Paediatric Unit
Appendix Removal – a leaflet for parents

This information sheet has been written to provide information to parents and older children on the management of appendicitis.

What and where is the appendix?
The appendix is a small finger like ‘blind end’ pouch, (like a little tube) that is located at the junction of the small and large intestine. The small intestine connects the stomach to the large intestine and helps absorb the food we eat. The large intestine is where the parts of food that cannot be digested begin to be formed into faeces (often referred to as motions or poo).
**What is appendicitis?**

Appendicitis means inflammation of the appendix. The inflamed appendix becomes infected with bacteria (germs) from the intestine. This inflammation often causes pain and a fever. The inflamed appendix gradually swells and fills with pus. Eventually, if not treated, the swollen appendix might burst (perforate). This can be serious as the contents of the intestine then spill into the abdominal cavity. This can cause a serious infection of the membrane that lines the abdomen (tummy) known as peritonitis, or an abscess in the abdomen. It is therefore important that if appendicitis is suspected that early treatment is instigated as soon as possible.

**Who gets appendicitis?**

Appendicitis is common and can affect anyone of any age. Teenagers and young adults are the most commonly affected. It is slightly more common in boys than girls.

**What causes appendicitis?**

The reason why the appendix becomes inflamed in the first place is not known in most cases. Some cases are thought to be due to a blockage that occurs somewhere along the appendix. This may be due to hard faeces (sometimes called motions or poo) that get stuck. Bacteria (germs) may then thrive and cause inflammation behind the blockage.

**What are the symptoms of appendicitis?**

Pain in the abdomen (tummy) is usually the main symptom. Commonly the pain starts in the middle of the abdomen. The pain normally develops very quickly and over the next few hours ‘travels’ to the lower right hand side. Typically the pain becomes worse and worse over 6 - 24 hours. The pain tends to be sharper if you cough or make any jarring movements.

Other symptoms may include the following:

- Feeling sick, or being off your food
- Vomiting
- Fever and generally feeling unwell
- Constipation or diarrhoea
- Frequent passing of urine due to the inflammation in the tummy irritating the tubes connecting the kidney and the bladder.

In some cases, the symptoms are not so typical. The pain may develop more slowly and start in the right hand side of the tummy.
How is appendicitis diagnosed?

There is no easy or foolproof test to confirm appendicitis. A doctor may diagnose appendicitis quite easily if you have the typical symptoms, however if you/your child does not show typical signs it can be quite difficult for a doctor to make a clear diagnosis.

All children admitted with suspected appendicitis will have basic blood tests performed and a urine sample taken to look for any signs of infection. They will also have a surgical assessment, which will include the surgeon examining your/your child’s tummy.

Some children develop pain that is similar to appendicitis, but which is caused by other conditions, such as gastroenteritis (diarrhoea and vomiting), mesenteric adenitis (inflammation of the tummy glands) or urine infections.

Sometimes a surgeon will advise a period of observation in hospital before they make a decision about your/your child’s care. They may also request further investigations such as an ultrasound scan to help the doctor make a diagnosis. Performing further investigations is not always necessary.

Even after investigations are performed the surgeon will often have to make a judgement based on your/your child’s symptoms and investigation results as to whether an operation is required. A small number of children will have surgery only to find that once the appendix is examined that it is normal and not inflamed.

What is the treatment for appendicitis?

The treatment for appendicitis is surgical removal of the inflamed appendix. This is usually done quite quickly once the diagnosis is made, as it is much better to remove the appendix before it bursts. Removal of the appendix is called an appendicectomy. The appendicectomy is a surgical procedure performed whilst you/your child is asleep under a general anaesthetic. There are two methods of performing an appendicectomy:

- Open appendicectomy – This involves a small incision approx 6-8 cm long being made over the right side of the lower abdomen. The appendix is carefully freed from the surrounding structures; it is then tied off along with its blood vessels and removed. The incision (surgical opening) is then closed with dissolvable or removable stitches.

- Laparoscopic appendicectomy – This is removal using a special tool called a laparoscope. During a laparoscopic appendicectomy three very small incisions (approx 1.5 cm) are made in the lower abdomen. The laparoscope and a camera are then passed through these holes and the appendix is removed in a similar manner to that described above.
Most children will have an open appendicectomy. Some children who go to theatre for a laparoscopic appendicectomy may need to have this changed to an open appendicectomy whilst in theatre. If this occurs, your surgeon will explain why.

Although prompt surgical treatment is important, for safety reasons the Trust does not generally operate on children late in the evening or overnight unless their condition is deteriorating.

**What preparation is needed?**

If you/your child are admitted with suspected appendicitis, you/they will not be allowed to eat or drink until you/they have had your/their surgical review. Depending on this assessment you/your child may stay nil by mouth or may be able to have small amounts to drink. Most children will have a drip (fluid run into a vein in their arm via a small plastic tube called a canula). This will help keep you/them hydrated until after their operation. Your surgeon may also start you/your child on antibiotics to treat the inflammation via the drip.

**What happens after the appendicectomy?**

On return to the ward from theatre you/your child will be quite sleepy. Most children will keep their drip running until they are awake and can drink normally. Not all children will have antibiotics before their operation but most will be given at least one dose during the operation. During the operation the surgeon will make a plan for you/your child’s postoperative care. This plan will depend on whether the appendix was inflamed or whether it had burst. Some children will be able to drink as soon as they return to the ward; others particularly where the appendix has burst will have to wait a few hours as often the intestine takes a little time to recover from being handled.

A good indication that the gut is working normally is that you/your child will start to pass wind. Once you/your child are eating and drinking small amounts and walking around, you/they will be discharged home. Although the length of stay in hospital can vary, most children are in hospital between two to three days. If you/your child’s appendix has burst this may be extended to between five to seven days whilst you/they complete a course of antibiotics. Some children may be discharged home on antibiotics.

**Complications**

An appendicectomy is the most commonly performed operation in the UK. There are usually no long-term complications after the operation; however as with any operation there is a small risk from the operation itself and from the anaesthetic. Your surgeon should explain these risks, such as bleeding and infection before you/your child has the operation. However, if you don’t have an operation and the inflamed appendix bursts you/your child could suffer serious complications such as peritonitis (inflammation of the wall of the abdomen) which can be life threatening.
If you/your child has a burst appendix your/their recovery will be a little slower than those who appendix was still intact. You/They are also at risk of getting a collection of pus in the abdomen post operatively. This sometimes does not become evident until you/your child is at home. Prior to you/your child’s discharge, your/their wound dressing should be changed. The wound may look slightly pink but should be clean and dry. If your/your child’s wound becomes redder, or starts to ooze fluid, they develop a fever, generally are not recovering as you would expect or their postoperative tummy pain becomes worse, you/your child should be reviewed by your GP. They will then refer you back to the hospital if they are concerned.

**Care after discharge**

Most children’s wounds will have been closed using dissolvable internal stitches, covered with some small strips of paper stitches on the outside called steri strips. These paper stitches need to remain in place for seven days and can then be peeled off. If you/your child had a burst appendix they may have stitches that need to be removed. Your nurse will explain what kind of stitches you/your child has prior to discharge. Stitches that need to be removed can normally be taken out by your GP after seven days. All wounds should be kept clean and dry for three days. After this time you/your child can have a shower but a clean dry dressing should be applied to the wound following the shower. All dressings can be removed after seven days provided the wound has healed.

Following the surgery you/your child may experience some discomfort, particularly when they first start to move as we use our tummy muscles to support our walking. It is important that you/your child moves around as this helps with your/their recovery. Please ensure you take/ give your child any medication that has been prescribed such as paracetamol to keep this discomfort to a minimum.

It is advisable that you/your child stays off school for a week following your/their surgery, after this time you/they may return to school but avoid any vigorous exercise or swimming for 10 – 14 days or until their wound has fully healed. You/They should avoid all contact sports for two months.

Most children require no follow up appointment after an appendicectomy, however if the appendix had burst or you/your child was unwell the surgeon may choose to see you again. You should be informed of this decision prior to discharge and the appointment will then be sent to you in the post.

A letter will be sent electronically to your/your child’s GP on discharge. This will include a brief description of your/your child’s admission, any medication that has been prescribed and any follow up care that is required. You should be given a copy of this letter when you leave the ward. If it is not ready at this time a copy will be sent to you.
When to be concerned
If you/your child shows any of the following signs you should contact your GP and ask that you/your child be reviewed:

- Your/Your child develops a fever
- Your/Your child’s tummy swells
- The wound becomes red, swollen or hot
- The wound is oozing
- You/Your child is not recovering as you would expect.

If you are still concerned or need advice you can call Peter Pan Ward on 01895 279529 and ask to talk to the nurse in charge.

References
EMIS 2009

Disclaimer
This article is for information only, and should be considered alongside the individual specific advice given regarding you/your child’s condition by the medical practitioner.

Languages/ Alternative Formats
Please ask if you require this information in other languages, large print or audio format. Please contact: 01895 279973

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