The traditional method of performing bowel surgery is called open surgery. This means using a long midline cut in the abdomen to gain access to the bowel. The cut is painful after the surgery and one of the main reasons that it takes so long to recover from bowel surgery.

Over the last 20 years, surgeons have been developing techniques to utilise modern technology to limit the length of the cut in bowel surgery. These techniques are known as laparoscopic or keyhole surgery. A small (usually 10mm) cut is made at the umbilicus (belly-button). The hole is held open using a port and a 10mm, 30cm telescope and camera is placed into the port. Carbon dioxide is connected to the port and allowed to flow into the abdomen so that the organs can be seen on a video screen (or screens) via the camera.

Several other smaller ports are then strategically placed in other areas of the abdominal wall. This allows the use of long holding and dissecting instruments to mobilise the bowel away from the other tissues, ready for removal. The blood supply to the bowel can also be divided using special laparoscopic instruments through the ports.

When the bowel is ready for removal, a small cut is made that is just big enough to remove the bowel itself. This cut is often only 4-5 cm long, compared to a standard open cut of about 30cm. The bowel can either be re-joined through this small hole or set up so that it can be re-joined laparoscopically once the small cut has been closed.

What bowel operations can be performed laparoscopically?

All operations that can be performed by open techniques, have now been successfully performed laparoscopically. The keyhole techniques are particularly suitable for operations on the most accessible parts of the bowel on the left and right sides of the colon. It is a little more challenging to perform operations on the transverse part of the colon and the rectum, but it is still possible.

A large, multi-centre randomised trial in Australia and New Zealand, known as the AlCCAS trial and coordinated by Professor Peter Hewett of Colorectal Surgery, proved that laparoscopic surgery for colon cancer is just as safe as open surgery as far as the cancer itself is concerned. Several of the surgeons at Colorectal Surgery are now involved in a similar trial comparing open and laparoscopic surgery for rectal cancer.

Occasionally your surgeon will recommend against a laparoscopic approach for your bowel surgery. The most common reasons are as follows;

> You have had multiple previous operations and may have adhesions in the abdomen. The risk to the small bowel during laparoscopic surgery may preclude this approach.

> Your bowel problem is large and would require a large cut to remove in any case. Examples include a large bowel cancer (> 8cm) or a large inflammatory mass from Crohn’s Disease or diverticulitis.
> You bowel pathology is stuck to other organs that would not normally be removed
> Your weight is too high (obesity makes laparoscopic surgery much more difficult – although, of course, the benefit is also much greater!)

What are the benefits of laparoscopic surgery?

Laparoscopic surgery has the same risks and complications as open surgery and should still be considered major bowel surgery, albeit through smaller cuts. The risk of major complication is not considered to be greater or lesser than that for open surgery. It also takes longer that open surgery, even in experienced surgeons’ hands. Nevertheless there are several advantages if your bowel surgery can be performed laparoscopically without complications. Statistically, you should feel back to normal in about 4-5 weeks, compared with 7-8 weeks after open surgery.

*Early post-operative benefits*
> Less pain
> Less need for pain relief
> Less breathing and respiratory problems
> Earlier return of bowel function
> Earlier mobilisation
> Earlier discharge from hospital

*Later post-operative benefits*
> Better cosmetic appearance
> Less chance of wound complications, such as hernias
> Less chance of adhesions and maybe less chance of adhesional small bowel obstruction