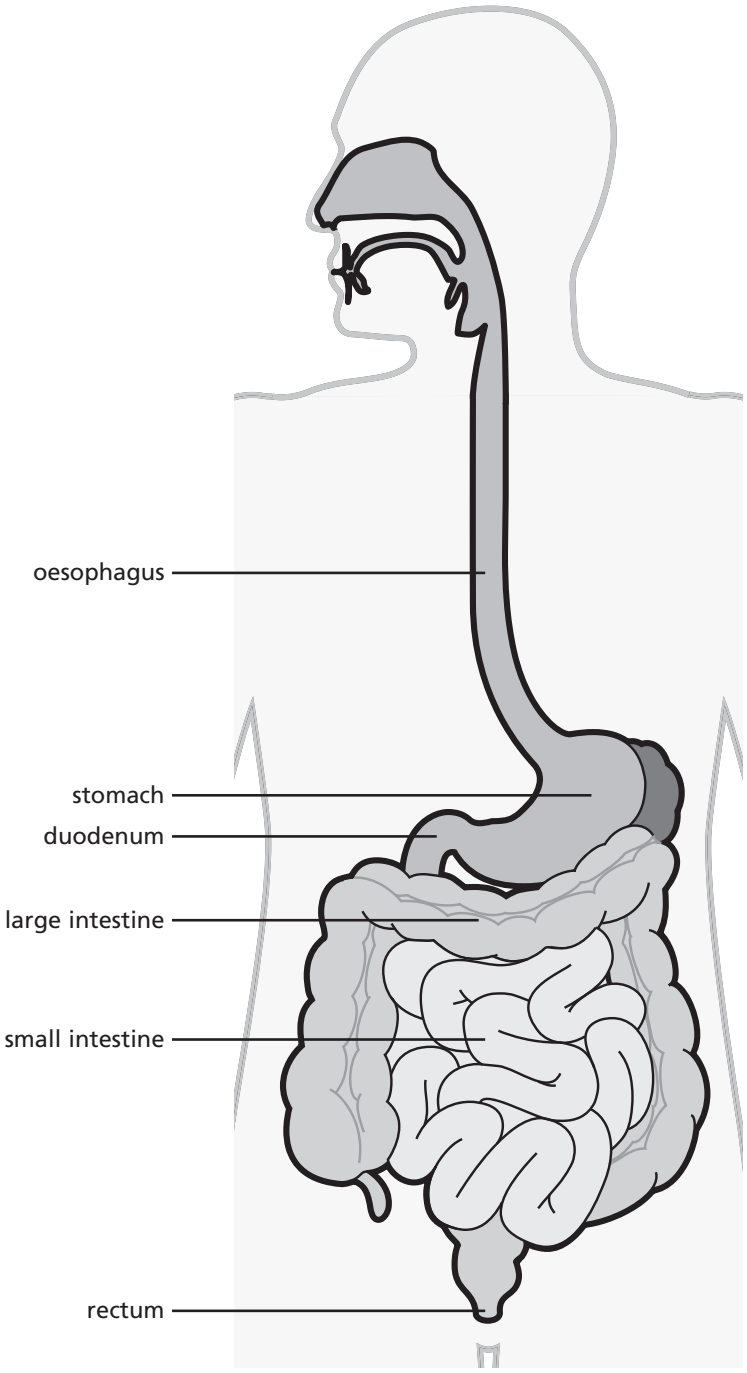
Great Ormond Street Hospital for Children NHS Foundation Trust: Information for Families

Chronic intestinal pseudo-obstruction in children

This information sheet from Great Ormond Street Hospital explains about chronic intestinal pseudo-obstruction in children, and what causes it.

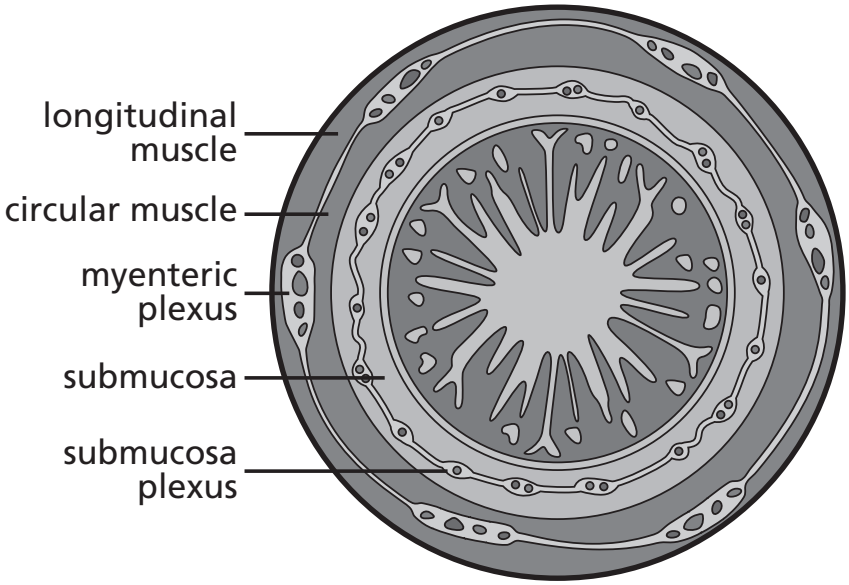


It is a condition where the intestines appear to be blocked but in fact is caused by nerve and/or muscle problems which stopping food being squeezed through the gastrointestinal tract.

How does the gastro-intestinal tract work?

The gastrointestinal (GI) tract is a complex organ that extends as a hollow tube from the mouth to the anus. Its main function is to break down food so it can be absorbed into the bloodstream and get rid of the waste products. The process of moving food through the GI tract involves a complex interaction between hormones (chemical messengers), muscles and nerves, so that food is squeezed rhythmically through the system (peristalsis).

Once food has been processed in the stomach, it empties into the small intestine where the majority of digestion and absorption occurs. Here it is mixed with bile and pancreatic juice containing enzymes (proteins that cause or speed up a chemical reaction). The broken down nutrients are then small enough to pass through the wall of the small intestine, which contains small finger-like structures



called villi, and then absorbed by the blood. The blood is carried away from the small intestine through the hepatic portal vein to the liver, where it is filtered, toxins are removed and the nutrients are processed. The residue then passes into the large intestine, where water is absorbed to form solid faeces (poo).

The entire length of the gastrointestinal tract contains nerves and muscles that work together to move food through from the oesophagus to the anus using peristalsis. If a section of the intestines does not contract or the nerves and muscles are absent or not working correctly, peristalsis cannot occur so food cannot be pushed efficiently to the next part of the tract. This is referred to as a gut motility problem. There are various types of gut motility problem including chronic intestinal pseudo-obstruction (CIPO) and Hirschsprung's disease.

What causes chronic intestinal pseudo-obstruction (CIPO)?

Chronic intestinal pseudo-obstruction can be congenital (present at birth), where the nerves or muscles (or occasionally both) in the gastrointestinal tract do not form properly during pregnancy but we do not know what causes this.

CIPO can also be secondary, that is, developing later in childhood following a malrotation or a minor infection, which affects the nerves and muscles.

What are the signs and symptoms of chronic intestinal pseudo-obstruction (CIPO)

Newborn babies with suspected CIPO often have a swollen abdomen and vomiting, and have difficulty passing faeces. Infants and children may have difficulty feeding, with vomiting and diarrhoea and/or constipation. They may also have gastro-oesophageal reflux (stomach contents pass back up the oesophagus). Sometimes the symptoms settle but flare ups can occur. After a time, because of the feeding problems and lack of nutrition being absorbed, a child may not gain weight or grow as expected.

How is CIPO diagnosed?

Occasionally, CIPO can be suspected after prenatal ultrasound, showing enlarged bowel loops or a large bladder. In infancy and childhood, a series of tests are used to diagnose CIPO, including ultrasound scans, contrast studies, endoscopy, manometry and biopsy. At GOSH, these are carried out during a one to three week stay in hospital as explained in our *Gut motility assessment* booklet.

How can CIPO be managed?

The main aim of management is to deliver adequate nutrition to the child and prevent damage occurring to the bowel. Most children manage to feed orally (by mouth), but may require supplements to meet their nutritional needs. In some cases, feeding directly into the stomach or small bowel with a gastrostomy or jejunostomy can be more successful. In extreme cases, a child may require parenteral nutrition given directly into the bloodstream through a vein to thrive.

Surgery to form a stoma to release the pressure on the gastrointestinal tract may be discussed with you. This is carried out to prevent further damage to the bowel and can maximise feeding potential. Investigations performed are to indicate whether a stoma could be helpful for your child. Milder forms of CIPO can be managed with medications.

Further information and support

The **Hirschsprung's and Motility Disorders Support Network** is an international group offering support to children and families with all types of motility disorder. Visit their website at www.hirschsprungs.info or telephone them on 07935 787 776.

PINNT (Patients on Intravenous and Nasogastric Nutrition Therapy) is an organisation for anyone receiving tube or intravenous feeds. They have a special section for children and young people called Half PINNT. Visit their website at www.pinnt.com

Notes

Compiled by the Pseudo-obstruction team in collaboration with the Child and Family Information Group

Great Ormond Street Hospital for Children NHS Foundation Trust, Great Ormond Street, London WC1N 3JH

www.gosh.nhs.uk

