

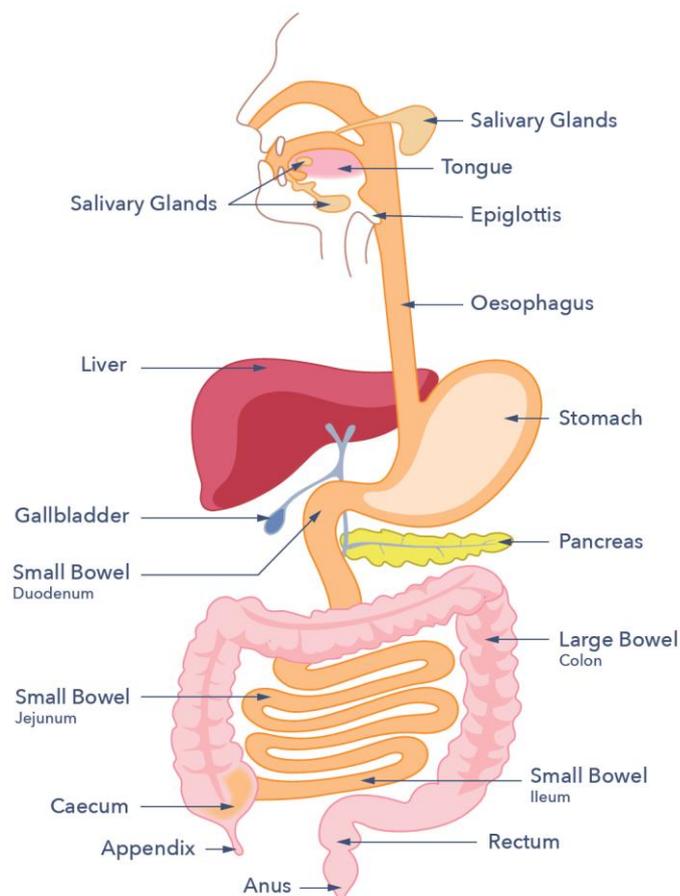
ADHESIONS



FUNDING RESEARCH TO FIGHT DISEASES OF THE GUT, LIVER & PANCREAS

THE DIGESTIVE SYSTEM

The Digestive System, the gut, runs from the mouth to the anus. It includes the food pipe (oesophagus), stomach, the small and large bowel (intestines) and several accessory organs. The role of the digestive system is to turn food and liquid into the building blocks that the body needs to function effectively. See the image of the digestive system below.



OVERVIEW

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To help understand this condition it might help to think of the gut as a long tube. Tubes have an inner surface and an outer surface. The inner surface is called the lumen, the outer surface is called the visceral surface. Normally organs in our abdomen or belly have slippery surfaces on the outside. This means our intestines can move when we move. Sometimes bands of tissue can form that cause these surfaces of our internal organs to stick together. These bands of tissue are called **adhesions**.

Why is this a problem? These bands of tissue can prevent the intestines from moving normally. When food is digested it is pushed along by the gut squeezing and relaxing in a gentle and coordinated way. This movement is called **peristalsis**. If this movement is interrupted this can cause a part blockage or full blockage of the intestines. A full blockage is called **acute intestinal obstruction**. A part blockage is called **sub-acute obstruction**. Adhesions are the cause of bowel obstruction in about 6 in 10 people who have obstructions. An acute bowel obstruction is an emergency and needs immediate assessment in hospital.

Adhesions are areas of scar tissue that can cause organs or tissues in the abdomen to stick together. They usually affect the small intestine around the site of previous operations or inflammation. Adhesions can cause bowel to stick to other bits of bowel, or to other parts of the abdomen including the inside of the abdominal wall. This can make it hard for food and fluid to pass through. This causes pain and may result in blockages (obstruction) in the gut. Adhesions can also be found in any part of the intestines as well as other organs within the abdomen.

CAUSES

CAUSES OF ADHESIONS

Scar tissue is part of any healing process, so adhesions develop in almost all people who undergo surgery to the abdomen. However, problems can start to occur when this scar tissue becomes tough and fibrous and develops to a point where it sticks to organs or other loops of bowel. In people who haven't had surgery adhesions can also sometimes form due to conditions such as endometriosis or following infections or inflammation within the abdomen.

This is a list of some of the things that can cause adhesions: -

- **Surgery to the abdomen (or belly) or to the pelvis.** The pelvis is the lower part of the belly. No matter how skilful or careful the surgeon is adhesions can form. Surgery is the cause of adhesions in about 9 in 10 people who develop them.
- **Radiotherapy.** Adhesions can happen after this cancer treatment.
- **Conditions such as endometriosis and pelvic Inflammatory disease.** These are the commonest cause of non-surgical adhesions in females.
- **Inflammatory bowel disease** (such as Crohn's disease or ulcerative colitis)
- **Infections inside the abdomen.** An example is tuberculosis. This can be a common cause in some parts of the world.
- **Appendicitis.** An episode of appendicitis can result in adhesions especially if the appendix bursts (ruptures).

SYMPTOMS

WHAT ARE THE USUAL SYMPTOMS OF ADHESIONS?

Adhesions do not always cause symptoms. If you have adhesions the risk of them causing a problem is around 1 or 2 in 100 per year for up to 5 years after surgery. When they cause symptoms in some people, they may be mild and cause discomfort. A few people with adhesions may have severe symptoms which may be life-threatening.

Symptoms caused by adhesions may grumble on over years or they may come on quickly and become severe.

This is a list of some of the symptoms that can be caused by adhesions: -

- **Bloating** in the abdomen or belly. This bloating may be there all the time, or it may come and go.
- **Cramping, discomfort or pain** in the abdomen or belly.
- Changing bowel habit ranging from **constipation** to **loose poo**.
- **Feeling sick** and being sick.
- In females adhesions may cause **infertility** and **pain** during sex.

The most serious problem that adhesions can cause is **bowel obstruction**. This happens when the bands of tissue block off the bowel, either by causing a tight bend, or by pushing on the outside like standing on a hosepipe.

Sometimes, doctors talk about **sub-acute obstruction**. This is usually a partial blockage, or one which comes and goes. It can cause symptoms of sickness, abdominal or belly discomfort. These symptoms may come and go or may get steadily worse. This can become an urgent problem, and you should get same day medical advice from your GP or NHS 111.

If the adhesions completely block the bowel, it is called **acute intestinal obstruction or small bowel obstruction**. This can cause severe pain, vomiting and complete obstipation. Complete obstipation means that you cannot poo or fart. This can cause dehydration and imbalances in the salts and minerals in your blood stream. This is an emergency and medical attention should be sought immediately.

Very rarely, adhesions can cause the gut to lose its blood supply. This might be referred to as '**strangulation**'. This can cause sudden, severe abdominal pain. This is an emergency and medical attention should be sought immediately. You should call 999 or get someone to take you to A+E if you have one or more of the following:

- Severe belly pain. Severe means the pain is always there and it is difficult to think, talk or do any of your usual activities because of it.
- It hurts when you touch your belly.
- You are being sick and it's blood or looks like ground coffee.

- Your poo is bloody or black and sticky and smells bad.
- You cannot poo or fart.
- You cannot breathe or have pains in your chest.
- You are being sick and have diabetes.
- Call 999 if someone has collapsed.

Take your medicines with you.

HOW ARE ADHESIONS DIAGNOSED?

This will depend on how long it has been going on and the pattern of symptoms. At first it will be important for your doctor to take a **history**. This means going through the story of your symptoms in a structured way.

After this a **physical examination** is usually carried out. When this is done a doctor or other trained clinician will examine your abdomen (belly). They may also need to examine inside the anal passage. The information the doctor gathers will help plan the next steps. You can request a chaperone or a person of the same sex to undertake this examination.

Next steps may need some of these medical tests:

- **Blood tests.** There is not a simple blood test that can diagnose adhesions, but a blood test will help the doctor assess your general health. This helps them to look for signs of inflammation, and whether your kidneys are working well. This information helps to plan next steps of your care.
- **CT scan** of the abdomen or belly. This provides 3D pictures, and can help to figure out the cause and location of the blockage, as well as checking on the blood supply of the bowel.

HOW CAN THE CONDITION AFFECT YOU

Adhesions may cause any of the problems listed in the section on page 4 headed **symptoms**.

This could affect you on and off over months or years or symptoms could start suddenly and get worse quickly. Physical symptoms of pain and bloating can affect your mood and wellbeing. Any condition that causes pain can lead to feelings of uncertainty and dent your confidence. It may even lead to anxiety and depression. You should talk to your doctor or other health care professional about this.

Adhesions in the pelvis can affect female fertility. If you are trying to conceive and are having problems, your doctor can advise you about this and if necessary, refer you for specialist help.

Social media often spreads wrong advice about adhesions. This is especially true if the advice isn't from the NHS, health professionals, or PIF Tick-approved sources. Avoid doomscrolling about adhesions online. Endless online scrolling can cause a lot of needless worry.

TREATMENT

HOW ARE ADHESIONS TREATED?

ACUTE SYMPTOMS:

Care for people with acute symptoms due to adhesions should be delivered in a hospital setting.

Fluids are given into a vein to protect you from dehydration. In some cases, doctors may advise providing a special form of food into the veins, this is called parenteral nutrition. They might also insert a tube called a naso-gastric tube through your nose to your stomach to drain any liquid from your stomach. This can help to stop you from being sick (vomiting). They will also arrange a scan to find out where the blockage is.

If the blockage resolves, you might be advised on a liquid or low residue diet initially. After hospital treatment introducing tolerated foods low in fibre or softer foods so that poo can pass through the gut more easily, ensuring a good fluid intake is also important. Soft foods are those that can be easily mashed with a fork. If you are advised to follow any specific diet other than healthy eating after discharge from hospital you should ask your doctor for a referral to a dietitian to ensure you are getting the nutrients your body needs.

In hospital, adhesions may be treated with a gastrografin challenge. This relieves the blockage but does not remove the adhesions. There is a chance symptoms could come back in the future.

If your blockage is not relieved by around day 3 of hospital admission, or if surgeons are worried about your bowel, you will likely be offered an emergency operation. This is sometimes keyhole, but more often through a bigger cut on the abdominal wall. Surgeons free up scar tissue

and assess the bowel. Once your bowel wakes up and gets back to normal after surgery, you will typically be discharged from hospital.

SUB ACUTE AND CHRONIC (LONG-TERM) ADHESIONS

In some people with chronic problems who do not want an operation or cannot have an operation a low fibre diet soft diet might be recommended. This diet should not be followed without a referral to a dietitian and may not be needed long term. It can impact on diet variety and advice is needed to ensure you are eating what your body needs. Dietitians can also help you if you have any unintentional weight loss. You should tell your doctor about any unintentional weight loss.

You can treat mild pain and discomfort that isn't getting worse with pain medicines like paracetamol. Your treatment choice is personal and made with your healthcare team. But it's best to avoid drugs called opioids when possible. This is because they could slow how your gut moves and cause more symptoms. A doctor or a pharmacist can help you find out which medications contain opioids and if they're right for you. Some people with adhesions find using heat pads and rest useful for self-care but there is no research now to show this is effective treatment.

MONITORING

When adhesions are diagnosed a surgeon will help you to decide whether surgical intervention is required. Ask your surgeon about the risks and benefits of surgery for adhesions. If pain is not well controlled, referral can be made to a pain specialist.

If surgery has been carried out unfortunately new adhesions can form afterwards. Good surgical technique can help to reduce the likelihood of this, but they cannot entirely avoid it. After surgery, symptoms may improve, stay the same or get worse. Some people require repeated surgeries resulting in long term symptoms. Monitoring and follow up is important for this situation.

SUPPORT

WHAT TO ASK YOUR DOCTOR?

- May I be referred to a dietitian to see if there are any changes to my diet that may help with my symptoms?
- What are the risks and benefits of surgery for me?

- Are there any other treatments I can try before going ahead with surgery?
- Are there any treatments that I need to avoid because of adhesions?

RESEARCH

Next steps in adhesion research

Adhesions affect more than half of patients after abdominal surgery. Yet there are still no medical treatments to stop them forming. That's why more research is urgently needed.

Scientists are looking into how genes affect healing and the chances of getting adhesions. Finding patients at high risk can help doctors customise treatments. This way, they can take extra care of those likely to develop too much scar tissue.

New 'adhesion prevention products' are being tested in surgery. Guts UK is funding pioneering work into medicines called PDE inhibitors. These medicines, which are used for other conditions, might stop the harmful scarring process. If successful, this breakthrough would offer the first treatment to prevent adhesions. It could reduce pain, avoid repeat surgeries, and change lives.

References available on request

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