Pre- Surgery Liver Reduction Diet

Information for Patients

Introduction

It is essential that you follow a very restricted diet for 3-4 weeks, before having your surgery. This is to help to shrink the liver, making the surgery easier to perform laparoscopically (via keyhole).

Following this diet achieves changes in the liver to shrink it in size and to make it softer, making it easier to move out of the way during surgery. If the liver is heavy, fatty or immobile, it is harder for the surgeon to see and gain access to the stomach underneath. This could be a reason for changing to open surgery or the procedure being too unsafe to perform. Open surgery means a larger abdominal scar, longer recovery and increased risks.

By following this strict diet, your body uses up its glycogen stores. Glycogen is a form of sugar stored with water in the liver and muscles and is used for energy. When you follow a strict diet such as this, which is low in starchy carbohydrates, sugar and fat, your body uses its glycogen stores and associated water, and therefore your liver shrinks. You may find that you need to urinate (pass water) more often when you are on this diet.

During the Pre-operative diet you will need to:

- Follow the diet strictly for 3 weeks, unless advised otherwise
- Drink plenty of fluids during the day, aiming for over 2litres/day of sugar free fluids. This can include tea and coffee
- Spread your food and drinks evenly throughout the day. Do not save up everything for later in the day
- **Abstain from drinking alcohol**
- Purchase and take daily a complete A-Z multivitamin and mineral supplement eg Sanatogen A-Z, Centrum or a supermarket/pharmacy own A-Z brand and a 25mcg Vitamin D supplement

Keep busy and active when you can

Most people lose between 3-6kg on the Liver Reduction Diet, but more importantly, your liver will shrink to reduce the risks of complications during your operation. Remember to weigh yourself on the day you start the liver reduction diet and then on a weekly basis to monitor your progress.

You may be tempted to have a special meal just before your surgery. However, do not do this as it will undo the shrinkage effects on the liver.

compassionate care

If You Have Diabetes

As your food intake (including carbohydrate portions) will be reduced whilst on the liver reduction diet, you may be required to reduce your diabetic medication. You will be advised further on medication changes at your Liver reduction appointment with the Dietitian/Specialist Nurse.

Please follow the advice in the tables provided regarding changes to your diabetes medication whilst following the liver reduction diet. **If you have type 1 diabetes, never stop your insulin and please discuss with your diabetes team prior to starting the diet.**

Oral medications for Diabetes	Insulin	GLP-1 Injectables
Stop at start of liver reduction diet: Sulphonylureas examples: **Glibenclamide** **Gliclazide** **Glimepiride** **Glipizide** **Tolbutamide** SGLT-2 inhibitors examples: **Canagliflozin** **Dapagliflozin** **Empagliflozin** **Ertuglifozin** **Stop 24hrs before surgery:** Glitazone, DPP4 inhibitors examples: **Alogliptin** **Linagliptin** **Sitagliptin** **Saxagliptin** **Vildagliptin** **Metformin**	**At the start of liver reduction diet:** **Basal insulin only:** Reduce Once daily insulin dose by 50% **Basal bolus insulin:** Stop Bolus Insulin and Reduce basal Insulin by 50% **Mixed Insulin twice daily:** Reduce both doses by 50% **Mixed Insulin three times daily:** Stop Mid-day dose of Mixed Indulin and reduce all other doses by 50%	**Stop the week before surgery** Examples: Liraglutide Lixisenatide **(Victoza or Saxenda)** Dulaglutide **(Trulicity)** Semaglutide **(Ozempic or Wegovy)** including oral preparation **(Rybelsus)** Tirzepatide **(Mounjaro)**

If you take an injectable medication for weight loss eg Mounjaro (Tirzepatide), Wegovy (Semaglutide) or Saxenda (Liraglutide) but do not have diabetes this must also be stopped the week before your surgery.

If you take a 'flozin' medication for another medical condition, this must be stopped at the start of the Liver Reduction Diet

How do I avoid hypoglycaemia (low blood glucose levels)

If you are on treatment for your diabetes or weight loss injections, you may be at risk of hypo's (blood glucose less than 4 mmol/L). If you have a blood glucose monitor, to keep you safe and well:

- Check blood glucose levels regularly. Aim to keep levels above 5mmol/L.
- Be prepared for hypo's by always having hypo treatments with you.
- Suggested hypo treatments include 4-5 dextrose (glucose) tablets or 200ml orange juice then a longer acting carbohydrate eg 1 slice toast, 1-2 plain biscuits.
- Please contact your diabetes team or GP if you are having regular hypo's.

As you will be having your surgery at Huddersfield Royal Infirmary, a Diabetes Specialist Nurse may see you whilst you are in hospital. If you are on medication (tablets or insulin) it is likely that this will also need adjusting after your operation.

If you have any concerns regarding your glycaemic control whilst on the Liver Reduction diet, please contact your local diabetes team.

What to do if you become constipated on the Liver Reduction Diet

Constipation is common when you are eating less food or having meal replacement shakes/soups. If you have signs of constipation, such as not opening bowels for several days, bloating and difficulty passing stools whilst on the Liver Reduction diet, try a bulk forming laxative eg Fybogel or Isphagula Husk which work in the same way as dietary fibre and are available to buy in chemists/large supermarkets/online. If these do not work, you can try a stool softener such as Lactolose or Macrogol (Movicol or Laxido). You can buy these at supermarkets or pharmacies and you can ask a community pharmacist for advice. Aim for a minimum of eight glasses of fluids a day.

Why might I experience headaches whilst on the Liver Reduction Diet?

Headaches or feeling light-headed can occur when starting the Liver Reduction Diet, particularly in the first few days as your body adjusts to the change in intake. This is quite common and usually settles after a short period.

To help reduce these symptoms:

- Make sure you are drinking **at least 2 litres of fluid per day.**
- If you are reducing the number of **caffeinated drinks** (such as coffee, tea, or cola), do this **gradually** rather than stopping suddenly, as caffeine withdrawal can trigger headaches.
- Replacing caffeinated or sugary drinks with **water or sugar-free alternatives** can help, but again, gradual changes are best.
- Spread meals evenly over the day

If headaches persist beyond the first few days or become severe, it's important to seek advice from your healthcare team.

Diet Options

Diet Option 1- Food

The diet is designed to give you around 800-1000Kcals per day through 3 meals, spread evenly over the day. The food will contain less than 100g carbohydrate and is low in fat. Remember to cook all your food with minimal added fat and avoid frying where possible (1cal spray oil can be used).

This diet will involve planning your shopping, meals, reading food labels and may include changing your cooking methods. This will help you to lose and maintain your weight loss after surgery.

Diet Option 2- Low Calorie Meal Replacement Plan

This diet is designed to give around 800-1000Kcals using upto 4 meal replacement shakes or soups each day eg Optifast, Celebrity Slim, Cambridge, Lighter Life, Slimfast balanced meal shake/Slimfast 30g Protein Shake or other Supermarket/Chemist branded versions.

Some people prefer this option as it does not involve thinking about food preparation or controlling food portions, but you may get taste fatigue with having the same products every day. Try to vary the flavours and products.

Diet Option 3- Food/Low Calorie Meal Replacement Plan

The diet is designed to give you between 800-1000Kcals per day using meal replacement shakes or soups at 2 meals per day plus food at 1 meal per day.

Diet Option 1- Food

Choose 1 food item from each box at each meal

Breakfast

1 Carbohydrate + 1 Fruit or Vegetable +1 Dairy/Plant Based Alternative

Carbohydrates	Fruit and Vegetables	Dairy/Plant Based Alternative
• 30g unsweetened breakfast cereal / dry porridge oats / unsweetened oat cereal • 1 slice bread / toast • ½ bread bun/roll • 1 Weetabix • 1 plain biscuit / oatcake	• A piece of fresh fruit • 2 tablespoons (tbsp) vegetables • 2 talespoons fruit (stewed / tinned in natural juice) • Small glass fruit juice (100ml)	• 100-125g diet yoghurt / fromage frais/dairy free yoghurt • 75g reduced fat cottage cheese • 1/3rd pint skimmed milk or milk alternative

Lunch

1 Carbohydrate + 1 Fruit or Vegetable + 1 Dairy/Plant Based + 1 Meat, Fish and Alternatives

Carbohydrates	Fruit and Vegetables	Dairy/Plant Based Alternative	Meat, Fish & Alternatives
• 1 slice bread / toast • ½ bread bun/roll • ½ pitta or 1 mini pitta • 1 small boiled potato • ½ medium baked potato • 2 tbsp boiled rice • 3 tbsp cooked pasta • 100g plain boiled egg noodles	• A piece of fresh fruit • 2 tbsp vegetables • 2 tbsp fruit (stewed / tinned in natural juice) • Small glass fruit juice (100ml) • Small serving of salad - lettuce, 1x tomato, onion, cucumber	• 100-125g diet yoghurt / fromage frais/ dairy free yoghurt • 25g reduced fat cheese/ vegan cheese • 75g reduced fat cottage cheese • 1/3rd pint skimmed milk or milk alternative	• 50-75g lean beef / pork / lamb / mince / chicken / turkey / oily fish • 125g white fish / prawns / tuna in brine • 4 tbsp cooked pulses / lentils / dahl / chickpeas / butter beans / peas / other beans • 2 tbsp nuts / 1oz no added sugar peanut butter / nut butters • 2 thin slices lean cold meat • 2 grilled low fat sausages • 100g soya / quorn / tofu • 5 tbsp baked beans • 2 eggs

Dinner

1 Carbohydrate + 2 Fruit or Vegetable + 1 Dairy/Plant Based + 1 Meat, Fish and Alternatives

Carbohydrates	Fruit and Vegetables	Dairy/Plant Based Alternative	Meat, Fish & Alternatives
• 1 slice bread / toast • ½ bread bun/roll • ½ pitta or 1 mini pitta • 1 small boiled potato • ½ medium baked potato • 2 tbsp boiled rice • 3 tbsp cooked pasta • 100g plain boiled egg noodles	• A piece of fresh fruit • 2 tbsp vegetables • 2 tbsp fruit (stewed / tinned in natural juice) • Small glass fruit juice (100ml) • Small serving of salad-lettuce, 1x tomato, onion, cucumber	• 100-125g diet yoghurt / fromage frais/ dairy alternative • 25g reduced fat cheese/ vegan cheese • 75g reduced fat cottage cheese • 1/3rd pint skimmed milk or milk alternative	• 50-75g lean beef / pork / lamb / mince / chicken / turkey / oily fish • 125g white fish / prawns / tuna in brine • 4 tbsp cooked pulses / lentils / dahl / chickpeas / butter beans / peas / other beans • 2 tbsp nuts / 1oz no added sugar peanut butter / nut butters • 2 thin slices lean cold meat • 2 grilled low fat sausages • 100g soya / quorn / tofu • 5 tbsp baked beans • 2 eggs

Daily Allowance : 10g low fat spread or light mayonnaise, 10 sprays of 1 calorie spray oil.

Allowed freely : Tea, Coffee with milk from allowance, sugar free squashes and unsweetened flavoured water, marmite, sugar free jelly, sugar free gum, stock cubes, pepper, herbs and spices

Healthy eating range ready meals can be used as a meal (if they contain 300Kcals or less per portion) or 200-300g portion of a mixed homemade meal eg roast chicken dinner, lasagne and salad

Sample food diary: Option 1 (Food)

Time	Food Eaten	Amount Eaten	Calories
7.30am	Bran flakes Banana Semi-skimmed milk	30g 80-100g 200ml	100Kcal 100Kcal 100Kcal
10.30am	Sugar free jelly	100-200g	5-10Kcal
12.30pm	1 slice medium sliced wholemeal bread Tuna in brine (drained) lettuce, cucumber, 1 tomato 10 grapes	40g 80g 25g	90Kcals 75Kcal 50Kcal
6pm	Roast beef 1 small boiled potato Carrots and Broccoli Sugar free ice-pop	75g 100g 100g 20-50ml	100Kcal 150Kcal 50Kcal 5Kcal
9pm	Semi-skimmed milk	200ml	100Kcals
		Total	**930Kcals**

Aim to drink 2000mls of sugar free fluids to prevent dehydration and constipation. Fluids can include:

- Tea / Coffee
- No added sugar squash
- Sugar free ice pops/lolly
- Water
- Sugar free flavoured water
- Meat/yeast extract eg Bovril

Option 2- Low Calorie Meal Replacement Plan

Products which are suitable to use on the liver reduction diet include low calorie milkshakes, smoothies, yoghurt drinks and soups. It is important to read the nutritional information on the packaging and consume the total volume which will give you between 800-1000Kcals and a minimum of 60g protein/day.

As these products are generally fortified (already have vitamins and minerals added) you do not need to take a separate multivitamin / mineral tablet each day.

Many products on the market are suitable to be included in the meal replacement diet plan (shakes/ soups/bars/porridge/smoothie) for example Slimfast, Optifast, Superdrug Slenderplan, Asda Great Shape, Sainsburys Shape and Slim, Tesco Slim, Cambridge, Exante, Holland and Barrett and other ranges in chemists and supermarkets.

A suitable equivalent vegan, dairy free, gluten free meal replacement shake would be Huel lite (500ml bottle contains 190Kcals, 25g protein).

Example Plan on Option 2- Meal Replacements

Breakfast

Asda great shape meal replacement shake- vanilla 29g sachet made up with 250ml skimmed milk (201Kcals, 17g protein)

Lunch

Slimfast ready to drink bottle 325mls (225Kcals, 14g protein)

Dinner

Optifast soup- chicken flavour made up with water (201Kcals, 20g protein)

Supper

Tesco Slim meal replacement shake- strawberry 29g sachet made up with 250ml skimmed milk (200Kcals, 18g protein)

Total 827Kcals, 69g protein

Diet Option 3- Food / Low Calorie Meal Replacement Plan

Example Plan

Breakfast

Arla Protein Raspberry Yoghurt (190Kcals, 25g protein) or Tesco Slim shake (200Kcals, 19g protein)

Lunch

Superdrug Slenderplan shake-chocolate 29g made up with 250ml skimmed milk (203Kcals, 18g protein)

Evening Meal

See diet plan 1 for variety and quantity - small meals can include stir fry, shepherds pie, risotto, stew, fish pie etc

75g Chicken, ½ onion, ½ pepper

100ml low fat curry sauce (eg curry powder and low fat yoghurt)

2 tablespoons cooked basmati rice

Sugar free jelly

Or a low calorie/healthy eating range ready meal (300Kcals per portion) and low-fat yoghurt (100Kcals) or 200-300g portion of a mixed homemade meal e.g. roast chicken dinner, lasagne and salad

If you remain unsure on what to eat or if your weight is not reducing each week whilst following the liver reduction diet, please contact the Bariatric Surgery Team on 01484 355217.

If you have any comments about this leaflet or the service you have received you can contact :

The Bariatric Surgery Team
Telephone: 01484 355217
or
cah-tr.chftbariatric@nhs.net

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

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