Diabetic Gastroparesis

Patient Information Leaflet
**What is diabetic gastroparesis?**

Gastroparesis is a type of neuropathy (nerve damage) affecting the nerves which control movement of food through the digestive tract. It is a chronic condition causing a delay in food leaving the stomach and can be caused by long periods of high blood glucose levels. It may occur in people with type 1 or type 2 diabetes. Symptoms include:

- heartburn
- nausea
- vomiting
- bloating
- weight loss
- lack of appetite
- reflux
- feeling full early on when eating
- erratic blood glucose levels

Gastroparesis can make it more difficult to control your blood glucose levels. Food takes longer to digest, and stomach emptying can be more unpredictable. When the food does leave the stomach and enters the small intestine, blood glucose levels start to rise. Due to the unpredictable nature, blood glucose levels may be more erratic.

**Treatment**

The aims of treatment are to relieve symptoms, to achieve/maintain ideal body weight and to optimise blood glucose levels. If you’re on insulin, you may be advised to take your insulin more often, to take your insulin after eating rather than before, check blood glucose frequently after you eat and take insulin when needed, or an insulin pump may be recommended for insulin administration. These are all ways of ensuring your insulin works when you need it to – when the food has passed through the stomach and releases glucose into the bloodstream.

There are several medications for the treatment of gastroparesis to help relieve symptoms of nausea and help the process of stomach emptying, and your doctor may try different types or combinations. A gastric pacemaker is an electronic device surgically inserted to stimulate the stomach. It may help to control the symptoms of nausea and vomiting.

**Dietary changes**

By making some changes to your diet, you may be able to reduce your symptoms, as well as improve your blood glucose control. The aim is to avoid the types of food that will delay digestion and stay in your stomach for longer, to avoid fluctuations in your blood glucose levels and ensure you maintain good nutritional intake.

Your dietitian may take a diet history to help identify which foods are better tolerated, and to give you an individualised dietary plan. These changes include:

- Small, frequent meals (four to six times per day)
- Eating fewer high fat meals (fat keeps food in the stomach for longer)
- Eating fewer insoluble fibres (see next page) that may cause ‘bezoars’ – undigested food hardening in the stomach, which may cause blockage
- Avoidance of fizzy drinks which increase symptoms of bloating
• Limiting alcohol which delays the stomach from emptying
• Sitting up or taking a good walk one to two hours after meals as tolerated
• Taking food in blended / liquid form as it passes through the stomach more easily and quickly. Liquid meal replacements may be used.

Insoluble fibres can be found in:

• Wholemeal bread
• Bran
• Bran-based cereals
• Nuts and seeds (except golden linseeds)
• Popcorn
• Broccoli
• Oranges

You may choose to use a different stage of diet (see below) depending on the severity of your symptoms. If symptoms are very severe, start with the clear liquids, and move up one step at a time to the consistency of diet that you tolerate:

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Clear liquids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 2</td>
<td>Full liquids</td>
</tr>
<tr>
<td>Stage 3</td>
<td>Blended food</td>
</tr>
<tr>
<td>Stage 4</td>
<td>Soft food</td>
</tr>
<tr>
<td>Stage 5</td>
<td>Low fat solid food</td>
</tr>
</tbody>
</table>

**Stage 1 - Examples of clear liquids**

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<table>
<thead>
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<tbody>
<tr>
<td>• Black tea / coffee</td>
<td>• Ensure Plus “juice-style” / Fortijuce</td>
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<tr>
<td>• Clear juices e.g. apple / cranberry / grape</td>
<td>• Fruit-flavoured drinks</td>
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<tr>
<td>• Sports drinks e.g. Lucozade / Gatorade</td>
<td>• Plain, flavoured jelly (no fruit inside)</td>
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<tr>
<td>• Sorbet (not ice-cream)</td>
<td>• Ice lolly</td>
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<tr>
<td>• Clear soup / broth / Bovril / Oxo</td>
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Table amended with kind permission from Carol Rees Parrish, RD, MS Nutrition Support Specialist, University of Virginia Health System, Digestive Health Centre of Excellence.

Include 1500 (3 pints) – 2000 ml (3 ½ pints) fluid per day in multiple servings, e.g. 100 ml (about an egg cup size) every hour or so.

**Stage 2 - Examples of full liquids**

You may need to experiment to find out the amount of fat that you can digest comfortably in your liquids as higher fat liquids may take longer to digest and may make your symptoms worse. Try skimmed milk and fat free dairy products first of all – if these are OK, try semi-skimmed milk or low fat dairy products. If these are OK and you need to gain weight, try full cream milk and full fat dairy products. Keep this in mind when choosing the dairy products for stages 2 – 5 below.
<table>
<thead>
<tr>
<th>Stage 3 – Example meal plan for blended food</th>
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| **Breakfast** | • Fruit smoothie or yoghurt  
| | • Rice Krispies or Cornflakes with milk, mashed up, or   
| | • Ready Brek / instant porridge oats   | **Snack** | • Milk / fruit juice / yoghurt / Bovril / Oxo |
| **Lunch** | • Soup  
| | • Stewed fruit and custard, blended   | **Snack** | • Milk / fruit juice / yoghurt / Bovril / Oxo |
| **Evening meal** | • Pureed fish or chicken in sauce, thickened with corn flour   
| | • Mashed potato, thinned with milk  
| | • Soft boiled vegetables, mashed with the water from cooking   | **Snack** | • Horlicks / Ovaltine / Nesquick / milk |

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<table>
<thead>
<tr>
<th>Stage 4 – Example meal plan for soft food</th>
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| **Breakfast** | • Rice Krispies / Cornflakes, or  
| | • Porridge / oat-based cereals e.g. Oatibix / Oatiflakes   | **Snack** | • Yoghurt / milk / fruit juice / Bovril / Oxo |
| **Lunch** | • Beans on hash browns, or   
| | • Jacket potato (without the skin) with beans / cream cheese / tuna or   
| | • Sandwiches with soft fillings, e.g. egg and light mayonnaise / tuna and light mayonnaise / cheese spread |
| **Snack** | • Yoghurt / milk / fruit juice / Bovril / Oxo |
| **Evening meal** | • Cottage pie with soft vegetables  
| | • Spaghetti Bolognese with soft vegetables  
| | • Stew / casserole with soft meat  
| | • Fish in sauce with mashed potato and soft vegetables  
| | • Chicken in sauce, with rice in sauce / mashed potato, with soft vegetables  
| | • Chicken, pasta and soft vegetables in a tomato-based sauce |
| **Snack** | • Horlicks / Ovaltine / Nesquick / milk |

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<thead>
<tr>
<th>Stage 5 – Example meal plan for lower fat solids</th>
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| **Breakfast** | • Rice Krispies / Cornflakes, or  
| | • Porridge / oat-based cereals e.g. Oatibix / Oatiflakes, or   
| | • 2 slices white toast with reduced fat spread and poached / boiled egg or grilled bacon, fat removed |
| **Snack** | • 2 plain biscuits, e.g. Rich Tea / Morning Coffee / yoghurt / milk / fruit |
Lunch | • White bread sandwich with turkey salad / chicken salad / egg / ham / cheese Soup and white bread  
• Baked potato with beans / cheese / tuna  
• Chicken salad wrap  
Snack | • 2 plain biscuits, e.g. Rich Tea / Morning Coffee / yoghurt / milk / fruit  
Evening meal | • Chicken / fish / lean meat, with  
• Boiled / mashed / baked potato / rice / pasta  
• Vegetables  
Snack | • 2 plain biscuits, e.g. Rich Tea / Morning Coffee / yoghurt / milk / fruit / white bread / crumpet

**Feeding tube**

In severe cases, a jejunostomy tube can be inserted into the small intestine, bypassing the stomach altogether. A liquid feed can be given through the tube. This may be temporary and only necessary when gastroparesis is severe. In some cases a tube may be inserted into the stomach (PEG tube), with an attachment allowing for feeding into the jejunum (which is part of the body’s digestive system).

**Parenteral nutrition**

Parenteral nutrition is the delivery of feed directly into the bloodstream, bypassing the digestive system entirely. This method may be used only if gastroparesis is severe and not helped by other methods.