

# Pre-operative liver reduction diet – the food plan



## **Why do I need to follow this diet?**

If you are living with obesity and need laparoscopic upper gastro-intestinal surgery (keyhole surgery of the upper abdomen), you may need to undertake a liver reduction diet, so that your liver can be lifted out of the way during the procedure. This is necessary for procedures such as bariatric surgery, gall bladder surgery and fundoplication.

The liver reduction diet (LRD) is a restricted diet that is low in calories, carbohydrates, and fat. When you follow this diet before your surgery, your body will use up its stores of glycogen. Glycogen is a form of sugar stored in the muscles and the liver. By using up these stores your liver will release water and so reduce in size.

## **What if I do not follow this diet?**

If your liver is too large or fatty it can mean that your surgery may take longer. This means more time under general anaesthetic and a higher risk of complications. It may also mean that your surgery cannot be performed using the keyhole method. If your liver is too large, then it is likely that your surgery will be cancelled or abandoned.

## **How long do I need to follow this diet?**

You will usually need to follow this diet for two weeks prior to your surgery. Occasionally it is necessary to follow the diet for four weeks – the team will inform you if this is relevant to you.

## **Will I lose weight on the LRD?**

You should lose weight while on the LRD. A proportion of this weight loss will be due to water leaving the liver as your glycogen stores are used up. The LRD has been shown to be most effective if people are able to lose 5% of their weight while following the diet.

## **Are there side effects of following this diet?**

Any side effects of following the LRD should be mild. You may experience:

- headaches
- fatigue or tiredness
- constipation
- mild dizziness.

## **I have diabetes, do I need to change my medications?**

If you have either Type One or Type Two diabetes, please phone the bariatric nurse team for advice on your medications.

## **What does this diet involve?**

This is the food-based option for the LRD. Meal replacement and milk/yogurt options are also available (see separate leaflet).

The LRD consists of a plan that contains:

- 800-1200kcal
- reduced carbohydrates (ideally less than 100g per day)
- moderate protein to meet requirements and prevent muscle loss
- low fat.

## **Food based liver reduction diet**

With this option you can eat normal, healthy foods but you must weigh your portions to make sure you are staying within the calorie and carbohydrate recommendations.

## **Summary**

- Use the portion recommendations to plan your meals.
- Use can flavour your food with condiments from the list (optional).
- Drink at least 1500mls of fluid each day.
- Supplement with a complete A-Z vitamin and mineral supplement.

## Step One: Use the portion recommendations to plan your meals

Eat the set amount of portions from each of the food groups.

<b>Food Group</b>	<b>Number of Portions allowed</b>	<b>Total Kcals</b>	<b>Carbohydrates (g)</b>
Carbohydrates	3	300	up to 60
Protein	2	300	N/A
Fruit	2	100	20
Vegetables	3	100	15
Dairy	2	200	20
Fats	1	50	N/A

Here is a guide to the portion sizes of each food group.

## Starchy carbohydrates

Have a maximum of 3 portions per day. A portion should contain around 100kcal.

<b>Carbohydrates</b>	<b>One portion is</b>
Bread – medium sliced	1 Slice (40g)
Crisp breads	2
Small Crackers	3
Medium Pitta Bread	Half
Pitta Mini	1
Chapatti or wrap	Half
Small Oatcakes	2
Breakfast Cereal	3 tablespoons or ¼ cup (30g)
Dry Porridge Oats	3 tablespoons or ¼ cup (30g)
Weetabix or Shredded Wheat	1 biscuit
Potatoes	2 egg sized (120g)
Medium Jacket Potato	Half (fist sized or 110g)
Medium Sweet Potato	Half (100g)
Mashed Potato	1 ice cream scoop (90g)
Boiled Rice	Dry: 2 tablespoons / 1oz / 28g Cooked: ¼ cup (70g)
Boiled Pasta	Dry: ¼ cup / 1oz / 28g Cooked: approx ½ cup / 70g
Boiled egg noodles	1oz / 28g (dry weight) Cooked weight 60g
Couscous	1oz / 28g (dry weight) Cooked weight 60g
Baked beans in tomato sauce	4 heaped tablespoons or one small tin (200g)
Cooked beans, chickpeas, lentils	4 heaped tablespoons or 150g (cooked)

## Protein

Have 2 lean sources of protein each day. A portion should have no more than 150 kcals. Do not have anything in breadcrumbs or batter.

<b>Protein</b>	<b>One portion is</b>
Skinless chicken	Small chicken breast oven cooked (4oz or 120g)
Chicken drumstick	Small drumstick (90g)
Extra lean minced beef	4 dessert spoons (3oz or 90g)
Pork loin steak	Half (3oz or 90g)
Beef rib eye steak	A third (3oz or 90g)
Cooked ham	2 large slices (120g)
Grilled white fish	1 medium fillet (120g)
Salmon or oily fish	1 small fillet (3oz or 90g)
Smoked mackerel	1 fillet (50g)
Tuna in brine or water	1 medium tin (120g)
Prawns boiled	½ cup (120g)
Eggs	2 medium eggs
Quorn	120g or 4 oz or 2 fillets

## Fruit

Have a maximum of 2 portions per day. A portion of fruit is 80g edible portion (no peel or core).

<b>Fruit</b>	<b>One portion is</b>
Raspberries	Cupped handful or ½ cup
Grapes	Approx. 12 medium or ½ cup
Strawberries	Cupped handful eg 8 or ½ cup
Banana	1 small (should fit on hand)
Apple	1 medium size
Orange	1 medium size
Kiwi	2 medium size
Pear	1 small
Peach	1 medium
Satsumas	2
Plums	2
Honeydew melon	1/6 or 2 inch slice
Grapefruit	1 medium size

## Vegetables

Have 3-5 portions of these each day. A portions is 80g. Choose from the suitable options below.

<b>Vegetables</b>	<b>One portion is</b>
Frozen mixed vegetables (cooked)	3 heaped tbsp or ½ cup
Cauliflower or broccoli florets (boiled)	1 cup (6 florets)
Carrots (boiled)	1 large or ½ cup
Boiled cabbage	1 cup
Tinned tomatoes	½ large tin
Fresh tomatoes	2 medium
Cherry tomatoes	6-7
Lettuce	1 cereal bowl
Corn on the cob	1 small
Cucumber	4cm piece
Bell pepper	½ pepper

Aubergines, courgettes, leeks, asparagus, Brussels sprouts, sugar snap peas, mangetout, green beans, runner beans, spinach, mushrooms, swede and celery are also suitable choices.

## Dairy and dairy alternatives

Have 2 portions of these each day. A portion should contain around 100 kcals.

<b>Dairy / Dairy alternative</b>	<b>One portion is</b>
Milk (skimmed or semi skimmed, soya)	1/3 pint or 200ml
Cheese (or cheese alternative)	Small matchbox size (25g)
Cheese triangles	2 cheese triangles
Reduced fat cream cheese	1 dessert spoon (30g)
Fat free cottage cheese (NOT fruit flavoured)	3 dessert spoons (75g)
0% fat yogurt	Small pot or 120g

## **Step Two: Flavour your food with the optional condiments**

Stock cube	soy sauce	mixed herbs	curry powder
vinegar	harissa paste	lemon juice	garlic
Spices	Bovril	Yeast extract	

You can also include up to one pint (one sachet) of sugar free jelly each day.

## **Step Three: Drink at least 1500ml of low calories fluids each day**

This includes water, a no-added sugar squash or herbal teas.

Tea and coffee can also contribute to your overall fluid intake but aim to keep caffeinated drinks to less than 4 mugs per day and make up the rest of your fluid intake with water or squash. Use milk from your dairy allowance for your tea or coffee.

## **Step Four: Supplement your diet with a complete A-Z vitamin and mineral supplement**

As this LRD food plan is more variable than the meal replacement option, it may not contain all your essential vitamins and minerals. You will need to take a complete vitamin and mineral supplement. You can buy these from your local pharmacy, supermarket or health food shop. Here are some examples of suitable options:

Centrum Advance	Sanatogen A-Z complete
Tesco A-Z multivitamins and minerals	Boots A-Z
Holland & Barrett ABC to Z	Asda A-Z multivitamins and minerals

## Sample meal plan

Meal	Food	Food group
Breakfast	30g porridge oats 200ml skimmed milk	Carbohydrate Dairy
Am snack	80g Apple	Fruit
Lunch	Salad with 40g leaves 20g cucumber 20g tomatoes 120g tuna 2 teaspoons of light mayo 2 rye crackers	Vegetables Vegetables Vegetables Protein Fat Carbohydrate
Evening meal	160g sliced mixed veg (carrots, onions, peppers, cabbage) Added soy sauce 120g cooked prawns 60g boiled egg noodles	Vegetables  Protein Carbohydrate
Evening snack	2 small satsumas	Fruit
Tea or coffee through the day	200ml skimmed milk	Dairy

## Contact us

If you have any questions or concerns, please contact the Bariatric Nurse team:

Telephone: 01872 2522133 or 07789 615828

If you would like this leaflet in large print, braille, audio version or in another language, please contact the General Office on 01872 252690

