

# General & Laparoscopic Surgery

## Fact Sheet

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### Appendicitis

The appendix is small worm-like structure that exists in various positions attached to the right side of the large bowel. There are many proposed functions of the appendix but historically it can be safely removed if inflamed or diseased.

Appendicitis is very common. The most common cause of appendicitis is blockage of the opening of the appendix in the bowel by a faecolith (firm piece of faeces). Other less common causes are swollen lymph glands, intestinal worms or a cancer. Blockage of the appendix results in infection and inflammation, and occasionally perforation (rupture).

Appendicitis presents in number of ways. Classically, people develop a vague pain or discomfort in the middle of the abdomen which is often mistaken for simple stomach upset. This pain gradually moves down to the lower, right side of the abdomen, becoming sharper in nature. Other symptoms may include:

- fever
- nausea
- vomiting
- diarrhoea
- loss of appetite

Appendicitis is often diagnosed from the history and a doctor's examination, but a blood test, a urine test, an ultrasound or CT scan can help make the diagnosis clearer. The treatment for appendicitis is antibiotics and removal of the appendix.

## Bowel obstruction

A partial or complete blockage of the intestine prevents the passage of food, fluids and gas through the gastrointestinal tract. You can think of the gastrointestinal tract as a single tube from the mouth to the anus - if there is a blockage anywhere along that tube, the contents will tend to back up like a blocked pipe.

Symptoms of a complete or partial bowel obstruction include:

- pain (which may be crampy or sharp in nature)
  distension and swelling of the abdomen
- nausea and/or vomiting
- constination
- a lack of passing wind

There are many reasons that someone may develop a small or large bowel obstruction. These include, but are not limited to:

- adhesions (scar tissue from previous operations)
- hernias
- inflammatory bowel disease (Crohn's disease)
- volvulus (twisting of the bowel)
- intussusception (telescoping of the bowel)
- tumours

Diagnosis of a bowel obstruction is made based on a history and examination, x-rays or a CT scan, and blood tests.

The management of a bowel obstruction depends on a wide variety of factors including the cause of the blockage, the severity of symptoms, whether it starts to (or is likely to) improve on its own, if there is a risk of perforation (rupture of the bowel) and if you have medical conditions that make surgery a high risk.

The majority of bowel obstructions improve on their own without the need for an operation, but does need careful and close observation in hospital. The bowel needs to be rested, so you may be required to fast (nothing to eat or drink). IV fluids are given so that you do not become dehydrated. Sometimes a nasogastric tube (NGT) is placed down into the stomach to drain the fluid that is backing up, taking pressure off the blocked bowel aiding the blockage to resolve.

If your obstruction is due to a hernia, tumour, or there is concern that your bowel is at risk of rupture, you may need an urgent or planned operation while in hospital to fix the cause. The operation you need depends on the cause of your obstruction and maybe done open or laparoscopically depending again on the unique features of the obstruction.

#### Pancreatitis

Pancreatitis is inflammation of the pancreas. The pancreas sits in the upper part of the abdomen behind the stomach. It produces hormones insulin and glucagon to control blood sugar levels, and digestive enzymes that break down fats, proteins and carbohydrates.

The main duct in the pancreas joins the duct that drains bile from the liver and gallbladder (common bile duct) before it empties into the duodenum – the first part of the small intestine.

The pancreas can become inflamed for several reasons. The two most common causes are gallstones and alcohol. Rarer causes include high levels of fat in the blood, medications, trauma (injury), and pancreatic duct abnormalities.

Pancreatitis is usually diagnosed on a clinical history, examination, blood tests and x-rays. An ultrasound will look at your gallbladder, pancreas and ducts from the liver to the bowel. Sometimes a CT scan is required.

The treatment of pancreatitis requires admission to hospital, fasting (nothing to drink and eat), pain relief and IV fluids until the inflammation settles down. Food is slowly reintroduced as the symptoms improve.

If the pancreatitis is caused by gallstones, you will usually be advised to have your gallbladder removed in a timely manner. Sometimes gallstones can get stuck in the end of the bile duct where it meets the pancreas, and you may need a procedure called an ERCP (Endoscopic Retrograde Cholangiopancreotography) to remove it or them. If your pancreatitis is due to alcohol, then it will be recommended that you abstain from alcohol for life.

Pancreatitis can vary in severity from very mild, requiring monitoring in a hospital ward, to critical, requiring admission to an intensive care unit.

#### Gallstones

The gallbladder is an organ that sits below the liver. Its function is to store bile that is produced by the liver. Bile helps to break down fats in the intestines. When we eat, the gallbladder contracts to squeeze bile into the small intestine.

Gallstones are common. Gallstones are more common in women than men. The majority of people with gallstones won't realise they have them and will not have a problem. Diagnosis of gallstones may involve blood tests, an ultrasound, and sometimes a CT scan.

Gallstones are made of cholesterol and bile salts. They can vary in size from that of a grain of sand, through to many centimetres. Gallstones can block the flow of bile into the intestines, causing pain. Other symptoms may include bloating, nausea, vomiting and indigestion.

There are a number of other serious complications that can be caused by gallstones including cholecystitis (inflammation of the gallbladder), pancreatitis (inflammation of the pancreas) and cholangitis (infection in the bile ducts). Risk factors for developing gallstones include:

- Female gender
- High levels of oestrogens (due to pregnancy, oral contraceptive pill or hormone replacement therapy)
  - )hesity
- Diabetes
- Drugs that lower cholesterol levels
- Rapid weight loss
- Some ethnic groups

If the gallbladder is forming stones it is no longer working as it should. The liver produces adequate bile that will continue to trickle into the intestines to help digest fats. It is for this reason the gallbladder can usually be safely removed if it is causing problems. The majority of people do not need to change their diet after having a gallbladder removed.

The procedure to remove the gallbladder is called a cholecystectomy. This is almost always done with keyhole surgery (laparoscopic cholecystectomy). Surgeons make a few small incisions to allow the insertion of a camera and instruments into your abdominal cavity to remove the gallbladder. The small incisions heal quickly and the majority of people have a very short stay in hospital.

The difficulty of the procedure primarily depends on the reason it is being removed. Occasionally gallbladder surgery is an emergency presentation, and this can add to the complexity of the operation. If recurrent episodes of pain are the primary issue a planned operation is usually associated with a more straight forward operation and post-operative recovery.

