

da Vinci Robotic Colorectal Surgery

Da Vinci Robotic Colorectal Surgery comes to Birmingham

Robotic surgery for the prostate is practised widely in the USA and is now becoming more widespread in the UK. Robotic surgery for colorectal disease has become more common in South Korea, USA and Singapore as well as in several European centres in Germany, Italy, France and Spain. There are very few centres using the robot for colorectal surgery in the UK.



The *da Vinci* Surgical system is the equipment that is currently used worldwide. The *da Vinci* surgical system was developed to overcome the shortcomings of conventional laparoscopic (key hole) surgery. With conventional laparoscopic surgery the camera is not fixed, the view is in only 2 dimensions. The instruments used have only a limited range of movements. Precise dissection is more difficult, because of instrument length and natural surgeon tremor.

Utilising the latest in surgical and robotics technologies the *da Vinci* system enables the surgeon is to operate through a few small incisions. The magnified 3D high-definition vision system and tiny wristed instruments that bend and rotate far greater than the human wrist allows the surgeon to operate with enhanced vision, precision, dexterity and control. The surgeon is 100% in control the using the *da Vinci* system

da Vinci Robotic Colorectal Surgery

which translates his or her hand movements into smaller, more, precise movements of the instruments inside the body. Finally by controlling the instruments in a seated position from a console, the surgeons are themselves less likely to suffer the back, neck or shoulder problems that are associated with longer conventional open or laparoscopic procedures.

The *da Vinci* Surgical System is beneficial for performing routine and complex surgery.



In summary the advantages of the *da Vinci* Surgical System over conventional laparoscopic surgery are:

- 3-dimensional views with 10-fold magnification
- a stable camera
- stable operating
- motion scaling allows tremor free movements
- articulating instruments- endowrist
- high precision suturing
- excellent ergonomics

The Queen Elizabeth Hospital acquired its first *da Vinci Surgical System* in late 2013.

Tariq Ismail and Simon Radley are the first colorectal surgeons to complete training. The intensive training program involved on line modules, console simulation training, case observations in UK and Italy and hands on courses

da Vinci Robotic Colorectal Surgery

in Strasburg, Paris and Belgium to allow them to become trained *da Vinci* console surgeons. The training was completed by Tariq and Simon performing 'live' procedures themselves under direct supervision of an experienced surgical mentor from the UK or Europe coming to the Queen Elizabeth Hospital in Birmingham.



Mr Simon Radley and Mr Tariq Ismail answer some questions about Robotic Colorectal Surgery:

So where do you think the robot is best used?

“the challenge of laparoscopic colorectal surgery is most profound within the pelvis and particularly for performing surgery for rectal cancers. These difficulties may be magnified in the narrow male pelvis, in obese patients and in patients with bulky tumours. In this situation the need for better and stable vision systems, retraction, exposure and articulating instruments becomes obvious”.

What about the time and cost?

“Whilst the da Vinci surgery may initially take longer and cost more per case there is increasing of evidence patient benefit in terms of fewer conversions to

da Vinci Robotic Colorectal Surgery

open surgery and some surgery may be achievable using the da Vinci Surgical System which could not easily performed using conventional laparoscopic techniques”

What other advantages do you see?

“ the 3D magnified views and instrument stability us to more clearly to see and preserve important pelvic nerves which we hope will eventually translate into fewer problems with bladder or sexual function post operatively”

Birmingham Bowel Clinic 2014