

PATIENT INFORMATION

Pre-operative Liver Reducing Diet

As part of your preparation for surgery your surgeon feels it would be beneficial for you to follow a diet very low in calories, carbohydrate (starches and sugars) and fat for 2 weeks before your surgery.

Why do I need to follow this diet? This is to shrink your liver down to ensure that the operation can be done by the keyhole (laparoscopic) method. If your liver is too big, the surgeon may abandon the operation, or you will have to have an open operation, the risks of surgery will increase, and your recovery will be delayed.

By following a strict diet, your body reduces its glycogen stores (glycogen is a form of sugar stored in the liver and muscles for energy). With each ounce of glycogen, the body stores 3-4 ounces of water, so when you follow a very strict diet, especially one that is low in starch and sugar, your body loses its glycogen stores and some water. The liver shrinks as it has less glycogen and water in it.

IMPORTANT *For some people who might have had difficult experiences with food / eating or dieting in the past, this diet can be challenging and sometimes distressing. For this reason, you are invited to have support from a specialist dietitian experienced in dietary counselling. (See below for contact details)*

If you are taking medication for diabetes (e.g. Insulin, gliclazide, glibenclamide, metformin), you will need to contact your GP or diabetes doctor/nurse/dietitian to have your dosage adjusted while you are on this diet in order to make sure that your blood sugar does not fall too low.

This diet is only recommended for two weeks before surgery and is not to be followed afterwards.

NOTE: If you have received this information leaflet please inform the team at your pre-assessment appointment. You will not take the pre-op drinks usually offered before surgery

WHAT HAPPENS NEXT?

- **If Your Body Mass Index (BMI) is 40+ or you have a BMI of 35 upwards and diabetes** you will receive an invitation to an appointment with a dietitian. If you do not hear from them or you have any worries or concerns you can call the secretary on 01803 654380. **If you are given a date for surgery before you have seen the dietitian please contact either the dietitian team or your consultants secretary.** At the appointment, your dietitian will support you to choose your diet option. You will also have the opportunity to discuss any questions or concerns that you may have.
- **If your BMI is less than 40** you will not routinely receive an appointment to see a dietitian and should choose from the diets below, however, if you feel you need support with the diet please contact our dietitian team.

Pre-operative Liver Reduction Diet (LRD) is not advised for:

Adolescents, pregnant/lactating women, the elderly, people with unstable cardiac or cerebrovascular disease, acute or chronic renal failure, severe or end stage liver failure, or acute psychiatric disorders. If in doubt, please contact the dietitians for advice.

There are three different plans available for a liver reducing diet:

1. **Food plan:** Normal foods using carefully measured portions of carbohydrate.
2. **Milk plan:** Using only semi-skimmed, soya or almond milk and multivitamin tablets.
3. **Meal replacement Shake plan:** Using only shakes Slimfast®

1. Food plan

This diet is designed to give you approximately 100g of carbohydrate per day. It is low in fat (although how low will depend on the foods you chose) and moderate in protein. The energy value of the diet is between 800-1000kcal per day. It is very important to measure your portions accurately or you may end up eating too much and the diet will not work.

Per day you should take three meals and choose from the options listed below.

Breakfast (15g carbohydrate each)

Choose **one** of the following options (use milk from your additional daily allowance listed on the next page):

- 5 dessert spoons of bran flakes **or** fruit & fibre **or** cornflakes
- 1 shredded wheat **or** 1 1/2 Weetabix
- 6 dessert spoons of All Bran
- 5 dessert spoons of Rice Krispies
- 25g of rolled oats or cornmeal porridge
- 1 medium slice toast with scraping of low fat spread.

Lunch

Choose **one** of the following options:

(15-20g carbohydrate each)

- 1 slice medium sliced bread/toast
- 2 crisp breads
- 1/2 bagel
- 1/2 pitta bread

With one of the following protein options:

- 2 eggs (cooked without fat)
- 60g /2oz cheese (2 x matchbox size)
- 8 thin packet slices of ham, chicken or turkey
- 1 small chicken breast without skin
- 4 rashers of grilled back bacon
- 100g/4oz (small portion) meat
- 2 grilled low fat or
- 100g/4oz tinned fish

Plus plenty of vegetables/salad (low fat dressing).

Evening meal (20g carbohydrate each) Choose **one** of the following options:

- 1 average size old potato (approx 125g boiled/mashed)
- 4 egg-sized new potatoes with skin
- 2 small roast potatoes
- 125g yam – boiled
- 1 small green banana – boiled
- 3 dessert spoons cooked rice (any variety)
- 3 dessert spoons cooked pasta (any variety)
- 40 strands of spaghetti (count when raw!)

With one of the following protein options:

- 2 eggs
- 60g/2oz cheese (2 x matchbox size)
- 8 thin packet slices of ham, chicken or turkey
- 1 small chicken breast without skin
- 4 rashers grilled back bacon
- 100g/4oz (small portion) meat
- 100g/4oz tinned fish
- 100g/4oz tofu
- **Plus** you can have plenty of vegetables/salad (low fat dressing).

Additional allowances throughout the day

- 1/3 pint/200ml milk for drinks/cereal (10g carbohydrate)
- 2 portions of fruit **or** 1 x 150ml fruit juice and 1 x portion fruit (see fruit portions list below for details)
- One small pot (125g) low fat, low sugar yoghurt per day (diet or 'lite' varieties) **or** 1 small pot low fat natural yoghurt (about 10g carbohydrate)

Plus unlimited water, tea, coffee, low calorie squash, low calorie fizzy drinks. Please note that alcohol is NOT allowed while you are following any of the 2-week pre-op diet options.

How much is a portion of fruit?

- 1 piece of a medium fruit (e.g. apple, orange)
- 1 slice of very large fruit (e.g. pineapple, melon)
- 2 pieces of small fruit (e.g. satsuma, plum, kiwi)
- 3 dates
- 1/3 large can fruit in juice (drained)
- 3 heaped dessert spoons fresh fruit salad
- 3 dessert spoons stewed fruit without sugar
- 1 dessert spoon dried fruit
- 3 dried apricots
- 1 glass (150ml) fruit juice (maximum one per day!)

Additional information for the food plan

You should aim to eat mostly green salad and vegetables as these are lowest in carbohydrates. Vegetables such as peas, sweet corn and parsnips are higher in carbohydrate and should be avoided if possible.

Try to use cooking methods that do not add fat to your foods such as baking, grilling or boiling. You can try using the 1kcal spray oils instead of pouring oil. It is also okay to use artificial sweeteners in place of sugar.

Any of the following spices/condiments can be used to add flavour: salt, pepper, fresh or dried herbs, spices, mustard, curry powder, lemon/lime juice, vinegar, fish sauce, soy sauce, Worcestershire sauce, stock cubes, vanilla and other essences.

It is important **not** to eat less than the specified portions of carbohydrate as this can make you feel unwell. Other foods on the menu will provide you with protein and small amounts of fat. The inclusion of these foods means that it should not be necessary for you to take any vitamin or mineral supplement.

2. Milk plan

Many patients find it simpler to just follow a liquid diet plan of semi-skimmed milk for the two weeks before surgery. If you choose to follow this plan you should aim to have the following per day:

- **2 litres (3 1/2 pints) semi-skimmed milk**
- 1 multivitamin and mineral tablet daily (e.g. Forceval, Sanatogen, Centrum)
- Fibre supplement (e.g. Fybogel or Benefibre) available from chemist

Try to split the milk into 4 – 5 'meals' per day. You may add non-sugar containing flavourings to the milk (e.g. sugar-free milkshake syrups, vanilla essence, coffee etc.) but be careful not to add any sugar.

As an alternative to dairy you may use sweetened non-organic soya milk in the same quantities as above.

Plus unlimited water, tea, coffee, low calorie squash, low calorie fizzy drinks. Please note that alcohol is NOT allowed while you are following any of the 2-week pre-op diet options.

3. Meal replacement Shake plan

These are a nutritionally complete low energy liquid diet suitable for use before bariatric surgery. They contain the recommended daily intake of vitamins and minerals and provide the reduced amounts of calories and carbohydrate per day required to shrink the size of the liver.

Not all meal replacement shakes are suitable as many contain too much sugar (carbohydrate). We therefore recommend you choose from the two shake plans below:

Slimfast Meal Replacement Plan You can choose to use ready-prepared bottled shakes or prepare your own from powder (which is cheaper). The nutritional content of both forms is different so if you choose powder you will need to also purchase a whey protein shake.

Slimfast Powder Shakes (make with skimmed milk) Per day:

- **3 Slimfast shakes per day**
- **2 'Precision Engineered' Whey Protein shakes (from Holland & Barrett)**
- Plus unlimited water, black tea or coffee, low calorie squash, low calorie fizzy drinks.

OR

Slimfast Bottled Shakes and High Protein Meal Bars Per day:

- **5 bottled Slimfast shakes (325ml)**
- **You may exchange bottled shakes for Slimfast High Protein Meal bars (NOT the snack bars) if you prefer, or use a mixture of both (e.g. 3 bottles and 2 bars).**

Do not have more than 5 products total per day.

- Plus unlimited water, black tea or coffee, low calorie squash, low calorie fizzy drinks

Please Note: Alcohol is NOT allowed while you are following any of the 2-week pre-op diet options.

How will I feel while I am on this diet?

As your body responds to the diet it releases ketones, which are made when the body breaks down fat for energy. These are released in the breath, urine and sweat – sometimes causing odour. You may also experience other symptoms such as thirst, and a slightly metallic taste in the mouth. In addition, you may also find that your appetite is suppressed after the first 3 - 4 days, meaning that you feel much less hungry than you would have expected. Some people report feeling a little light-headed in the first few days. Just make sure you are sticking to the plan and drinking plenty – this will pass.

For ongoing Weight Management support:

You can self-register for the following service:-

The Specialist Weight Management Service: 01803 654823

A free programme designed to help people over 18 years to lose weight, develop a healthier lifestyle, and reduce emotional eating. To be eligible for the programme you must have taken part in a previous weight loss programme for at least 6 months, for example: Weight Watchers, Slimming World or one to one support with a Dietitian or Practice Nurse.

- Have a body mass index (BMI) 35-40 and have type 2 diabetes (including previous diabetes during pregnancy) or sleep apnoea **or** Have a BMI 40 – 49kg/m²
- If your BMI is 50kg/m² or over you are automatically eligible to join the service

<https://www.torbayandsouthdevon.nhs.uk/services/nutrition-dietetics/specialist-weight-management/>

If you would prefer to use a self-help approach at the moment you might find some of the following links:

<https://www.nhs.uk/change4life>

www.nhs.uk/Oneyou

www.nhs.uk/Livewell/weight-loss-guide

If you feel that your low mood or anxiety is impacting on your weight/eating please consider speaking to the depression and anxiety service: **0800 0730741**

<http://www.devonpartnership.nhs.uk/DAS.das.0.html>

Alternative self-help guides: www.ntw.nhs.uk/pic/selfhelp

Who do I contact if I have any questions? Department of Dietetics Weight Management and Diabetes Team **on** 01803 654384

For further assistance or to receive this information in a different format, please contact the department which created this leaflet.