

This factsheet is about dumping syndrome

Dumping Syndrome describes a range of symptoms that occur when food is emptied too quickly from the stomach into the small intestine. This fills the small intestine with undigested food that is not adequately prepared to allow efficient absorption.

Causes of dumping syndrome

Dumping syndrome is most likely to occur when patients who have an abnormal stomach eat foods that are rich in sugar. It is most commonly seen after surgery to bypass the stomach to help weight loss (bariatric surgery). It can also occur after surgical removal of all or part of the stomach (gastrectomy), most often carried out for ulcer disease or stomach cancer. Dumping syndrome can also rarely affect patients with rapid gastric emptying due to other causes.

What are the usual symptoms?

The symptoms of dumping syndrome are often divided into “early” (occurring during or right after a meal) or “late” (occurring 1-3 hours after eating).

Early dumping syndrome symptoms include nausea, vomiting, bloating, cramping, diarrhoea, dizziness and fatigue. Late symptoms include hypoglycemia (low blood sugar), weakness, sweating and dizziness. People with dumping syndrome often have both types of symptoms.

How is dumping syndrome diagnosed?

The diagnosis of dumping syndrome is based on the development of symptoms in a patient with a history of stomach surgery. Tests may be needed to exclude other conditions that have similar symptoms. These tests may include blood tests, endoscopy and/or gastric emptying studies. If carried out, gastric emptying studies may demonstrate rapid stomach emptying. If symptoms of hypoglycaemia (low blood sugar) are present, this may be confirmed by a glucose tolerance test.

What treatment is available for dumping syndrome?

The main treatment of dumping syndrome involves dietary changes. In cases where dietary changes have not been successful, or when symptoms are severe, medications are taken to slow the stomach emptying and movement of food into the intestine. Very rarely, surgery is recommended.

Detailed dietary advice is usually given by a dietitian and usually includes a number of measures:

- Eat smaller, more frequent meals. Eating 5 or 6 small meals more often allows eating the equivalent of 3 regular meals without feeling full too fast. Eat slowly and chew all foods thoroughly. Sit upright whilst eating.
- Solid foods account for most episodes of dumping. Symptoms are triggered more by solid food that requires breakdown in the stomach such as a piece of steak or pork chop rather than ground meat, which is easier to digest.
- Limit fluid consumption during meals. Drink liquids 30 – 60 minutes before or after meals instead of with meals.
- Avoid nutrient-rich drinks. Dumping syndrome is often triggered by nutritional supplements or a milk shake.
- Eat fewer simple sugars. Foods high in simple sugar should be avoided because they pass through the stomach quickly and may cause diarrhea and cramping. Avoid or limit high sugary foods and drinks.
- Eat more complex carbohydrates such as whole grains, pastas, potatoes, rice, breads and unsweetened cereals.
- Eat more foods high in soluble fiber. Foods high in soluble fiber slow stomach emptying and prevent sugars from being absorbed too quickly. The following foods are high in soluble fiber: apples, beets, sprouts, carrots, oats, spinach and pears.
- Increase the amount of fats in the diet. Fats slow the stomach emptying and may help to prevent dumping syndrome from developing.

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- Increase the amount of protein eaten. Eat a protein containing food with each meal. High protein foods include eggs, meat, poultry, fish, milk, yogurt, cheese and peanut butter.

Most patients have relatively mild symptoms and respond well to dietary manipulations. In patients with low blood pressure after meals (which can cause a feeling of lightheadedness or sweating), lying down for 30 minutes may help. For patients that do not respond to the above dietary treatment, medications are sometimes given.

Acarbose delays carbohydrate absorption and has been shown to help patients with late dumping symptoms. Octreotide is a synthetic form of somatostatin (a naturally occurring hormone in the body) and can have a beneficial effect. Octreotide and somatostatin delay stomach emptying and reducing the release of insulin and several gut hormones. Octreotide is a therapy used sparingly since this treatment can impair digestion. There are several newer medicines that are also beginning to be used in an attempt to slow gastric emptying (many of these are also used to treat patients with diabetes). In patients that do not respond to medical treatment, surgery may be considered.

Does dumping syndrome need to be monitored and, if so, how?

Once dumping syndrome has been diagnosed, a referral to a dietician should be made. They will explain the general dietary changes required and will be able to suggest specific foods that should be eaten, as well as those to be avoided. They will monitor symptoms to check whether the dietary changes are having a beneficial effect. It is important that weight is monitored after making the necessary dietary modifications to ensure that sufficient calories are being eaten. If significant weight loss is experienced, this must be mentioned to the dietician or doctor.

If symptoms do not improve after dietary modification, it is important to be seen again by the doctor so that medication can be considered.

How does dumping syndrome behave over time?

Post-operative dumping tends to improve with time, and management involves dietary modification, with medications being reserved for severe cases or cases which do not respond to dietary changes

What to ask your doctor when you see them?

Do I need any tests to confirm the diagnosis of dumping syndrome?

May I see a dietician to discuss what type of food I should be eating/avoiding?

If dietary modification does not help my symptoms, which medication would you recommend?

What more research needs to be done on dumping syndrome?

New medications for dumping syndrome are being developed and tested in clinical trials. This includes a new medication that works in a similar way to octreotide but may not have the same side effects. Though initial results are promising further trials are needed.

For more information about research in this area please contact Core.

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