

What you should know about your child's appendicectomy

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What is an appendicectomy?

An appendicectomy is a common and safe operation that is performed to remove the appendix, which is a closed ended narrow tube that extends out from the large bowel. Although the exact function of the appendix in the human body is unclear¹, we know that its removal does not cause any problems.

Why is it needed?

Having an appendicectomy is the more common way of treating appendicitis, a condition which 6 out of 100 people will suffer from in their life time. We do not yet fully understand what causes appendicitis, but think that it starts by material in the bowel blocking the entrance to the appendix. This leads to bacteria (germs) growing inside and infecting the appendix, causing inflammation and swelling.²

The danger of not treating appendicitis is that it can make you very unwell and the appendix can swell up so much that it bursts (perforates), releasing bacteria into the abdomen. This can lead to a condition called peritonitis which may be life threatening.

What does the operation involve?

An appendicectomy can be carried out with either key-hole (laparoscopic) or open surgery. If your child is having key-hole surgery, the surgeon will begin by making a small cut below their belly button which is used to pump gas into the tummy to create space needed for the operation.

A long, thin camera with a light on the end, known as a laparoscope, is then placed into your child's abdomen which is connected to a monitor, allowing the surgeon to see their appendix. Two further small cuts are then made in the abdomen through which are inserted special instruments that are needed to remove the appendix.

The surgeon may decide to switch to open surgery if continuing with key-hole surgery is too difficult or if the appendix has perforated.

If your child is having an open appendicectomy, the appendix will be removed through a 2 to 3 inch cut made in the lower right region of the abdomen.

An appendicectomy usually takes between 60 to 80 minutes and your child should normally be fit to go home the same or following day.

Is there an alternative treatment?

In certain circumstances, the alternative treatment to removing the appendix is to have a course of antibiotics. There is evidence that this can sufficiently treat simple appendicitis (where there is no abscess or perforation) and 2/3 of people just treated with antibiotics will recover fully.³ The other 1/3 fail medical treatment and end up needing surgery – some during this episode and some later in life. There may also be a higher chance of having peritonitis if you get appendicitis a second time.⁴ This evidence is still quite new, so some surgeons will still recommend surgery as the first-line treatment and reserve antibiotic treatment for cases when there is a reason to avoid surgery – for example in people with other medical problems or who do not want surgery. You may be asked if you have a preference of how your child is treated. There is no right or wrong answer and your child's management plan may change during your admission.

How will my child feel afterwards?

After-effects of the anaesthetic

It is normal for your child to feel sleepy for the first few hours after the operation as the effects of the anaesthetic wear off and you may also notice problems with your child's memory and concentration which can last up to one day.

Furthermore, the tube that was used to help your child breathe during the surgery can irritate the back of their throat which might cause a sore throat after the operation.

Post-operative pain

It is normal for your child's wounds to feel sore and look swollen and bruised after their operation. They may also experience shoulder pain which is caused by the carbon dioxide that was used to inflate their abdomen during the operation.

Regular pain killers shall be provided to make sure that your child is kept as pain free as possible. They should start to notice an improvement in their pain over the next few days.

Post-operative nausea and vomiting

Feeling sick is a very common symptom after surgery. If this happens to your child, anti-sickness medications are available to help prevent them from feeling sick and a drip may be started if they are unable to drink enough fluids.

What happens after the procedure?

We will monitor your child's vital signs such as their heart rate and temperature and their wounds will be regularly checked for any signs of infection.

Your child may eat and drink as soon as your child feels comfortable to do so. They will be encouraged to sit in the bedside chair after the first few hours and to walk around which helps them to recover more quickly.

Sometimes, a plastic tube will be placed inside your child's abdomen towards the end of the operation to drain away blood and pus that accumulates after surgery. This usually gets removed within the first two days.

Your child will be fit to go home once they feel well enough.

What are the risks?

Although an appendicectomy is a safe operation, it does carry the following risks:⁵

- 1) Bleeding during and after the operation
- 2) 6 to 7 out of 100 patients will have a wound infection
- 3) 3 to 5 out of 100 patients will develop an abscess (collection of pus) in the tummy resulting in increasing pain and fever. Your child may be taken back to theatre to have the pus removed if this occurs.
- 4) 9 out of 100 patients will get an ileus, a condition where the bowel temporarily shuts down leading to bloating, pain and vomiting. This usually resolves by itself but your child may require a nasogastric tube, a tube inserted through the nose into their stomach for a period of time until the bowel starts working.

It is important to mention that for most people, these risks are lower than the risk of not having an appendicectomy, which includes perforation of the appendix leading to peritonitis, a life-threatening condition.^{6,7}

Aftercare

Medications to take home

We will ensure that your child is discharged home with enough painkillers to help them cope with their pain at home.

Caring for your child's wounds

You should expect your child's wounds to be red and sore for one to two weeks after surgery but this will gradually improve over time. Your child may also notice some numbness around their wound which is due to damage to the small nerves in the skin. This may resolve with time but can be permanent. A supply of dressings will be provided for you to take home but by the fifth day you should find your child no longer requires dressings. Showering is better for your child than taking baths to prevent their wounds becoming too soggy. If you do not have a shower however, a shallow bath may be taken. After washing, the wounds should be patted dry with a clean towel. If your child has stitches that require removal, you will be given an appointment with the Children's Community Nurse.

Resuming daily activities and sports

Your child can resume normal activities, including doing sport as soon as they feel comfortable but it is sensible for them to build up the level gradually.

We recommend for your child to avoid strenuous exercise including contact sports and heavy lifting for one month. Swimming should be avoided for two weeks or until your child's wound has fully healed.

Returning to school

The amount of time off school your child needs to take will depend on the type of surgery they have had and the speed of their recovery. As a general guide, children are advised to take two weeks off school. The nurses will inform your child's school about this.

Follow up

Your child will receive information before he/she leaves hospital if we would like your child to be followed up as an outpatient.

Please contact your GP or your consultant's secretary at North Devon District Hospital (01271 322577) if your child experiences any of the following at home:

- Increasing redness, pain or swelling around your child's wound
- Persistent discharge of blood or pus from the wound
- Persistent vomiting or fevers

References

- 1) Society of American Gastrointestinal and Endoscopic Surgeons. Patient Information for Laparoscopic Appendectomy from SAGES. <http://www.sages.org/publications/patient-information/patient-information-for-laparoscopic-appendectomy-from-sages/>. (Date accessed 16/10/2014).
- 2) Shuhatovich & colleagues. Laparoscopic Appendectomy. <http://emedicine.medscape.com/article/1582228-overview#a01>. (Date accessed 14/09/2014)
- 3) Rollins KE, Varadhan KK, Neal KR and Lobo DN. Antibiotics Versus Appendectomy for the Treatment of Uncomplicated Acute Appendicitis: An Updated Meta Analysis of Randomised Controlled Trials. *World Journal of Surgery* 2016; 40: 2305-2318
- 4) Podda M, Cillara N, Di Saverio S, Lai A, Feroci F et al. Antibiotics-first strategy for uncomplicated acute appendicitis in adults is associated with increased rates of peritonitis at surgery. A systematic review with meta-analysis of randomized controlled trials comparing appendectomy and non-operative management with antibiotics. *The Surgeon* 2017; 15(5): 303-314
- 5) Namir Katkhouda, Rodney J. Mason, Shirin Towfigh, Anna Gevorgyan and Rahila Essani. Laparoscopic Versus Open Appendectomy A Prospective Randomized Double-Blind Study. *Annals of Surgery* 2005; 242(3):439-450. (Date accessed 05/09/2014).
- 6) Papandria D, Goldstein SD, Rhee D, Salazar JH, Arlikar J, Gorgy A, Ortega G, Zhang Y, Abdullah F. Risk of perforation increases with delay in recognition and surgery for acute appendicitis. *J Surg Res* 2013;184(2):723-729. DOI: 10.1016/j.jss.2012.12.008. (Date accessed 02/10/2014)

- 7) Kirby A, Hobson RP, Burke D, Cleveland V, Ford G and West RM. Appendicectomy for suspected uncomplicated appendicitis is associated with fewer complications than conservative antibiotic management: A meta-analysis of post-intervention complications. J Infect 2014;pii:S0163-4453(14):00269-2. DOI: 10.1016/j.jinf.2014.08.009. (Date accessed 05/09/2014)

PALS

The Patient Advice and Liaison Service (PALS) ensures that the NHS listens to patients, relatives, carers and friends, answers questions and resolves concerns as quickly as possible. If you have a query or concern call 01271 314090 or email ndht.pals@nhs.net. You can also visit the PALS and Information Centre in person at North Devon District Hospital, Barnstaple.

Have your say

Northern Devon Healthcare NHS Trust aims to provide high quality services. However, please tell us when something could be improved. If you have a comment or compliment about a service or treatment, please raise your comments with a member of staff or the PALS team in the first instance.

'Care Opinion' comments forms are on all wards or online at www.careopinion.org.uk.

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