Bowel cancer: surgical prevention strategies

This fact sheet is about operations on the bowel which can lower the risk of getting bowel cancer (also known as surgical prevention strategies). The following information is based on the latest available evidence.

Surgical prevention strategies may be appropriate for people who have a higher than average risk of getting bowel cancer. People are at higher risk of bowel cancer if they have:
- a personal or family history of bowel polyps or bowel cancer/s
- a personal or family history of other related cancers including cancer the stomach, uterus (womb) and/or ovaries
- a change in a gene that normally protects against getting bowel cancer.

What is a surgical prevention?
Surgical prevention means having an operation (surgery) to remove all or most of the large bowel, with or without the rectum, to reduce the chance of developing life-threatening bowel cancer. The large bowel (also known as the colon) is seen in the picture below.

Following this surgery the digestive system works almost normally. How much the bowel cancer risk is lowered depends on what type of surgery is done. Removing the large bowel does not affect how your body absorbs food.

People who have bowel polyps and put off surgery recommended by their doctor are much more likely to get cancer. These people die at a younger age than those who have surgery before they get bowel cancer.

People who have a surgical prevention may do so because they:
- have a known gene change likely to cause bowel cancer
- have got several polyps, a large polyp or cancer.

A doctor or surgeon may recommend that surgery is the best way to control the polyp/s and/or the risk of getting additional cancer in the future.

The benefits of surgery are that it can permanently lower the cancer risk and the person may not need regular bowel cancer screening procedures in the future.

Familial bowel cancer
There are three main known gene mutations (changes) linked with familial bowel cancer. The first of these two, FAP and MAP, are genetic diseases where many polyps grow in the bowel. There will be a strong personal and family history of bowel polyps and bowel cancer among those with FAP and MAP.

*Familial adenomatous polyposis (FAP)*
Changes in a gene called APC that is known to cause FAP.
**MYH associated polyposis (MAP)**
Changes in a gene called MYH that is known to cause a hereditary condition called MYH associated polyposis, or MAP.

**Lynch Syndrome [previously known as Hereditary Non-Polyposis Colorectal Cancer (HNPCC)]**
A change in a gene known to cause Lynch Syndrome.

**Types of surgery for people at risk of getting bowel cancer:**
- Colectomy and ileo-rectal anastomosis
- Restorative proctocolectomy
- Proctocolectomy and ileostomy

Deciding on the best surgical option is not always straightforward. The surgeon can provide information about the limitations and benefits of the procedures including:
- whether they can be performed by key hole (laparoscopic) or open surgery
- what to expect during the recovery time.

**Colectomy and ileo-rectal anastomosis**

**What is removed during surgery?**
All of the colon is taken out (called a colectomy) and the end of the ileum (small intestine) is joined to the rectum (called ileo-rectal anastomosis or IRA). See the picture below.

**How are the bowels affected following the surgery?**
After recovering from surgery, most people find they have two to three bowel actions a day.

**What is the advantage of this type of surgery?**
The rectum and anus are kept after this procedure. This means bowel motions can still be passed in the usual way.

**What is the disadvantage of this type of surgery?**
There is still a risk of polyps and cancer in the rectum. Therefore, regular bowel check-ups will be needed. This is usually done using a short type of colonoscope known as a sigmoidoscope. Regular rectal check-ups are needed throughout life to take out any small polyps in the rectum before they become a problem.
Restorative protocolectomy (the pouch procedure)

What is removed during surgery?
All of the colon and rectum is removed. A new ‘rectum’ is made from the end of the small bowel. This is called a pouch and is joined to the anus. A temporary opening (hole or ‘ileostomy’) through the abdominal wall is made so that the bowel contents can leave your body. This remains for about three months while the pouch surgery heals. After that, in a second operation the hole is closed up, and bowel motions are as normal.

How are the bowels affected following the surgery?
After the second surgery to close the ileostomy, bowel motions are passed in the usual way.

What is the advantage of this type of surgery?
The risk of getting cancer in the rectum is lower than with surgery that keeps the rectum.

What are the disadvantages of this type of surgery?
Some people have more frequent bowel motions during the day (go to the toilet more often). Occasionally the back passage may leak, especially at night. Other problems that can happen include:
- swelling after the operation
- infection
- adhesions (loops of the bowel that’s left which stick together).

Although the risk of cancer in the pouch is low, it can happen.

Proctocolectomy and ileostomy
This is rarely done now. It may be done if:
- a cancer is low in the rectum
- if a person has had previous bowel surgery
- if there are significant problems after one of the other two operations.

What is removed during surgery?
All of the colon, rectum and anus are taken out. The end of the small bowel (ileum) is then permanently joined to the wall of the abdomen. This opens to the outside to let bowel motions (faeces) to pass out. The opening is called the stoma or ileostomy.
What can be expected after surgical prevention surgery?

**After the operation**
How long the stay in hospital, and how long it takes to recover will depend on:
- the type of surgery
- how it is performed (for example, if it is keyhole or open surgery).

The time needed off work and/or the need for help in performing day-to-day household tasks will depend again on the sort of work and the type of operation that was had. The surgeon can give a better idea about how long it will take to recover.

The main difference people experience between the surgeries is how often they go to the toilet. Problems such as managing diarrhoea or leaking from the bowel can be managed by medicines provided by the doctor. Taking the medicine can help in situations to reduce anxiety about the problems occurring; for example going to a special event. After a few months, the bowel usually adapts to being shorter and problems are less.

For people who have a stoma after a proctocolectomy and ileostomy, help is given to learn how to handle the stoma and bag that helps lower the chance of infection of the stoma.

**Regular check-ups**
After the operation, regular check-ups with your doctor will be needed. The type of surgery that was had will determine how often check-ups are needed.

---

**How are the bowels affected following the surgery?**
Instead of passing motions in the usual way a special bag is worn over the stoma to collect the bowel motions. The bag needs to be changed during the day.

**What are the advantages of this type of surgery?**
The entire bowel (colon and rectum) is taken away, completely removing the risk of developing bowel cancer.

**What are the disadvantages of this type of surgery?**
The patient will no longer be able to pass bowel motions in the usual way and will need to wear a bag for the rest of their life. There is also some risk of infection of the stoma.
Sex, relationships and bowel surgery
Bowel cancer prevention surgery should not affect the ability to enjoy sex. For some people, however, surgery can change the way they feel about themselves and their bodies, they may be concerned about how their partner or future partner will cope.

Talking to partners, family, friends and health professionals can help. Cancer Council (13 11 20) offers support to patients who are considering or have undergone preventative bowel cancer surgery, by connecting them to people who have been through the same experience and are willing to share their experience and talk about how they managed.

This may be particularly valuable for young people going through the normal changes of early adulthood as well as making decisions about preventative bowel surgery. Cancer Council has experienced counsellors who can talk about sexuality and new relationships.

Pregnancy and childbirth
Some bowel surgery can affect pregnancy and childbirth. Women who have had a restorative proctocolectomy may find it harder to fall pregnant. The chances of this happening can depend on the type of bowel surgery.

Leaving time between having surgery and becoming pregnant is advised. There may be some types of bowel surgery where a caesarean delivery would be advised. This can be discussed with an obstetrician.

Making the decision: talking it over
Making a decision about surgery can be difficult. It can help to know what to expect from the operation by getting as much knowledge as possible from reliable sources such as your surgeon, GP and Cancer Council.

September 2013