

CR03 Colon Resection for Colon Cancer

Expires end of January 2024

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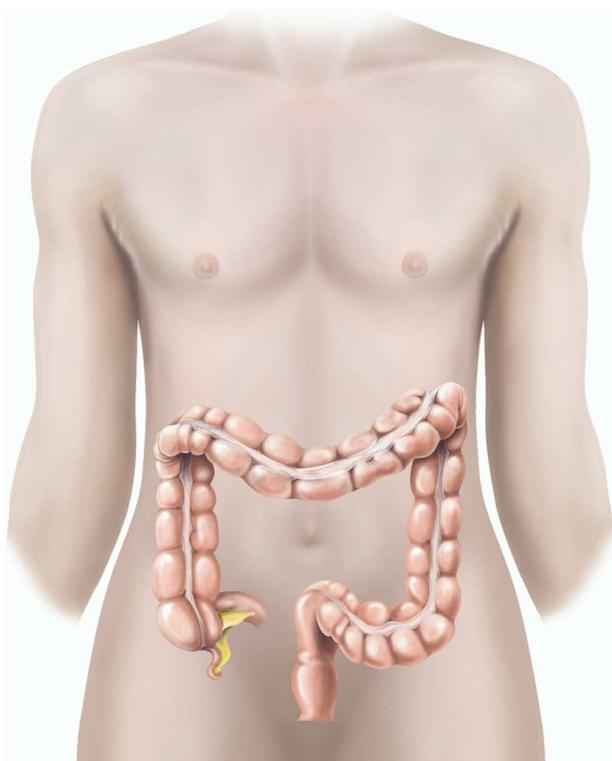
What is colon cancer?

Colon cancer is a malignant growth that starts in the wall of your colon (large bowel). About 29,000 people develop colon cancer every year in the United Kingdom.

Colon cancer can cause your bowel habits to change. You may get diarrhoea or constipation. The cancer can eventually cause your bowel to become completely blocked. The cancer can also bleed and you may see blood when you pass a bowel movement, or notice that your bowel movements are darker than usual. If the cancer has spread outside your colon, you may lose weight.

What is a colon resection?

A colon resection involves removing the cancer along with part of your colon either side of it.



Your doctor can mark where the cancer is

Your tests have shown that a colon resection offers the best chance of you being free of colon cancer. It is your decision to go ahead with the operation or not.

This document will give you information about the benefits and risks to help you to make an informed decision. If you have any questions that

this document does not answer, it is important that you ask your surgeon or the healthcare team. Once all your questions have been answered and you feel ready to go ahead with the procedure, you will be asked to sign the informed consent form. This is the final step in the decision-making process. However, you can still change your mind at any point.

What are the benefits of surgery?

The aim is to remove the cancer along with part of your colon either side of it.

Are there any alternatives to a colon resection?

Removing the cancer by surgery gives you the best chance of being free of colon cancer.

Chemotherapy or biological therapy will not lead to you being cured but can be used to shrink the cancer and so improve your quality of life.

It is possible to have procedures to ease any blockage of your bowel without treating the underlying cancer. These include forming a stoma (your bowel opening onto your skin) or inserting a stent (metal mesh tube) across the cancer to hold your colon open.

You should discuss the options carefully with your surgeon.

What will happen if I decide not to have the operation?

The cancer will continue to grow and will often bleed slowly. This may lead to anaemia as your body may not be able to produce enough healthy red blood cells to replace those lost by bleeding. Anaemia can be treated with iron tablets, iron infusions or blood transfusions.

As the cancer continues to spread, it may start to block your bowel, leading to abdominal pain and making you feel sick. Eventually the cancer may completely block your bowel. The cancer can also spread to other areas of your body.

The healthcare team will arrange for you to have non-surgical treatment and will continue to be involved in your care. Chemotherapy can improve your quality of life even with widespread disease (palliative chemotherapy).

What does the operation involve?

Sometimes your bowel needs to be cleaned out. You may be given medication to cause you to completely empty your bowel.

The healthcare team will carry out a number of checks to make sure you have the operation you came in for. You can help by confirming to your surgeon and the healthcare team your name and the operation you are having.

The operation is performed under a general anaesthetic and usually takes about 90 minutes. You may also have injections of local anaesthetic, or an epidural or spinal, to help with the pain after the operation. You may be given antibiotics during the operation to reduce the risk of infection.

Your surgeon will remove the cancer along with part of your colon either side of it. Your surgeon will remove lymph nodes (glands) close to where the cancer was to find out if there are any cancer cells in them.

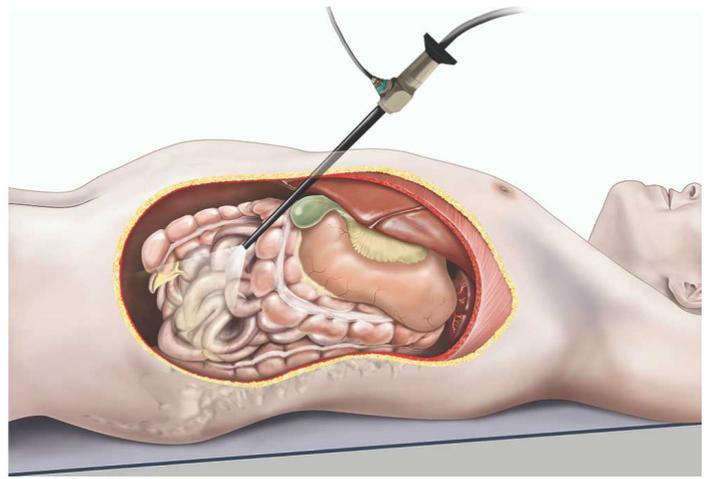
Your surgeon will usually join the ends of your bowel back together inside your abdomen. Sometimes, for safety reasons, they will make a stoma. Your surgeon will tell you if this is a possibility.

Laparoscopic (keyhole) surgery

Your surgeon may use laparoscopic (keyhole) surgery as this is associated with less pain, less scarring and a faster return to normal activities.

Your surgeon will make a small cut on or near your belly button so they can insert an instrument in your abdominal cavity to inflate it with gas (carbon dioxide). They will make several small cuts on your abdomen so they can insert tubes (ports) into your abdomen. Your surgeon will insert surgical instruments through the ports along with a telescope so they can see inside your abdomen and perform the operation.

For up to 1 in 10 people it will not be possible to complete the operation using keyhole surgery. The operation will be changed (converted) to open surgery.



Laparoscopic surgery

Your surgeon will remove the instruments and close the cuts. They will place a drip (small tube) in a vein in your arm. They will also place a catheter (tube) in your bladder to help you to pass urine.

Open surgery

The operation is the same but it is performed through a larger cut on your abdomen.

Your surgeon may decide that keyhole surgery is not appropriate for you and recommend open surgery. They will discuss the reasons with you.

Will I need more treatment?

All the tissue and lymph nodes removed will be examined under a microscope. Your surgeon will know the results a few days later.

Lymph nodes filter abnormal cells and can show if the cancer has spread. Your surgeon may recommend combining surgery with chemotherapy to give you the best chance of being free of colon cancer.

Chemotherapy also has side effects and complications. Your surgeon and oncologist (doctor who specialises in treating cancer with medication and radiotherapy) will discuss the options with you and recommend the best treatment for you. You will be given further information to help you to decide.

What should I do about my medication?

Make sure your healthcare team knows about all the medication you take and follow their advice. This includes all blood-thinning medication as well as herbal and complementary remedies, dietary supplements, and medication you can buy over the counter.

What can I do to help make the operation a success?

If you smoke, stopping smoking now may reduce your risk of developing complications and will improve your long-term health.

Regular exercise should help to prepare you for the operation, help you to recover and improve your long-term health. Before you start exercising, ask the healthcare team or your GP for advice.

You can reduce your risk of infection in a surgical wound.

- In the week before the operation, do not shave or wax the area where a cut is likely to be made.
- Try to have a bath or shower either the day before or on the day of the operation.
- Keep warm around the time of the operation. Let the healthcare team know if you feel cold.
- If you are diabetic, keep your blood sugar levels under control around the time of your procedure.

Speak to the healthcare team about any vaccinations you might need to reduce your risk of serious illness while you recover. When you come into hospital, practise social distancing and hand washing and wear a face covering when asked.

What complications can happen?

The healthcare team will try to reduce the risk of complications.

Any numbers which relate to risk are from studies of people who have had this operation. Your doctor may be able to tell you if the risk of a complication is higher or lower for you. Some

risks are higher if you are older, obese, you are a smoker or have other health problems. These health problems include diabetes, heart disease or lung disease.

Some complications can be serious. Using keyhole surgery means it may be more difficult for your surgeon to notice some complications that may happen during the operation. When you are recovering, you need to be aware of the symptoms that may show that you have a serious complication.

You should ask your doctor if there is anything you do not understand.

Your anaesthetist will be able to discuss with you the possible complications of having an anaesthetic.

General complications of any operation

- Bleeding during or after the operation. You may need a blood transfusion or another operation.
- Infection of the surgical site (wound) (risk: 5 in 100). It is usually safe to shower after 2 days but you should check with the healthcare team. Let the healthcare team know if you get a high temperature, notice pus in your wound, or if your wound becomes red, sore or painful. An infection usually settles with antibiotics but you may need special dressings and your wound may take some time to heal. In some cases another operation might be needed. Do not take antibiotics unless you are told you need them.
- Allergic reaction to the equipment, materials or medication. The healthcare team is trained to detect and treat any reactions that might happen. Let your doctor know if you have any allergies or if you have reacted to any medication or tests in the past.
- Acute kidney injury. A significant drop in your blood pressure during the operation can damage your kidneys. The healthcare team will monitor your condition closely to reduce the chance of this happening. Any kidney damage is usually short lived although some people may need to spend longer in hospital and a small number can go on to develop chronic kidney disease that may require dialysis.

- Developing a hernia in the scar. This appears as a bulge or rupture called an incisional hernia. If this causes problems, you may need another operation.
- Blood clot in your leg (deep-vein thrombosis – DVT). This can cause pain, swelling or redness in your leg, or the veins near the surface of your leg to appear larger than normal. The healthcare team will assess your risk. They will encourage you to get out of bed soon after the operation and may give you injections, medication, or special stockings to wear. Let the healthcare team know straight away if you think you might have a DVT.
- Blood clot in your lung (pulmonary embolus), if a blood clot moves through your bloodstream to your lungs. Let the healthcare team know straight away if you become short of breath, feel pain in your chest or upper back, or if you cough up blood. If you are at home, call an ambulance or go immediately to your nearest Emergency department.
- Chest infection. Deep breathing and physiotherapy will help to prevent a chest infection. Your risk will be lower if you have stopped smoking and you are free of Covid-19 (coronavirus) symptoms for at least 7 weeks before the operation.
- Difficulty passing urine. You may find it difficult to pass urine after the catheter has been removed. This is more common if you had problems passing urine before the operation.

Specific complications of this operation

Keyhole surgery complications

- Damage to structures such as your bowel, bladder or blood vessels when inserting instruments into your abdomen (risk: 1 in 1,000). The risk is higher if you have had previous surgery to your abdomen. If an injury does happen, you may need open surgery. About 1 in 3 of these injuries is not obvious until after the operation.
- Developing a hernia near one of the cuts used to insert the ports (risk: 1 in 100). Your surgeon will try to reduce this risk by using

small ports (just over a centimetre in diameter) where possible or, if they need to use larger ports, using deeper stitching to close the cuts.

- Surgical emphysema (a crackling sensation in your skin caused by trapped carbon dioxide), which settles quickly and is not serious.
- Gas embolism. This is when gas (carbon dioxide) gets into the bloodstream and blocks a blood vessel. This is very rare but can be serious.

Colon resection complications

- Anastomotic leak (risk: 4 in 100). This is a serious complication that may happen if the join (anastomosis) between the ends of your bowel fails to heal, leaving a hole. Bowel contents leak into your abdomen, leading to pain and serious illness. There are different management options. You may be given antibiotics or a drain may be placed through your skin to remove any infected fluid. In most cases, an emergency operation is needed which usually involves formation of a stoma.
- Continued bowel paralysis (ileus), where your bowel stops working for more than a few days, causing you to become bloated and to be sick (risk: less than 2 in 100). You may need a tube (nasogastric or NG tube) placed in your nostrils and down into your stomach until your bowel starts to work again.
- Damage to other structures inside your abdomen. The blood vessels to your testicles or ovaries, small bowel, and your ureters (tubes that carry urine from your kidneys to your bladder) are particularly at risk.
- Tissues can join together in an abnormal way (adhesions) when scar tissue develops inside your abdomen. Adhesions do not usually cause any serious problems but can lead to bowel obstruction. You may need another operation.
- Compartment syndrome causing pain and damage to your legs (risk: 1 in 3,500). This is caused by your body being in the same position for a long time during the procedure. It is rare but can be serious. Tell your

healthcare team if you have any numbness, throbbing and/or continued pain in one or both of your legs after the procedure.

- Death sometimes happens with a colon resection (risk: 2 in 100 for a planned operation, 12 in 100 for an emergency operation). The risk is less the fitter you are.

Consequences of this procedure

- Pain. The healthcare team will give you medication to control the pain and it is important that you take it as you are told so you can make a good recovery.
- Unsightly scarring of your skin.

How soon will I recover?

In hospital

After the operation you will be transferred to the recovery area and then to the ward. Sometimes you may go to the intensive care unit or high dependency unit for 1 to 2 days so the healthcare team can monitor you more closely.

Your anaesthetist will discuss with you the options for pain control. Good pain relief is important to help you to recover. If you are in pain, let the healthcare team know.

Getting out of bed and walking is an important part of your recovery. You may also be given breathing or other exercises to do. It is important that you do these even though you may not feel like it.

You will usually be given tasks that you should aim to do each day, such as walking the length of the ward with the help of a physiotherapist.

It is usual for your bowel to stop working for a few days. The healthcare team will restrict the amount of fluid you drink to prevent you from being sick. As your bowel starts to work again, the healthcare team will give you more fluid to drink and you will be allowed to eat. Good nutrition is important in speeding up your recovery. A dietician will advise you if you need to add supplements to your diet.

The drip and catheter will be removed when you no longer need them.

If you have a temporary or permanent stoma, you will need to learn how to change the bag and care for your stoma. The stoma nurse will help you.

You should be able to go home after 2 to 7 days. However, your doctor may recommend that you stay a little longer.

You need to be aware of the following symptoms as they may show that you have a serious complication.

- Pain that gets worse over time or is severe when you move, breathe or cough.
- A high temperature or fever.
- Dizziness, feeling faint or shortness of breath.
- Feeling sick or not having any appetite (and this gets worse after the first 1 to 2 days).
- Not opening your bowels and not passing wind.
- Swelling of your abdomen.
- Difficulty passing urine.

If you do not continue to improve over the first few days, or if you have any of these symptoms, let the healthcare team know straight away. If you are at home, contact your surgeon or GP. In an emergency, call an ambulance or go immediately to your nearest Emergency department.

Returning to normal activities

To reduce the risk of a blood clot, make sure you carefully follow the instructions of the healthcare team if you have been given medication or need to wear special stockings.

Once at home, you will not feel strong enough to return to normal activities straight away. It may take up to 3 months for you to recover fully.

It is not unusual for your bowels to be more loose than they were before the operation and for you to need to go to the toilet more often each day.

This is normal and should improve with time. If loose or more frequent stools are troublesome, your doctor may give you some medication to slow down your bowel.

If you have a stoma, it will take time for you to become confident with it. The stoma nurse will

tell you about what to avoid but you should be able to return to a relatively normal lifestyle.

Regular exercise should help you to return to normal activities as soon as possible. Before you start exercising, ask the healthcare team or your GP for advice.

Do not drive until you can control your vehicle, including in an emergency, and always check your insurance policy and with the healthcare team.

The future

Unfortunately, the healthcare team cannot guarantee you will be cured even after the cancer is removed by surgery.

The tissue and lymph nodes that your surgeon removed will usually be examined under a microscope. If cancer cells were found in some of your lymph nodes which were removed, you may need more treatment (chemotherapy). Sometimes your doctor will organise further tests to find out if the cancer has spread or another cancer has developed in your colon.

Summary

Removing the cancer by surgery gives you the best chance of being free of colon cancer.

Surgery is usually safe and effective but complications can happen. You need to know about them to help you to make an informed decision about surgery. Knowing about them will also help to detect and treat any problems early.

Keep this information document. Use it to help you if you need to talk to the healthcare team.

Some information, such as risk and complication statistics, is taken from global studies and/or databases. Please ask your surgeon or doctor for more information about the risks that are specific to you, and they may be able to tell you about any other suitable treatments options.

This document is intended for information purposes only and should not replace advice that your relevant healthcare team would give you.

Acknowledgements

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Illustrator

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