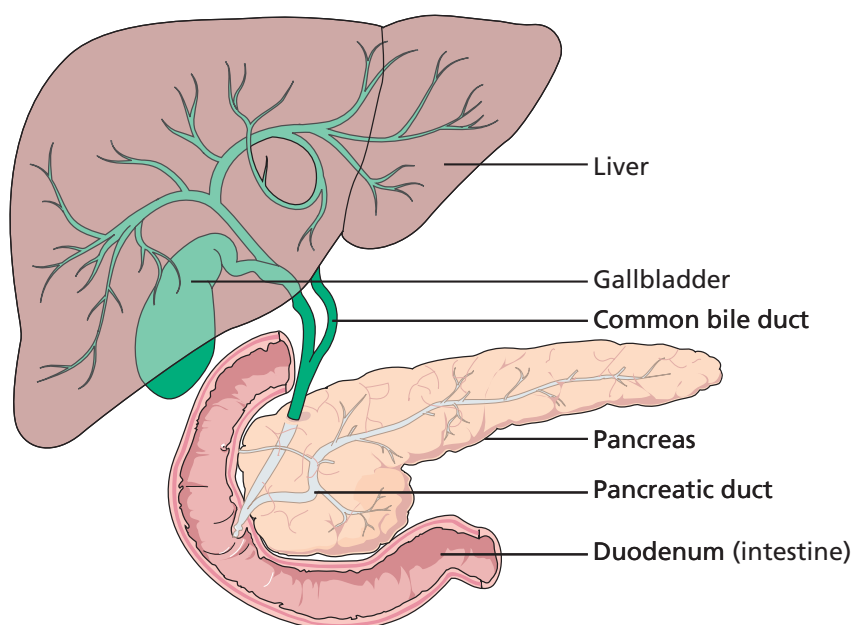




Gallstones

This information sheet from Great Ormond Street Hospital (GOSH) explains about gallstones, what causes them and how they can be treated.



Gallstones are stone-like formations found in the gallbladder. They can vary significantly in size, shape and consistency, and they can be present without causing any problems at all.

The gallbladder is a pouch which sits underneath the liver in the upper right part of the tummy. It stores bile, which is produced by the liver to help absorb fats in our food.

What are the symptoms of gallstones?

The main symptom of gallstones is pain in the upper right part of the tummy, which sometimes is more in the middle and sometimes in the back. Sometimes the pain is so severe that it causes nausea and vomiting (feeling sick and being sick). There can also be a fever if there is infection in the gallbladder or tubes connecting it to the gut.

The symptoms tend to be caused when the gallstones become stuck in the narrow part of the gallbladder or tubes to the gut, which can cause a squeezing pain (colicky pain) that comes and goes. If gallstones become stuck in the tubes to the gut, they can cause problems such as a yellow tinge to the skin (jaundice), pale faeces (poo) and dark urine.

Stones may also cause blockage of the pancreas duct, which can cause inflammation of the pancreas (pancreatitis). Pancreatitis causes severe pain, fever and jaundice and is a serious condition that requires urgent medical care.

Sometimes there are no symptoms and the gallstones are discovered when looking for other abdominal problems. Most gallstones without symptoms do not cause problems and in some cases resolve without treatment.

How are gallstones diagnosed?

Gallstones are diagnosed by the patient's story, examination by a doctor, and tests. An ultrasound examination is a common first investigation for gallstones as well as blood tests to check liver function. Other imaging scans such as magnetic resonance imaging (MRI) scans with magnetic resonance cholangiopancreatography (MRCP) may also be useful. These are often used to diagnose congenital (present at birth) abnormalities of the drainage ducts within the liver and gallbladder causing pancreatitis.



What causes gallstones?

There are several different causes of gallstones, and gallstones can be made up of different substances.

Some people have stones completely made up of cholesterol, which may be related to diet and lifestyle. Some people have stones completely made up of waste red blood cell pigment, which is more likely in people with blood problems. There are also calcium, protein and black pigment stones.

Research suggests that there is an increased risk of developing gallstones with some blood disorders, such as sickle cell disease or thalassaemia. There also seems to be an increased risk after long term total parenteral nutrition (TPN) where nutrients are delivered into the bloodstream rather than through the stomach. This is often used following bowel resection for conditions such as necrotising enterocolitis, intestinal atresia, gastroschisis or Crohn's disease.

Gallstones are not very common in children, occurring roughly one in every 100 children.

How are gallstones treated and are there any alternatives?

If gallstones are not causing any problems, they do not usually need to be treated. Most gallstones, however, are discovered because they are causing symptoms.

Pain and infections are treated by pain relief and antibiotics respectively, and pancreatitis is treated according to its severity.

Normally the first episode of gallstones is treated with pain relief and antibiotics. If gallstones are stuck in the ducts and causing obstruction then these must be removed, normally by an endoscope (a thin telescope passed through the mouth). The only way to prevent the problems of gallstones returning is to surgically remove the gallbladder in an operation called a cholecystectomy. Usually this is carried out using keyhole surgery (laparoscopically) so the operation is referred to as a laparoscopic cholecystectomy.

What is a laparoscopic cholecystectomy?

This is a keyhole (laparoscopic) operation to remove the gallbladder (cholecystectomy). It is a relatively common operation in adults although less so in children. Most children go home one to two days after the operation. The body seems to cope well without a gallbladder, with few long term effects.

Pre-admission

This is an outpatient appointment where you will be able to discuss your child's planned operation, test or procedure with the team before coming in to hospital for your admission. Your child will also have various tests and investigations carried out during this appointment. This avoids any delays on the day of the operation, test or procedure.

What happens before the operation?

You will receive information about how to prepare your child for the operation in your admission letter and booklet. Your child should not have anything to eat or drink before the operation for the amount of time specified in the letter. It is important to follow these instructions, otherwise your child's operation may need to be delayed or even cancelled.

On admission day, your child's surgeon will visit you to explain about the operation in more detail, discuss any worries you might have and ask you to give permission for the operation by signing a consent form. An anaesthetist will also visit you to explain about the anaesthetic and pain relief after the operation. If your child has any medical problems, such as allergies, please tell the doctors. Please also bring in any medicines your child is currently taking.



What does the operation involve?

The operation takes place under general anaesthetic, and lasts about an hour. Normally there will be four small cuts in the tummy, each less than 1cm in length. Gas is used to inflate the abdomen to give a space to perform the procedure. A telescope is inserted through a cut above the tummy button and three other small instruments are used to remove the gallbladder from under the liver. The gallbladder is taken out through the small hole near the tummy button.

Are there any risks?

As with any operation, there are some risks. Any surgery carries a small risk of infection or bleeding. The risk of infection is much smaller with keyhole surgery because smaller incisions are used. Occasionally, the tools used to carry out the operation may damage the internal organs in the abdomen, but this will be corrected during the same operation. There is a small chance that bile could leak into the abdomen when the gall bladder is removed. The main risk, although rare, is damage to the bile ducts which drain the liver. If this occurs, your child will need further surgery to correct this.

There are some risks with keyhole surgery linked to the gas used to inflate your child's abdomen. Some older children may complain of shoulder pain. Your child may also feel some crackling under the skin because the carbon dioxide sometimes escapes into the tissue just under the skin. These side effects are usually short-lived and do not require any specialised care.

There is always a chance that keyhole surgery will not be possible for your child. If the surgeon feels that the operation cannot be carried out as well and as safely using keyhole surgery, then he or she will carry out the operation using a larger incision instead. This is usually for technical reasons or because of unexpected findings.

Every anaesthetic carries a risk of complications, but this is very small. Your child's anaesthetist is an experienced doctor who is trained to deal with any complications. After an anaesthetic some children may feel sick and vomit. They may have a headache, sore throat or feel dizzy. These side effects are usually short-lived and not severe. More information about anaesthesia is available.

What happens afterwards?

Afterwards your child will go to the theatre recovery ward and wake up, before going to another ward for observations. Most children are ready to go home one to two days after the operation when they are comfortable and eating/drinking. The operation site near the tummy button may be covered with a small dressing – keep this clean and dry for 48 hours. The smaller incisions are usually closed with dissolvable stitches which do not need to be removed.

You should call your Family Doctor (GP) or the ward if:

- Your child is in a lot of pain and pain relief does not seem to help.
- The wound sites look red, inflamed and feel hotter than the surrounding skin.
- There is any oozing from the wound sites.

What is the outlook for children with gallstones?

In 95 per cent of children, removing the gallbladder means the end of problems associated with gallstones. It is rare to notice any long term side effects of having the gallbladder removed. Rarely, children notice some looser bowel motions, but commonly this resolves. There is a small increased risk of developing intestinal cancer following gallbladder removal in adults but more research is needed to confirm or rule out whether this risk exists for children.



Notes

If you have any questions, please telephone 020 7405 9200 and ask for the ward from which your child was discharged

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