissolved. Sieve to remove food pieces and reheat before serving if needed.

Or make up chicken Complan with high protein milk using the method above (23g protein).

Week 1 fluid chart

Complete the chart as you go to help you track how much you drink.

Time	Fluid	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
8am	50ml protein drink							
	50ml clear fluid							
9am	50ml protein drink							
	50ml clear fluid							
10am	50ml protein drink							
	50ml clear fluid							
11am	50ml protein drink							
	50ml clear fluid							
12pm	50ml protein drink							
	50ml clear fluid							
1pm	50ml protein drink							
	50ml clear fluid							
2pm	50ml protein drink							
	50ml clear fluid							
3pm	50ml protein drink							
	50ml clear fluid							
4pm	50ml protein drink							
	50ml clear fluid							
5pm	50ml protein drink							
	50ml clear fluid							
6pm	50ml protein drink							
	50ml clear fluid							
7pm	50ml protein drink							
	50ml clear fluid							
8pm	50ml protein drink							
	50ml clear fluid							
9pm	50ml protein drink							
	50ml clear fluid							
	Total							

Week 2 fluid chart

From week 2, increase to 1000ml high protein fluids and 1000ml clear fluids daily.

Time	Fluid	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
8am	100ml protein drink							
	50ml clear fluid							
9am	50ml protein drink							
	50ml clear fluid							
10am	100ml protein drink							
	50ml clear fluid							
11am	50ml protein drink							
	50ml clear fluid							
12pm	50ml protein drink							
	50ml clear fluid							
1pm	100ml protein drink							
	50ml clear fluid							
2pm	50ml protein drink							
	50ml clear fluid							
3pm	100ml protein drink							
	50ml clear fluid							
4pm	50ml protein drink							
	50ml clear fluid							
5pm	50ml protein drink							
	50ml clear fluid							
6pm	100ml protein drink							
	50ml clear fluid							
7pm	50ml protein drink							
	50ml clear fluid							
8pm	50ml protein drink							
	50ml clear fluid							
9pm	100ml protein drink							
	50ml clear fluid							
	Total							

Weeks 3 and 4

You may manage larger amounts, 150 to 200ml every 2 to 3 hours. Continue with 1000ml clear fluid daily.

Weeks 5 to 6: Soft diet

Key points:

- Eat very slowly (half a teaspoon per mouthful) and stop eating when you feel full.
- Choose soft protein foods. Do not worry if you cannot manage other foods.
- Have drinks in between meals and snacks.
- Continue to take a soluble or chewable multivitamin daily (see page 22).

You can now eat soft moist foods. You should be able to mash your food with a fork. Food will be easier to eat if served with gravy or sauce. Chew food thoroughly so that each mouthful is pureed by the time it is swallowed. Some foods such as skins on peas need extra chewing.

Focus on eating protein foods and do not worry if you cannot manage vegetables or starchy foods at this stage. Aim to eat 1 to 2 dessertspoons of food at each meal and snack. Change the quantities of ingredients to get a moist texture and add herbs and spices to taste. Do not worry if some foods suggested are high in calories such as corned beef. You will only eat a small amount and your diet will still be low in calories.

Soft meal ideas

Light meals

- 1 dessertspoon light soft cheese mixed with 1 dessertspoon finely chopped canned tuna or salmon or smoked salmon. Season with lemon juice, black pepper and chopped parsley.
- 2 slices finely chopped wafer thin meat mixed with half to 1 chopped hard-boiled egg and 1 dessertspoon light mayonnaise. Add chopped spinach, watercress or curry powder to taste.
- 1 slice lean corned beef mashed with tomato ketchup.
- 1 egg (poached, scrambled, soft cooked omelette, or baked – see recipe below).
- 1 to 2 dessertspoons (1 mini pot) low fat hummus.
- 1 to 2 dessertspoons thick lentil dhal.
- 1 to 2 dessertspoons mashed baked beans with extra tomato ketchup if needed.

Once you can eat these try serving them with a mini breadstick or small piece of crackerbread or Dutch Crispbake. These do not leave a lot of residue in the stomach pouch.

Baked eggs

Break an egg into a bowl and beat with 1 teaspoon milk. Spray a muffin tin with oil. Pour the egg mixture into the tin and bake at 200°C/ Gas mark 5 for 20 to 25 minutes.

You can add flavour as needed, for example herbs, grated cheese, finely chopped wafer thin ham, spinach, leeks, mushrooms, or add your own favourite ingredients.

Serve hot or cold. You can make several and freeze them for later.

From week 5 serve 1 baked egg for a meal. Eventually you should manage 2 eggs for a meal and 1 for a protein snack.

Main meals: Serve a portion size of 1 to 2 dessertspoons for each meal:

- Bolognese sauce made with lean minced beef, pork, turkey, Quorn or soya, chopped tinned tomatoes and tomato puree, garlic and herbs to taste, carrots and 1 to 2 pieces of pasta.
- Lean minced lamb with gravy and mint jelly, cauliflower without the stalk and boiled potato.
- Minced pork with gravy and apple sauce, stringless green beans and jacket potato without the skin.
- White fish and parsley sauce, peas and mashed potato.
- Tinned tuna flakes, cheese sauce, broccoli without the stalk and 1 to 2 pieces of pasta.
- Poached salmon fillet without the skin, white sauce, lemon juice, steamed baby spinach without the stalks and mashed potato.
- Slow-cooked chicken casserole with carrot and sweet potato.
- Lean corned beef with chopped tinned tomatoes, baked beans and mashed potato.
- Grated cheese, cheese sauce, cauliflower or broccoli without the stalk.
- Baked eggs (see recipe on page 12).
- Tinned chickpeas (season to taste), chopped tinned tomato and onion (cooked in water to soften), boiled rice.
- Peas or beans in a vegetable curry (vegetables must be soft), boiled rice.
- Thick lentil dhal, boiled rice.

You can use vegetarian protein foods such as Quorn, tofu and soya which are often softer than meat.

Tips for eating

- Choose low calorie food and drinks where possible.
- Chew food at least 20 times (some foods need more than this).
- Eat slowly and wait between mouthfuls.
- At mealtimes, focus on eating. Avoid doing other things at the same time, such as watching television.
- Stop eating once you can feel food in your stomach pouch.
- Eat 3 small balanced meals daily with 3 small snacks (see meal plan on page 14).
- Slowly increase to a portion size of 5 to 6 dessertspoons.
- Take a chewable vitamin and mineral supplement (see page 22).
- Serve food in a very small dish or ramekin, the size of your palm or smaller.

Tips for drinking

- Drink between meals only. Do not drink for 15 minutes before and for an hour after eating.
- Drink slowly in small sips, waiting for a minute or two between sips.
- Take a bottle of water with you when you go out.
- Drink at least 2 litres of fluid daily.
- Avoid all fizzy drinks.

Suggested meal plan - weeks 5 to 6:

Breakfast:	half to 1 wheat biscuit with milk;
or	2 dessertspoons porridge with milk;
or	1 egg (poached or scrambled);
or	2 dessertspoons baked beans.
Mid-morning:	half to 1 small pot low calorie yogurt;
or	2 dessertspoons low fat low sugar custard;
or	2 dessertspoons soft fruit (ripe banana or melon, stewed apple, tinned fruit).
Lunch:	1 to 2 dessertspoons high protein dish (see ideas for light meals on page 12).
Afternoon:	as mid-morning.
Main meal:	1 dessertspoon cooked meat or fish, cheese or beans/lentils
with	1 dessertspoon sauce or gravy
and	1 dessertspoon well-cooked, soft vegetable (avoid strings, skins, stalks).
	You can also add half to 1 dessertspoon starchy food if you want to (see ideas for main meals on page 13).
Bedtime:	200ml milky drink.

Drink 600ml milk or 300ml high protein milk (see page 9) daily to add an extra 20g protein.

Eat meals and snacks every 2 to 3 hours. This can be difficult at this stage but when portions at meals are very small you will not eat enough protein without snacks. If you cannot fit in drinks as well as snacks between meals, continue with protein drinks as snacks.

Eating every 2 to 3 hours is an important habit that will help you to manage your weight in the long term.

Week 7 onwards: Normal diet

Key points:

- Try new foods, eat protein first and add in vegetables as you can manage these.
- Eat meals and snacks every 2 to 3 hours with drinks in between.
- Serve meals on a side plate no wider than 18cm/7 inches (see front page).
- Choose healthy snacks and keep processed snacks for occasional treats (see page 17-18).
- Take 3 servings of dairy food daily (see page 23)
- Change to a tablet multivitamin (see page 22).

It may be several weeks before you can manage a wide range of textured foods. Progress at your own pace and do not be tempted to rush (see page 15 for tips on eating slowly).

Snacks

When you first start solid food meals will be very small. You will need to eat healthy snacks between meals to make sure you have enough protein. People who eat small snacks between meals long term find it helps them to avoid hunger and eating larger portions at meals. If you do not feel hungry try a cup of milk. Snacks should contain 50 to 100 calories only. See page 17 to 18 for snack ideas.

Tips for eating slowly

- Use smaller or child-size cutlery.
- Take small mouthfuls (no more than half a teaspoon).
- Chew each mouthful 20 times until pureed in the mouth (some foods need more than this).
- Put your fork down and wait for 20 seconds to see if your pouch is full.
- Take at least 20 minutes to eat your meal. Do not try to eat meals at the same speed as others.

Start with slightly larger portions of the foods you ate in weeks 5 to 6, served with vegetables. See page 16 to 18 for ideas for meals and snacks.

- To make sure that you eat a balanced diet, eat foods from all the food groups daily.
- Take a tablet multivitamin and mineral supplement daily (see page 22).
- Aim to eat at least 60g protein, 800 to 1200 calories daily, and eat a low fat low sugar diet.
- Use the lists below to help you check your protein intake or read labels on food packaging.

2 to 3 portions of protein (14g protein)

50g cooked lean meat for example chicken, turkey, pork, lamb, beef, offal

75g cooked fish

2 eggs

100g (half a small tin) baked beans (5g protein)

40g tinned lentils, chick peas, red kidney beans, peas, mushy peas, broad beans, butter beans (3g protein)

30g (2 tablespoons) peanut butter (7g protein)

50g Quorn (mince, pieces or 1 fillet) (7g protein)

3 portions of low fat dairy foods (7g protein)

200ml milk

25g hard cheese

125g low calorie or natural yogurt

100g cottage cheese (10g protein)

5 portions of fruit and vegetables without skins, pips, strings or pith.

Fruit (0g protein)

80g fresh or tinned fruit in juice for example half a small banana, fist sized apple, satsuma, 12 grapes

Small glass (150ml) of citrus fruit juice (limit to 1 a day)

Vegetables (2g protein)

80g (3 heaped dessertspoons) cooked vegetables

80g (4 to 5 heaped dessertspoons) raw vegetables

Starchy foods (2g protein per serving)

2 large or 3 small crackers (start with crackerbreads or Dutch Crispbakes)

3 dessertspoons (30g) unsweetened cereal, for example, porridge oats, branflakes or malted wheats,

1 Wheat bisk

1 dessertspoon cooked rice, pasta or couscous

1 thin slice toast, sandwich thins, mini wrap or mini pitta

Try bread only once you can manage the foods listed above

Do not worry if you do not manage starchy foods. These foods fill the stomach pouch very quickly. It is more important to eat enough protein. Follow the tips for eating and drinking as for soft foods.

Plate size

The front cover diagram shows the recommended size plate to use when serving food after surgery. If you place your plate over the diagram and cannot see the edge of the diagram, you should look for a smaller plate. Use the sections shown in the diagram to help you serve food in the right proportions.

Meal ideas for normal diet

Light meals

Always include protein at your light meal unless you had a cooked breakfast.

- Start with crackers or crispbreads or a small jacket potato topped with soft light meal options listed on page 12.

Then try more textured foods such as:

- Wafer thin meat
- Thinly sliced or grated cheese (can be grilled)
- Tinned oily fish (for example, sardines, mackerel or pilchards) (take care with bones)
- Baked beans
- Poached or scrambled or soft boiled egg.

Once you can manage crackers and crispbreads try other alternatives to bread such as:

- Half a slice of toast (no crusts)
- 1 mini pitta bread
- 1 sandwich thin
- 1 mini wrap

Do not try bread until you can manage these.

- Try salad with your protein food. Remove stalks, skins, strings and pips from lettuce, tomatoes and cucumber, or try smooth foods such as a little beetroot or grated carrot. Try 1 salad item at a time so that you can tell which foods you do not tolerate at first, before moving onto mixed salads.

- Soup does not provide very much protein. If you enjoy soup for a light meal make sure you have a protein breakfast to start the day, or have 2 extra protein snacks (see page 18).

Main meals

Start with the foods you ate in weeks 5 to 6 such as:

Shepherds pie, cottage pie, mild chilli con carne, pasta bolognese (use very lean minced meat or Quorn mince for all these) and fish pie. Serve with well cooked or tinned vegetables.

Next try larger pieces of meat or fish (vegetarian options are given below):

- Meat casserole (slow cooked)
- Liver and onions in gravy
- Steamed or poached fish in sauce
- Cauliflower, broccoli or other soft vegetables in low fat cheese sauce
- Soft cooked plain omelette
- Half a small jacket potato (1 to 2 egg sized, no skin) with baked beans, cottage cheese or tuna, or egg in low fat mayonnaise

Once you can manage these try a wider range of foods. Many are drier foods needing more chewing. Try different vegetables but remove strings and skins:

- Grilled fish (take care to remove bones), vegetables, boiled potato.
- Spanish omelette (cook diced vegetables and potato, add beaten eggs and 1 dessertspoon parmesan cheese to omelette pan. Cook the top under the grill).
- Stir-fried chicken with vegetables (avoid stringy vegetables) and noodles.
- Fish fillet baked in foil with courgettes, peppers, cherry tomatoes. Add 1 dessertspoon couscous.
- Grilled sausage, baked beans, 1 to 2 sweet potato wedges (spray with oil and bake).
- Curry with meat, prawns, egg or lentils and vegetables (in low fat sauce) and 1 dessertspoon boiled rice.
- Roast meat, for example, 1 small chicken thigh, vegetables, 1 baby new potato (spray with oil and bake), gravy.
- Pizza (top 1 small wrap with passata, chopped meat or tuna, grated cheese and bake).

Ideas for snacks

- 1 to 2 dessertspoons tinned fruit in juice or stewed fruit without sugar.
- Smooth fruit without skins, pips or pith, for example, half a small banana, a few pieces of melon or mango, or peeled seedless grapes.
- Small portion of fruit with 1 to 2 dessertspoons of yogurt or low fat low sugar custard.
- Protein snack (see list below).

If you do not manage 2 protein servings at meals you will need to eat protein snacks. Use the list below and the lists on page 15 to 16 to help you boost your protein intake to 60g daily.

Protein snacks (7g protein)

- 200ml milk (can be used to make a low calorie (40 calorie) hot milky drink)
- 100ml high protein milk (see recipe on page 9)
- 125g low calorie or plain yogurt (containing no more than 100 calories). You can have this frozen.
- 25g hard cheese (or mini cheese portion and 1 cracker)
- 1 baked egg (see recipe on page 12)
- 2 slices wafer thin meat spread with 2 dessertspoons low fat soft cheese (roll up and serve)
- 30g peanuts or almonds (these are high in calories so keep for treats only)

Suggested meal plan – normal diet:

- Breakfast:** 3 dessertspoons porridge or breakfast cereal and milk;
or 1 slice wholemeal toast with a small amount of low fat spread, jam or honey;
or 1 egg (poached or scrambled);
or 2 dessertspoons baked beans.
- Mid-morning:** 1 pot low calorie yogurt;
or 1 portion soft fruit;
or protein snack (see list below).
- Lunch:** meat, fish, cheese, egg or beans/lentils with 1 dessertspoon sauce
and small bowl of salad or 2 dessertspoons lightly cooked vegetables
and mini wrap or pitta, sandwich thins, toast/bread, potato, rice, pasta or couscous.
- Afternoon:** as mid-morning.
- Evening meal:** meat, fish, cheese, egg or beans/lentils with 1 dessertspoon sauce
with 2 dessertspoons vegetables or small bowl of salad
and 1 egg sized potato, or 1 dessertspoon rice, pasta or couscous (see meal ideas).
- Bedtime:** 200ml milky drink;
or mini cheese portion and 1 to 2 small crackers.

Your diet in the longer term (from 12 weeks after surgery)

Key points for the long term:

- For best weight loss continue to serve meals on a side plate and include 2 small snacks daily.
- Include difficult foods, chew carefully and wait between mouthfuls.
- Keep high calorie foods for treats. Eat healthy snacks such as fruit between meals.
- Take a multivitamin and iron and calcium supplements daily (see page 22).
- Do more exercise for best weight loss.
- Attend all your follow-up appointments, even if you feel you are doing well.

Why is it important to eat drier and chewy (textured) foods when these are difficult?

- You may feel more hungry from 3 to 6 months after surgery. Drier foods stay in the small stomach pouch for longer after eating. Soft and sloppy foods pass through the gut more quickly and you will be hungry again sooner.
- Drier foods need chewing 20 times or more to reach a puree texture. Chewing sends messages to the brain that you have had enough to eat.
- Eating more difficult foods forces you to eat more slowly. After 20 minutes your body's appetite mechanism will send messages to the brain that you are full.
- Eating drier foods helps you to eat small portions. This helps to reduce calories eaten and helps you to lose weight and to keep the weight off in the long term. If you continue with softer foods such as lasagne and shepherds pie you will eat larger portions as your appetite returns.
- Check the plate diagram on the cover. Make sure your plate and portion sizes are correct.
- If you return to eating the full range of foods and textures you are more likely to be getting all the nutrients you need to stay healthy in the long term.

More tips for eating

- High calorie processed snacks (for example, pastries, biscuits, crisps) are easy to eat but do not satisfy appetite. This also applies to lower calorie or "healthy" options such as breakfast biscuits, Quavers and Skips. Choose healthier snacks such as fruit, low calorie yogurt or a protein snack (see page 18) which help you feel full. Practice good habits early on by eating healthy snacks regularly and keep other snacks for occasional treats.
- If you cannot manage a food, try it again in a few weeks time. It may take time for you to manage some of the most difficult foods but it is worth persevering.
- At mealtimes, clear uneaten food away after 30 minutes. Do not save leftovers to eat in 1 to 3 hours time. The next time you eat, it should be a 50 to 100 calorie snack, not another meal.
- If you are hungry, eat every 2 to 3 hours. Choose more difficult foods which will keep you full for longer.

If you have discomfort, pain or are being sick (vomiting) after eating, use the troubleshooting chart below to work out what the problem was and plan to make sure it does not happen again.

Troubleshooting chart

Problem	Solution
Eating too much food	Serve correct portion on a side plate. See diagram on front cover.
Eating too quickly	Practice chewing small mouthfuls 20 times. Wait between mouthfuls. See page 15 for tips on eating slowly.
Food texture too advanced	Go back to the previous stage and progress more slowly.
Not concentrating on eating	Change your eating environment so you can learn to concentrate on eating, for example, eat alone for a while.
Busy or stressed	Plan your day to make time for meals and snacks.

Food diaries can help you to:

- work out what is causing problems such as discomfort or being sick (vomiting).
- understand why your weight loss is not as expected.

Record the times you eat, what you eat and how much. Compare this with the suggested meal plan for the eating stage relevant for you. **Are there any changes you could make?**

Comment on the diary to help you understand what factors could have affected your eating. Remember that it is normal to tolerate a food one day and not the next. **Could you make any lifestyle changes to help you to follow the diet more closely?**

If you need more help, contact your Dietitian.

Do not worry if you do not lose weight every week:

- It is normal for weight loss to stall for several weeks at a time.
- Focus on how much you have lost overall since your operation rather than asking yourself whether you overate this week.
- Weigh yourself less often or avoid the scales and note changes in the fit of your clothes instead.

If you are still concerned, contact your Dietitian for advice.

Things to look out for (all operations)

Diarrhoea: This can happen in the first few weeks after your operation. It usually improves as you restart solid food. Drink extra fluid (avoid sugary drinks). If diarrhoea does not improve ask your chemist for advice. You can buy Loperamide (Imodium) over the counter from a pharmacy or supermarket. This should help improve loose poo (stools).

Constipation: At first this is often due to not drinking enough fluid. Later on it may also be due to taking iron supplements. To manage constipation try the following steps in the order given:

1. Drink at least 2 litres of fluid (8 mugs or 10 cups) daily. **If this does not help, try the next step:**
2. Take prune juice, syrup of figs or a fibre supplement (Benefiber or Fibresure, available from a supermarket or health food shop). **If this does not help, try the next step:**
3. Ask your GP or chemist for advice. You can buy Lactulose from your chemist. Ask your GP about a change of type or dose of iron.

Hernias: The tummy (abdominal) muscles in overweight patients are often weak. Some patients get a wound hernia, which appears as a bulge under the scar. Tell your doctor if you think you may have a hernia. If a hernia causes pain you may need another operation to repair it.

Hair loss and brittle nails: This is fairly common from a few months after surgery. Hair and nails almost always return to normal within a few months. This will happen without you taking extra vitamins or changing your diet.

Psychological concerns: Weight loss operations often change your enjoyment of food and shared meals with others. This affects both you and those around you and some people find it hard to adjust. Please ask for help if you need it.

If you need any medical investigations after surgery the information below may be useful:

- The staples used in gastric bypass and sleeve gastrectomy are made of titanium.
- It is safe for you to have scans including MRI from 6 weeks after your surgery.

Information after roux-en-y gastric bypass (RYGB)

Please refer to the booklet ‘A guide to weight loss procedures (bariatric surgery)’ for information about the 2 different types of gastric bypass - RYGB and OAGB.

You can download the booklet from <https://yourhealth.leicestershospitals.nhs.uk/>

After surgery, part of your gut is bypassed which changes the hormones affecting appetite. You will feel full sooner and your food tastes may change. The operation limits the amount of food you eat in the early stages. It can be hard to get used to the physical, emotional and mental changes after gastric bypass but these operations usually result in more weight loss than other procedures.

Dumping Syndrome

Around 3 in 4 people experience dumping syndrome after gastric bypass. Symptoms include feeling sick, diarrhoea, sweating, feeling faint or dizzy and increased heart rate. This is caused by eating or drinking too much sugar, eating large amounts of food or eating and drinking together. Some people have similar symptoms after too much fat or alcohol. Symptoms can happen early after eating (10 to 30 minutes) or later (1 to 3 hours after food) but usually pass after 2 to 3 hours. Lying down after eating can help with the symptoms.

You can prevent dumping syndrome by avoiding sugary foods and drinks including fruit juice, eating smaller portions and avoid drinking with meals. Keep a food and symptom diary to find any triggers or contact your Dietitian for advice.

Taste changes

You may find that you like some foods which you disliked before surgery and that you dislike some foods you used to enjoy. Some people are satisfied with very small amounts of sweet foods, or do not tolerate fatty foods. Do try new foods – you may be surprised what you enjoy! Sometimes people can have significant loss of appetite. This can improve over time but please ask your Dietitian for advice if you are concerned.

Information after one anastomosis (mini) gastric bypass (OAGB)

All the information above about gastric bypass is important. After OAGB more of your gut is bypassed than after roux-en-y gastric bypass (RYGB). This means not all the protein, vitamins and minerals you eat will be absorbed.

Eat at least 70g protein daily to make up for less absorption of protein from food. Use the lists of protein in foods to help you eat enough protein and include protein snacks daily (see page 18). Ask your Dietitian to check if you are eating enough protein.

Information after sleeve gastrectomy

After the operation, most of your stomach is removed. You will not produce the hormone that makes you feel hungry. The operation helps you to eat smaller amounts of food at meals but sweet or savoury snacks and high calorie drinks will pass easily through your stomach pouch.

Weeks 1 to 4: Fluid diet

You should drink fluids very slowly in the first 2 weeks after sleeve gastrectomy. The risk of a staple line leak is higher than after the other types of weight loss surgery. Sip slowly, do not gulp, wait between mouthfuls and stop drinking when you feel full or feel pressure behind the breastbone.

Week 7 onwards: Normal diet

During the early weeks on solid food, if you find it hard to drink enough fluid and/or to fit in meals and snacks every 2 to 3 hours, try drinking milk or a protein drink between meals instead of a snack. If you can eat larger meals than recommended, make sure your plate measures 15 -18cm across and choose drier foods that need more chewing. Eat fruit, a mini cheese portion or a low calorie yogurt between meals to reduce the temptation to snack on high calorie foods.

Vitamin and mineral supplements

You will absorb less iron, calcium and vitamin B12 from food than you did before surgery.

Key points:

- After surgery everyone should take vitamin and mineral supplements **for the rest of their life**.
- Take soluble or chewable vitamins in the first 6 weeks and then tablet or capsule.
- Ask for different versions if you dislike your supplements.
- Go for regular blood tests and reviews of your supplements as recommended.

Multivitamins

For the first 6 weeks after surgery, take 1 Forceval Soluble tablet daily after gastric bypass or 2 Centrum chewable vitamins after sleeve gastrectomy.

From week 7 take a good quality over the counter multivitamin and mineral supplement containing 100% of the recommended amount of most nutrients (1 Forceval or 2 A-Z or 2 Centrum). Forceval is recommended after gastric bypass and can be prescribed by your doctor. We do not recommend bariatric multivitamin supplements (see page 23).

Calcium and vitamin D

Take prescription strength calcium and vitamin D to avoid bone thinning and brittle bones. Calcium is better absorbed if taken in 2 separate doses over the day, for example Adcal D3, take 1 tablet or 2 caplets twice daily. Taking calcium is very important for women and those who have a family history of brittle bones (osteoporosis).

Iron

Take 1 iron tablet such as ferrous sulfate daily from week 7. Women who have regular periods should take 2 iron tablets.

Vitamin B12

Have a vitamin B12 injection every 3 months to prevent deficiency. Vitamin B12 is not absorbed after gastric bypass and is poorly absorbed after sleeve gastrectomy. Some patients become very tired as the effect of their vitamin B12 injection wears off (from 8 weeks after the last dose). You can ask your GP to give the injections more often.

Tips for taking vitamin and mineral supplements:

- If you do not like the taste add Forceval Soluble to a larger amount of water. You can also add diet squash to mask the taste.
- Do not continue chewable vitamins in the long term. The tablet vitamins contain more vitamins than chewable versions. If you cannot take tablets take Forceval Soluble once daily.

To improve vitamin and mineral absorption -

- Take iron supplements with orange juice.
- Do not take vitamin supplements with tea and coffee.
- Take iron and calcium supplements at least 2 hours apart
- Take calcium in 2 doses over the day. Split the tablet if you are prescribed a once daily dose.

Combined bariatric vitamin supplements for example Baricol

These contain all the vitamins needed in 1 product. They contain both iron and calcium which will reduce absorption. They are not suitable during pregnancy. We do not recommend these.

Calcium is very important for bone health.

Have 3 dairy servings daily as well as calcium supplements (see below). 1 dairy serving is 200ml milk, 25g hard cheese (1 square slice), 150g (small pot) yogurt or 100g cottage cheese.

Pregnancy after bariatric surgery

Avoid pregnancy for 2 years after surgery. The low calorie diet does not allow your baby to grow normally. Weight loss often improves fertility and you may need contraception during this time.

Make sure you have a nutritional blood test and your GP or Dietitian has confirmed the results are normal before trying for a baby. Not having enough vitamins (Vitamin deficiencies) can cause serious harm to the growing baby.

Forceval capsule (not soluble) is the only suitable vitamin after sleeve gastrectomy or gastric bypass for women trying for a baby and during pregnancy. The vitamin A content of Forceval capsule is safe during pregnancy. Other vitamins either do not contain the safe form of vitamin A (for example, Centrum or A-Z or Baricol) or contain no vitamin A (for example, Pregnacare).

Good habits to practice in the long term

Weight regain after surgery is common because it is easier to eat more after the first few months.

Food - continue to:

- eat meals and snacks every 2 to 3 hours
- serve meals on a side plate
- eat slowly and carefully
- eat a wide variety of healthy foods
- eat drier more difficult foods (avoid regular high calorie easy to eat foods, for example, lasagne or pastries)
- include protein at main meals and some snacks
- keep high calorie snacks or drinks for occasional treats

These habits will help you avoid weight regain in the longer term.

Vitamins: Take all recommended vitamins and minerals for the rest of your life, even if you feel well. Have blood tests once a year and see your GP to talk about the results and any action needed.

Alcohol: Alcohol is high in calories so should be enjoyed as an occasional treat only. You will find your tolerance changes at first so that you feel drunk after only a small amount. With time some people find they drink more alcohol than they should, particularly if they have not established good eating habits. If you would like help with reducing the amount of alcohol you drink speak to your Dietitian or GP.

Avoid fizzy drinks like champagne as the bubbles over fill the small stomach pouch, causing pain.

Eating Out: You can enjoy eating out after surgery once you can eat a range of solid foods. Either:

- Choose from the children's menu.
- Order a starter only and ask the waiter to serve other meals in your party without waiting for you to finish, or eat a small amount from your partner's plate for each course.

Drinking while you are eating is common when eating out. Avoid having a drink unless you will not be eating for some time. Drink water or other non-alcoholic drinks to avoid any problems from drinking alcohol on an empty stomach.

Activity: For best weight loss, exercise regularly. This can help you to lose weight and to keep this weight off in the long term. People who maintain weight loss do 45 to 60 minutes of moderate intensity exercise most days (for example, brisk walking, cycling, vacuuming).

Pick an activity you enjoy or try a new one. If you have not done regular activity before, start with gentle exercise and increase it slowly. Check with your GP before starting any more strenuous activity for example running or lifting weights. If it helps to motivate you, get support from a friend or partner who will encourage you and exercise with you. You can use a step counter app or smart watch to track your activity.

If you have never enjoyed exercise, you can start by reducing inactive time, for example, spend less time watching television or using the computer. You can also use stairs instead of lifts and get off the bus 1 or 2 stops earlier than you need to. If you prefer to walk rather than go to the gym then try to walk faster and further than you did before surgery and increase this steadily. For any outdoor activity, plan for another type of exercise you will do when the weather is wet or cold. Your exercise plan should be realistic and should fit in with your lifestyle. If it does not, you will find it difficult to keep it going.

Monitoring: Once your weight is stable, check your progress once or twice every month so that you notice if you gain weight and can take action to stop this.

You can weigh yourself once or twice each month and/or check for changes in the fit of your clothes. If you are gaining weight or not losing weight as expected, you should:

- Record what you eat and how much exercise you do for 2 to 3 days. You can use a food diary or a diet tracker app and step counter.
- Check the good habits section on page 23 to see if there are changes you could make.
- Contact your Dietitian if you need more help.

Weight regain is common after surgery. You can avoid weight regain if you check your progress and continue to practice good habits in the long term.

Useful contacts

If you have a question about your diet, vitamins or blood test results please contact

Jane Calow, Specialist Dietitian Bariatric Surgery on 0116 258 5400 (Wednesday to Friday).

If you are connected to our answer machine or speak to a member of the dietetic admin team, please leave a contact number and times when you are available for a call back. You can also leave a message that you have had blood samples taken.

If you have an urgent concern such as being sick (vomiting) a lot or not managing any food, telephone the surgical secretaries on 0116 258 6857 who will arrange medical advice as needed.

If you have any other queries please contact your GP . If you need medical advice urgently please ring 111 or visit your nearest urgent care centre, or in an emergency visit A&E.

If you are concerned about your health and you have recently been in hospital please contact the ward you were discharged from and ask to speak to the nurse in charge. Please give details of the name of your Consultant if you know it, which operation you had, and the date you had your operation.

Ward 21: 0116 258 5475. **Ward 22:** 0116 258 4165

To change your appointment please ring 0116 258 7574

More information

For more information about weight loss surgery the following websites may be helpful:

www.wlsinfo.org.uk This website links to an online patient support group which is free to join.

www.nhs.uk/conditions/weight-loss-surgery



**Leicester Bariatric and
Metabolic Service**

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