

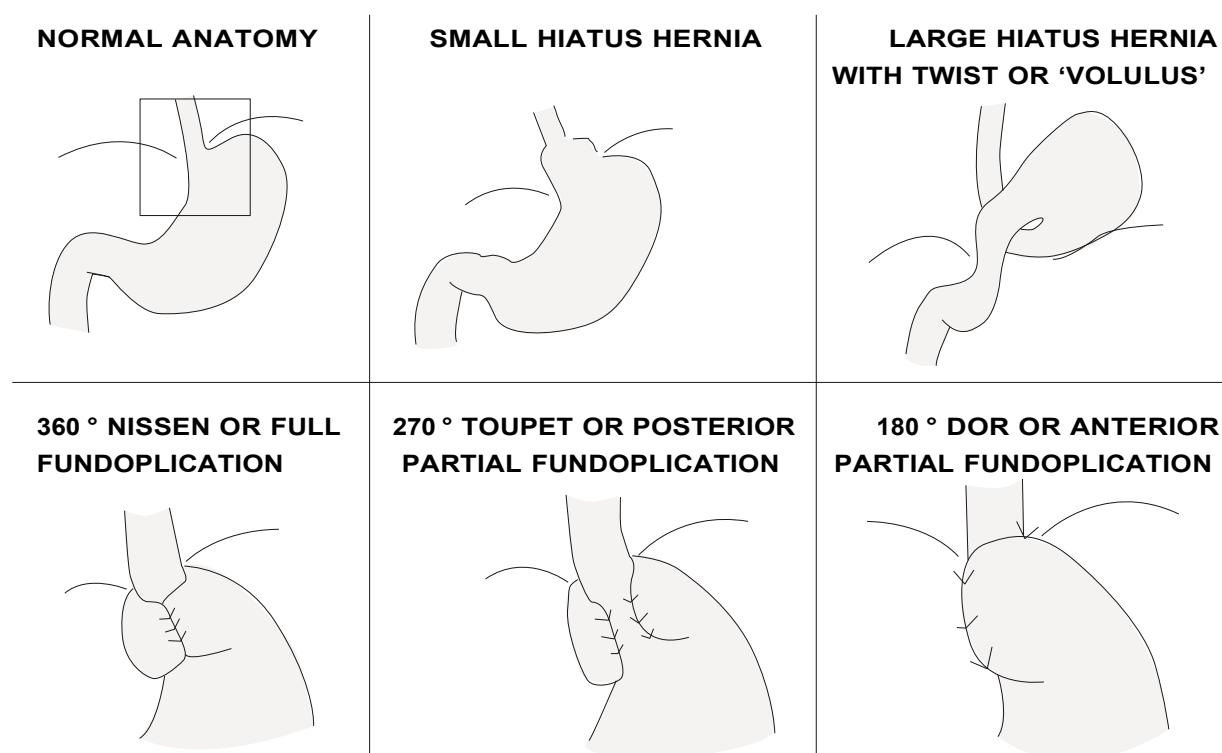


## Dietary advice after anti-reflux (fundoplication) or hiatus hernia repair surgery

Anti-reflux surgery (fundoplication) is a surgical procedure used to treat severe gastro-oesophageal reflux disease (GORD). It can be performed with or without a repair of the hiatus hernia (when part of the stomach squeezes into the chest), depending if one is present. GORD is the most common disorder that can affect your oesophagus (the pipe that goes from your mouth to your stomach). GORD is where the contents of your stomach, which are acidic, are brought back up into your oesophagus causing a burning sensation, known as heartburn or regurgitation.

GORD occurs because the valve between the oesophagus and stomach does not work properly. The procedure aims to prevent further reflux, by performing a fundoplication (or wrap) to improve the function of the valve. This surgery is often performed with keyhole surgery (surgery without large cuts into the skin) or can be performed using open surgical techniques.

The diagram below shows the normal anatomy (structure) between the oesophagus and the stomach. It also shows the anatomy of a small hiatus hernia. A much larger hiatus hernia with a twist (volvulus) is also shown as these are an increasing problem and often require surgery to fix. There are three main types of anti-reflux operations depending on how much of the stomach is wrapped around the oesophagus.



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Nissen (360 degree wrap), Toupet (270 degree wrap) and Dor (anterior 180 degree wrap). Please see the example pictures on page 1.

Nissen (360 degree wrap) – this is a full wrap; for example the stomach is wrapped completely around the oesophagus. Its benefits include excellent reflux control; however, it does have a higher risk of difficulty swallowing and gas bloat (fullness and discomfort after meals due to the inability to release gas – or burp). Some patients can not burp or vomit after this operation.

Toupet (270 degree wrap) – this is a partial wrap, for example the stomach is wrapped around the back of the oesophagus, but not fully. Its benefits include very good reflux control. It has a reduced risk of difficulty in swallowing, inability to vomit and gas bloat symptoms.

Dor (180 degree partial wrap)- this is a partial wrap, for example the stomach is wrapped around the front of the oesophagus only. Its benefits include very good reflux control. It also has a reduced risk of difficult in swallowing, inability to vomit and gas bloat symptoms.

The exact type of operation will be discussed with your surgeon. There are many aspects which the surgeon has to consider when deciding on the most appropriate operation for you; for example the severity of reflux, how well the oesophagus contracts and which one you prefer.

After the surgery, swelling and bruising of the oesophagus leads to difficulty in swallowing (dysphagia). This occurs in all patients and usually improves in a month or so. However, it is wise to follow this dietary plan to avoid food sticking in the gullet or oesophagus. Also after surgery, abdominal bloating and pain can occur due to swelling, bruising and the tightening of the valve mechanism between the oesophagus and stomach.

The following diet aims to minimise these symptoms and is temporary.

### **Week 1**

Liquid diet progressing to pureed food.

### **Week 2 – 3**

Pureed food progressing onto soft food.

### **Week 3 – 6** Soft food.

### **Week 6 and onwards**

Normal diet with normal healthy eating.

## **Recommended diet plan after your surgery**

### **Liquid diet up to 1 week after surgery**

Most foods can be liquidised by adding milk and margarine, or you can add extra gravy or sauce. If you do not have a liquidiser, then use one of the following:

- a) a metal sieve, to strain soups and some fruit and vegetables
- b) a mincer for meat
- c) a food processor
- d) hand held blender

## **Recommended foods**

**Breakfast:** Fruit juice or liquidised fruit, wheat biscuits, sieved porridge.

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**Main meals:** Liquidised meal ideas such as; corned beef, mash potato with gravy, ham or minced beef with mash potato with gravy, fish with mash potato and white sauce, macaroni cheese, cauliflower cheese, baked beans, soup.

**Dessert:** Ice-cream, liquidised milk pudding, liquidised fruit with custard or cream, fromage frais, yogurt.

**Snacks:** Milky drinks for example; hot chocolate, malt drink, milkshake, yogurts.

### Pureed diet 1-3 weeks after surgery

A pureed diet should be smooth and moist, contain no lumps and be of the same consistency throughout. To achieve a suitable texture use a blender or food processor or push well cooked food through a sieve. These foods should be started 4-5 days after surgery. Once you are managing these with no difficulty soft foods can be introduced 2-3 weeks after surgery.

- **Recommended foods**
- **Smooth/puree foods**
- **Food that does not contain any lumps**

In most cases, this can be the same meal your family is eating, but yours should be blended in as food processor until it is of the right consistency.

**Dairy foods:** Milk (including soya and rice milk), custards, puddings, yogurt, mousses, smooth ice-creams and milkshakes.

**Cereals:** Any smooth cereal such as porridge. You should use plenty of milk to make them very soft.

**Vegetables and fruit:** Any fruit juice, or pureed fruit. Well-cooked soft vegetables, which are mashed or pureed, including smooth mashed potatoes. Avoid oranges and pineapples.

**Meats:** Any meat must be pureed, either in the food processor or a blender.

### Sample meal plan for a pureed diet:

#### Breakfast

- Cereal – porridge or wheat biscuits with milk

#### Lunch

- Pureed beef casserole or fish in parsley sauce
- Mashed potatoes and carrots
- Pureed rice puddings with seedless jam

#### Evening meal

- Pureed lentil curry or pureed macaroni cheese
- Creamy soup

#### Snacks

- Milky drink for example: malted drink or hot chocolate
- Chocolate mousse or instant whip
- Pureed tinned fruit and cream or yoghurt
- Jelly and ice-cream
- 'Dunked' biscuits in a warm milky drink

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### Soft diet 3-6 weeks after surgery

A soft diet should be moist and of uniform consistency throughout. It should be easily mashed with a fork and is best served with a thick gravy sauce. Finely chop or mash food that is not naturally soft, this can be done using a fork or potato masher. Cooking food well will help produce a softer texture. This should be followed weeks 3 - 6 after your surgery. You can start to re-introduce your normal diet from week 6.

### Recommended foods

**Cereals and grains:** Porridge, cornflakes, rice crispies, pasta and rice. Crackers, crumbly biscuits, bread sticks and cheese straws. Soft sponge or cake with cream or custard.

**Meat and meat alternatives:** Baked or poached tender fish, minced beef with gravy, eggs. Pasta dishes, such as tuna pasta or macaroni cheese. Casseroles. You should lots of sauces and gravy to keep the food moist.

**Fruit and vegetables:** Soft texture is important. If you can mash it with a fork, it is soft enough. For example; tinned fruit, ripe bananas, avocado, well-cooked vegetables, potatoes (no skins), squash and vegetable juices.

**Dairy:** All dairy foods including milkshakes, smoothies.

### Foods you should avoid;

- All bread and pastry should be avoided
- No uncooked raw vegetables, vegetables with skins, nuts, popcorn or any other foods with a hard consistency.
- Stringy foods (e.g. green beans, bacon).
- Tough skins (e.g. jacket potato skin) and crispy coatings
- Pineapple, oranges and other fibrous (tough) fruits

### Sample meal plan for a soft diet

#### Breakfast

- Cereal – porridge or wheat biscuits with milk
- Scrambled egg or omelette
- Skinless sausages – well chopped
- Baked beans with hash browns/potato waffles

#### Lunch/evening meal

- Minced meat/fish
- Egg/cheese dish such as shepherds pie, cottage pie, omelette, corned beef hash
- Mashed potato with finely chopped/mashed vegetables

#### Snacks

- Yoghurt, mousse or smooth dessert
- Piece of soft fruit

#### Fluids

One week after your surgery, when you are only able to manage fluids, it is important that these are nutritious and you are taking enough to make sure you stay hydrated. Nourishing drinks

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include milkshakes, soups, smoothies, hot drinks, hot chocolate, malted drinks, these can all be made with fortified milk (see below).

Fortified milk: 50g (four heaped tablespoons) of dried milk whisked into one pint of full fat milk.

Drinks such as Meretine, Complan or Nourishment are available to buy in pharmacies or supermarkets and come in sweet, savoury or neutral flavours. Alternatively, your GP can prescribe ready-made high energy and protein supplements if you feel you are struggling to maintain your weight and nutritional status.

### Key points

- Take your time with eating and drinking
- Chew your food well and carefully
- Avoid solid lumps (e.g. bread, steak) when going from a pureed to soft diet
- No carbonated drinks to avoid bloating
- If at any point you are struggling with a certain stage, please drop back to the previous stage and continue to build up as tolerated
- If you feel you are losing weight, please contact your GP

### You should call your GP if you develop any of the following symptoms

- A fever
- Unusual degree of pain in the abdomen or chest
- Nausea, vomiting or retching
- Inability to eat or drink properly

### Contacts

If you have any further questions about the information in this leaflet, please contact the Upper GI Dietitian at QEHB: 0121 371 3485

### Sustainability

Some of our patients ask questions about sustainability. The dietitian can provide you with further information if needed. A quick and easy tip is to try to choose seasonal/local foods, look for foods with minimal packaging. Try to minimise your food waste by planning meals, cooking in bulk/batches and only buying what you need.

### Nutrition and Dietetic Service

#### Queen Elizabeth Hospital Birmingham

Mindelsohn Way, Edgbaston

Birmingham B15 2GW

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