

# Dietetic Preparation to Bariatric Surgery

## Dr James Hopkins Nutritional Information for Liver Reduction Diet (LRD)

### Pre-operative Diet

Many people who are overweight have an enlarged liver. This can make surgery more difficult and increase the risk of complications. For this reason it is essential for you to follow a strict calorie and carbohydrate controlled diet for 14 – 21 days before your operation. The diet is designed to shrink the size of the liver making surgery easier and safer.

Following this diet will encourage the body to use up its stores of glycogen (a form of stored sugar in the liver and muscles). This causes the liver to shrink rapidly and you will notice that you lose a lot of weight during this diet. A large amount of this weight will be water.

For the diet to be successful in reducing the size of your liver, you need to stick to the diet plan for the amount of time specified by the specialist team. We understand there may be a temptation to have special/larger meal before your surgery. However, if you do this you risk not being able to have your operation.

### During Your Diet

- **Keep hydrated:** Drink a minimum of 2 litres of fluid a day. This includes drinks of any type, but remember these count in your recommended calorie intake so go for low calorie options e.g. sugar free squash, water, tea, herbal teas, low calorie flavoured water, any diet soft drinks with less than 7 calories per 300ml **Avoid alcohol.**

- **Take a vitamin and mineral tablet** every day. You will need chewable/liquid versions for 6 weeks after your operation so you may wish to start these now.

Suitable preparations include: Sanatogen AZ Complete, Centrum A-Z, Centrum fruity chewables, Superdrug/own brand chewable multivitamins AND minerals, or Feroglobin liquid.

## **STEPS TO TAKE BEFORE STARTING THE LRD**

As far as possible, remove all tempting foods from the house.

Plan the meal replacement drinks or how much extra semi-skimmed milk or drinks to buy & purchase diet soft drinks.

Buy the recommended multivitamin and mineral tablet.

Discuss the diet with your family and close friends.

Decide whether or not you will do the cooking while on the liquid food. Plan and discuss with your family who might cook instead. It may be useful to prepare small meals for the family and store them in the freezer. It would also be helpful not to eat meals away from home all the time. You may wish to have your milk or meal replacements with your family so you can still share in meal times.

If you are invited out for a meal, you should explain the diet to them so they are aware you will not be eating any solid foods.

## **What does the diet involve?**

Choose one of these options:

### **Option 1- Food only diet**

It is important that you follow the exact recommendations listed above. This is designed to significantly reduce the calorie and carbohydrate content of your diet, and provide valuable nutrients needed for general health. If for any reason you find

yourself unable to follow any part of the diet, please ensure you discuss this with your dietitian. There are lots of books on 'Fast' or '800 Kcal' diet plans for menu ideas, the following example will provide approximately 800 calories a day.

	Portions per day	Examples of 1 portion
<b>Protein</b>	<b>3</b>	<ul style="list-style-type: none"> <li>- Cooked lean meat (100g) e.g. chicken breast with no skin</li> <li>- 100g of cooked white fish or tinned tuna (in brine/spring water)</li> <li>- 2 medium eggs</li> <li>- Tofu (80g)</li> <li>- Quorn Pieces/mince (150g)</li> </ul>
<b>Vegetables</b> *Does not include potatoes, yams, lentils/pulses, baked beans	<b>5</b>	<ul style="list-style-type: none"> <li>- Asparagus</li> <li>- Spinach</li> <li>- Broccoli</li> <li>- Watercress</li> <li>- Cabbage</li> <li>- Onions</li> <li>- Cauliflower</li> <li>- Carrots</li> <li>- Courgettes</li> <li>- Pepper</li> <li>- Cucumber</li> <li>- Artichoke</li> <li>- Curly kale</li> <li>- Celery</li> <li>- Leeks</li> <li>- Cress</li> <li>- Lettuce</li> <li>- Green beans</li> <li>- Marrow</li> <li>- Aubergine</li> <li>- Mushrooms</li> <li>- Tomatoes</li> <li>- Okra</li> <li>- Pumpkin</li> <li>- Brussels sprouts</li> <li>- Radish</li> <li>- Swede</li> <li>- Peas</li> </ul>
<b>Fruit</b> 1 portion is approximately palm size.	<b>2</b>	<ul style="list-style-type: none"> <li>- 1 medium sized piece of fruit e.g. apple, pear, orange</li> <li>- 2 small pieces of fruit e.g. Satsuma, apricot, plum</li> <li>- 1 palm of loose fruit e.g. grapes, cherries, strawberries.</li> </ul>
<b>Dairy</b>	<b>2</b>	<ul style="list-style-type: none"> <li>- 200ml of skimmed/semi-skimmed milk</li> <li>- 1 small pot of low fat, low sugar Yoghurt (diet range e.g. Muller light, Shape Zero, other lite versions)</li> <li>- Soya/non-dairy milk fortified with calcium</li> </ul>

## **Example Meal Plan**

### **Breakfast**

2 medium boiled egg + Mushrooms and tomatoes

### **Mid-Morning**

1 medium apple

200ml glass of semi-skimmed milk

### **Lunch**

Bowl of salad (cucumber, lettuce, peppers, tomatoes) with balsamic vinegar with small lean chicken breast or protein choice.

or

Chicken and vegetable soup/ stew

### **Mid-Afternoon**

1 palm of fresh strawberries and yoghurt

### **Evening meal**

Grilled fish/ meat with stir fried vegetables

To add extra flavor add herbs, spices and stock to your meals. There are endless recipes out there.

**Do not add any fats to the diet** e.g. do not cook or add oils, butter or margarine.

All drinks should be sugar-free with a carbohydrate content of virtually zero. Examples include:

- Sugar-free squash
- 'diet' drinks such as diet coke, 'zero' versions of soft drinks, Slimline tonic (but remember that you cannot have fizzy drinks following your surgery)
- Black tea, black coffee (you can use milk from your allowance if you wish)
- Bovril / marmite / stock cubes – these can be used to make a warm clear drink

## **Option 2- Using Meal Replacements Alone**

This approach consists of mainly liquid formulas supplying around 800 calories (kcal) per day. There are many companies that make these liquid formulas which contain a balance of nutrients that your body needs. Some companies provide options of sweet and savory products, which consist mainly of shakes and soups.

Depending on the calorie content of the product, you will need 3-4 per day. It is important you check the label and do not exceed 800kcal in total.

Here are some examples you can choose from:

- Exante 800 Cal 2 week plan: Cost £40 -85 for a 2 week box
- Shakethatweight Total Food Replacement Diet 2 week plan Cost £85-90 for a 2 week box
- The Cambridge Weight Plan: available when supported by a healthcare professional. Total cost £100 + postage for 2 week supply.
- Slim-fast- bottled shakes or Vitality Advanced Protein Meal replacement products: Individually around £1.55 - £2.00 per bottle or sachet. And can be purchased in packs of 4-6 in some shops which is less expensive.
- Supermarket own brands: e.g. Asda Great Shape meal replacement shakes and bars. It costs £1.25 for 1 portion, less if bought in multipacks

Be aware that some meal replacement products may contain too much calories, and the total daily intake should be 800 Kcal Maximum. You may need to discuss this with a dietitian.

## **Option 3- Using both Food and Meal Replacements**

It is possible to plan a diet based on food and meal replacements. There are commercial examples like the Slimfast 3-2-1 plan, or self built a typical day may look like this:

Meal	Food/M meal Replacement	Calories (kcal) per Portion
<b>Breakfast</b>	Meal Replacement Shake / bar	200-250
<b>Lunch</b>	Meal Replacement Shake /bar	200-250
<b>Evening meal</b>	Evening meal (please refer to food plan)	250-350
<b>Snack</b>	Vegetable sticks	20-50

#### Option 4- THE MILK DIET

This was one of the original LRD used and is very simple to follow but often some patients find it much harder to stick to properly. It has generally been replaced by the commercial meal replacement diets, but it is much cheaper to follow as it involves mainly supermarket milk.



#### Each day you **MUST HAVE** the following:



- 4 pints of semi-skimmed milk (2 litres) **AND** 2 pints (1 litre) of other fluid
- 1 A-Z Complete (**Multivitamin AND Mineral** Tablet)
- 1 Salty Drink eg, Stock Cube, OXO, Marmite, Bovril etc
- **NO FOOD!**

You **MUST** also take at least 2 pints (1 litre) of fluid in addition to your milk.

#### Allowed Extras

Vanilla essence (or other flavours such as strawberry essence) or 'No added sugar Crusha' liquid can be added to the milk as a flavouring (check the label to ensure it contains no sugar).

One sachet of sugar free jelly (eg, Birds) per day

Sugar free chewing gum (maximum 3 sticks per day).

## **Following the Milk Diet**

It is important to have a routine for taking your milk. Try to divide it into glasses taken regularly throughout the day.

For example: 8.00am, 12.00 noon, 3.00pm, 6.00pm, 9.00pm.

## **SIDE EFFECTS OF LRD**

A small number of patients may experience mild side effects whilst on this diet. The most common side effect is constipation and if you find that this is a problem then we recommend that you take Magnesium Hydroxide or Fibogel to relieve these symptoms

## **IF YOU HAVE DIABETES**

If you have diabetes and treated with tablet medication and/or insulin it is likely that these medications will need changing. It is common for Diabetics to require a lower dose of hypoglycaemic tablets or insulin as the carbohydrate content is low at < 120g per day and can increase the risk of hypoglycaemia. Please discuss this with you diabetes team or GP and regularly check your blood glucose levels and adjust your insulin accordingly.

**These diets are a preparation for surgery.**

**It should only be used for a maximum of 3 weeks under direction of your specialist weight loss service. Dietitian will advise you when to commence and how long it is necessary for you to remain on this diet**