

Patient information factsheet

Robotic colorectal surgery

We've written this factsheet to provide you with information about robotic colorectal surgery. It explains what robotic surgery is, what it involves, and what the possible advantages and risks are. We hope it will help to answer some of the questions you may have. If you have any further questions or concerns, please speak to a member of your healthcare team.

What is colorectal surgery?

Colorectal surgery involves procedures on the large bowel or colon, rectum and anus. Surgery usually involves removing part of the large bowel, because of diseases such as cancer, and then either re-joining the bowel together or bringing it out on to the surface of the abdomen (tummy) as a stoma (bag). Colorectal surgery can be performed in one of three ways:

Open surgery

Open surgery is the traditional way of operating. During open surgery, the surgeon makes one large incision (cut) in the abdomen. This allows the surgeon to see the bowel, tissues, and structures in the body so that they can perform the operation. After the procedure, the incision is closed using stitches and a dressing is applied.

Many traditionally open surgeries are now being done by laparoscopic (keyhole) surgery or by robotic surgery (see below).

Laparoscopic (keyhole) surgery

Laparoscopic surgery is a minimally invasive surgical procedure. During laparoscopic surgery, the surgeon makes one or more small incisions in the abdomen. These allow the surgeon to insert an instrument called a laparoscope (a thin metal tube that has a light source and a camera at the end, which relays images of the inside of the abdomen to a computer display). Small surgical instruments held by the surgeon are inserted into the abdomen to perform the operation. Carbon dioxide gas is used to inflate the abdomen to create space to allow the surgeon to see and operate. After the procedure, the gas is let out of the abdomen, the incisions are closed using stitches and a dressing is applied.

Robotic surgery

Robotic surgery is a new type of minimally invasive surgery that is becoming more common over the last few years, especially in North America, Europe and now the UK. This type of surgery is currently being introduced into colorectal practice at University Hospital Southampton. Similar to a laparoscopic operation, during robotic surgery, the surgeon makes one or more small incisions in the abdomen. However, instead of the surgeon holding the laparoscope and surgical instruments, a robotic platform with robotic 'arms' holds and moves them. The robot is controlled by the surgeon sitting at a console in the operating theatre.

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All colorectal surgeries are performed under general anaesthetic, so you will be asleep and won't feel any pain during the procedure.

What advantages does robotic surgery have over other types of surgery?

The advantages of laparoscopic and robotic surgery over open surgery include:

- a shorter stay in hospital
- a faster recovery time
- less post-operative pain
- fewer complications from the surgery itself (such as hernias and adhesions)
- earlier return to activity or work
- earlier access to post-operative treatments (such as chemotherapy)

Additional advantages of robotic surgery over laparoscopic surgery include:

- the robotic instruments enable better movement in many directions
- the robotic instruments can get to small, difficult to reach areas of the body (such as low down in the pelvis)
- the robotic instruments are easier to control when doing very fine, precise work (reducing the risk of human error)

Are there any risks with robotic surgery?

The risks with robotic surgery are largely the same as those of laparoscopic surgery and include:

- infection, either in the wound, the abdomen or from the bowel join
- minor bleeding and bruising around the incision
- hernia (protruding tissue) at an incision site
- damage to other structures inside the body (such as the bowel or blood vessels)
- conversion to open surgery (a larger incision will need to be made) if the procedure becomes too difficult or complications occur

However, there are also some specific risks associated with robotic surgery. These are rare and include:

- failure of the robot (very unlikely)
- a traction (pulling) injury to the bowel or a blood vessel inside the body (this would be repaired immediately)
- major bleeding (in the unlikely event of this happening, the surgeon may need to complete the procedure in the traditional way)

Contact us

If you have any questions or concerns, please contact your clinical nurse specialist. You will have been given their contact details during your first clinic appointment.

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