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APPENDICECTOMY.

This general guide is designed to provide background information. As most patients with appendicitis present as an emergency you may not receive this document until after your operation. However, it will be available for your family, friends or carers.

It aims to supplement verbal discussion, to answer common questions and to be readily available as an *aide memoir*. It cannot cover in detail every aspect of your individual operation and may not deal with some areas that are of particular concern to you. These can be dealt with individually.

You should feel free to ask about any aspect of your care. All your questions will be answered fully, honestly and in as much detail as you wish. In the heat of the moment it is easy for questions that you intended to ask to slip from your mind. You should note on paper any questions that you may have.

Further information is available at the web site above. This site also provides links to other sites that may provide additional information.

What is involved?

The appendix lies in the lower right abdomen. Inflammation of the appendix (appendicitis) is a very common emergency that can occur at any age. In almost all cases the recommended treatment is appendicectomy. This can be undertaken by the traditional open operation or by laparoscopy.

Before the operation.

The anaesthetist will assess you and will discuss the various ways of controlling post-operative pain (see below).

It is important that we know every medical issue that might affect you. What may appear unimportant to you may be essential for us to know. In particular, we need to know all the drugs you are taking.

Pain relief.

Proper pain relief is very important for both holistic and physiological reasons. Your post-operative recovery will be slower if you do not have adequate pain relief. Patients often have an understandable reluctance to take pain relieving drugs. This is a mistake and may increase post-operative complications. The principal that underlies all methods of pain relief is that the drugs work best if you anticipate the pain. A small quantity of the drug taken regularly (even if pain free at that time) will work better than waiting for the pain to occur and then taking a larger dose.

After the operation you may require an injection to provide you with pain relief, but after that adequate pain relief can normally be achieved by simple oral medication. Regular Panadol, regardless of whether you have pain or not, should be used to provide background pain relief for a week after your operation. Additional, stronger pain killers and/or anti-inflammatory drugs should be taken on top of the Panadol for break through pain. Many stronger pain relieving drug contain morphine and this will tend to make the stool hard. You may need to take a laxative such as lactulose to counteract this. Drink plenty of water. Anti-inflammatory drugs can irritate the stomach and should be taken with food. Normally they can be stopped after five days.

Care of the wound.

Many patient return home the day after surgery. This will vary with your progress and home circumstances. If you have a lot of infection in the abdomen you may need a few days of intravenous antibiotics

The wound is closed with stitches that are under the skin. They will be absorbed and do not need to be removed. Steristrips will be placed over the incision, and on top of that a plaster.

The plaster will tolerate a shower or a quick splash in a bath, but do not soak it. The original plaster that is on the wound when you leave the hospital should be removed no later than 48 hours after the surgery and the steristrips no later than four days after the surgery. If they become dirty or start to fall off before that they can be removed. Thus by 96 hours all the original dressings should have been removed. The incision will be covered by new cells and can then be left open.

After washing the wound should be padded rather than rubbed dry. Adding salt to the bath will not help heal the wound and may make your skin dry and tight. You should not soak the wound or swim for at least ten days. If the incision is a bit sensitive you can cover it with a new plaster, but it should be left open at night.

A major concern to patients is that they will strain the wound and that it will rupture. With today's suture materials this very unlikely. On the very few occasions that a wound does rupture it will be before you leave hospital. This would require an operation to repair the rupture. Once you have gone home a rupture is almost unheard off. If you 'over do it' the worse that will happen is that wound will be very sore.

Wounds progress through several stages of healing. You may experience:-

- Unusual tingling, numbness or itching sensations.
- A slightly hard or 'lumpy' feeling as new tissues form.
- Pulling around the stitches or staples as the wound heals.

This is normal. Do not pull at any scabs as they act as a natural dressing and protect the new skin underneath. They will fall off when no longer required. You should seek help if any of the following occur:-

- The wound pain increases.
- The wound becomes more reddened or swollen.
- There is any discharge from the wound.

Work.

Your return to work depends on many factors, including your occupation, age and general health. The single most important factor that will determine your return to work is pain. If you feel comfortable doing a particular activity then it is very unlikely you will do any harm. In general it is sudden, unplanned movements that cause problems.

As a guide patients with sedentary work can return to work after seven days. If you have a manual occupation you will normally be able to return to work after two to three weeks. It will take six weeks to be 100% recovered.

You can resume exercise as guided by discomfort. If you use pain as a guide it is almost impossible to 'over exercise' yourself to the extent that you damage the surgical area. When you return to exercise do not do it in a competitive environment until you feel you can cope.

For medico-legal reasons you should not drive a vehicle for at least seven days.

Sleep.

Changes in your routine, restricted movement, lack of exercise and wound discomfort will interrupt your normal sleep pattern or wake you during the night. Uninterrupted sleep is more valuable than 'cat-napping' so you may find it helpful to take a pain killer before you go to bed.

You can resume sexual activity when this feels comfortable.

Eating.

Your appetite will not be good for some weeks after surgery and you may feel aches, bloating and indigestion after meals. These symptoms usually disappear as you become more active. You should take small, frequent meals with a good intake of protein (lean meat, dairy produce, fish *etc.*). A small amount of alcohol can improve your appetite and is not usually harmful.

Surgical trainees

Some patients may have their right hemicolectomy undertaken by a surgical trainee. A trainee performing a right hemicolectomy is normally, but not always, under the direct supervision of the consultant. It is important that, as part of their training, trainees gain independent experience whilst consultant cover is still immediately available. There is a substantial body of surgical literature that shows the outcome of operations undertaken by properly supervised trainees is no worse than those performed by the consultant.

Follow-up.

You will be reviewed about six weeks after your surgery. If you have any concerns between routine follow-up visits do not delay until your next scheduled appointment. Make an earlier appointment.

What can go wrong?

You will be undergoing a major operation. Major operations are sometimes complicated by adverse events. That said, the surgeons, anaesthetists and nurses caring for you have an extensive experience in what is, to them, a routinely performed operation.

However, it is important that you appreciate that major surgery does carry risk and complications can and do occur. The table below summarises the potential risks and complications. This table is not exhaustive and if you have any concerns you should ask before you sign the consent form. It is not intended to alarm as most patients will not have a serious complication. However, one third of patients having a colonic resection will have an event that delays their recovery. Although everything possible will be done to prevent the development of any complication, it is only possible to reduce, not eliminate, these events.

The majority of complications tend to occur in two groups. The first group are a direct effect of that particular operation. A wound infection is the most likely complication of this operation. The second group are general complications that can occur after any operation. The risk of these complications is greatly influenced by any pre-existing medical conditions. Examples include a previous heart attack, a chronic illness such as diabetes, and smoking.

The best way to manage potential complications is to prevent them occurring in the first place. Hence the use of preventative, or prophylactic, treatment. It is important to correct any underlying medical conditions. For this reason it is essential you advise your doctors of all earlier operations and previous or ongoing medical illness. All your drugs should be brought to the hospital and shown to your doctors.

| Risk | What happens? | What may be done (options)? |
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| <i>General complications that may occur after any surgery</i> | | |
| Clot in legs (DVT) | A clot forms in the legs. This may make the legs swell. The clot may break away into the lungs. This is a pulmonary embolus. | Blood thinning drugs (heparin) started at the time of surgery. TED stockings. |
| Post-operative bleeding | Blood leaks into the abdomen or out through a drain. | 1. Blood transfusion. 2. Re-operation. |
| Wound infection | An infection, including the development of pus, occurs in the wound. | Antibiotics started at the time of surgery. Drainage of any pus is required, and this may require another operation or drainage under radio-logical guidance |
| Chest infection | Pneumonia develops. | Antibiotics are required. A few patients require ventilation (in ICU). |
| Wound dehiscence | The wound opens up. | Surgical repair within a few hours. |
| Incisional hernias through the wound | A weakness develops in the wound. The bowel then slips through the abdominal wall and a bulge appears. This usually occurs more than six months after surgery. The overall life time risk is >15%. This risk is increased in patients who have either chemo-therapy or radiotherapy, a wound infection or a chronic illness like | A surgical repair, usually with mesh, is required. |

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| | diabetes or obesity. | |
| Urinary tract infection | Bacteria enter the bladder. | Antibiotics |
| Bladder may not empty | It is not possible to pass urine. As the bladder gets full, the patient gets uncomfortable. | The catheter is re-inserted and removed a few days later. Normally this solves the problem. Sometimes a catheter is required for 2-3 weeks. In men, prostate surgery may be required. |
| Vascular event | Stroke Heart attack | Each event managed on its own merits. Normally a period in ICU is required. |
| Death | | In a fit person <2%. In other patients the risk is very dependent on pre-existing medical problems. A general estimate can be made by the use of risk prediction tables. |

Complications that may occur after bowel surgery:

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| Anastomotic leak | The join between the two ends of the bowel develops a leak. In this operation <2%. | <ol style="list-style-type: none"> 1. Antibiotics alone. 2. Drainage under radiological guidance. 3. Further surgery, including a stoma if not already present. |
| Post operative ileus | The bowel remains paralysed for longer than the usual 3-4 days. | <ol style="list-style-type: none"> 1. A tube through the nose is inserted/left in the stomach. 2. Various drugs may be given. 3. Although it normally resolves in 3-5 days an ileus can occasionally be so prolonged that intra-venous feeding (TPN) is required. |
| Bowel blockage (adhesions) | Scar tissue in the abdomen blocks the bowel. This can occur within a few days of surgery, or many years later (or any time in between). The life time risk is 15-20%. | A NGT and IVI settles most. Some patients require further surgery. |

| <i>What increases the risk of surgery</i> | <i>Examples:</i> | <i>Why is the risk increased?</i> |
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| Medical illness | Pre-existing general medical conditions such as endocrine disorders, heart attacks or strokes etc. | As far as possible pre-existing medical problems will be corrected prior to surgery. |
| Previous surgery | | Scarred tissue is normally of poor quality and does not heal well. |
| Obesity | All risks increased. | <ol style="list-style-type: none"> 1. Poor quality tissue. 2. Poor mobilisation leading to increased risk of DVT, chest infection. 3. Poor blood supply so the risk of wound or anastomotic failure is much increased. 4. Extra strain on the wound, heart etc... |
| Drugs | Examples include steroids, aspirin, and blood thinning agents. | Normally because they increase the risk of bleeding, infection or decrease the quality of wound healing. |
| Diabetes | | <ol style="list-style-type: none"> 1. Ability to combat infection reduced. 2. Poor blood supply. 3. Slow healing. |
| Smoking | | Increased risk of anastomotic leak, infection, vascular events and thrombosis. |

Definitions:

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| IVI | Intravenous infusion ('a drip') | |
| NGT | Nasogastric tube. | A fine tube from through the nose into the stomach to drain the stomach and stop |

ICU

Intensive Care Unit.

vomiting.

For very ill patients, or those requiring ventilation.

Ventilation

Placing patients on a machine that does the breathing for them. A tube is placed through the mouth into the upper airway.
