

ROBOTIC SURGERY

Development of Robotic Surgery

The first robot was designed by Leonardo Da Vinci in 1495, however his robotic knight has come a long way over the last 500 years. There have been significant advances in surgical robot technology over the past few decades, with urology in particular at the forefront of this revolution. The introduction of the *da Vinci surgical system* in 1999 was the culmination of all this research.

Robotic surgery today

Using the most advanced technology available today, the *da Vinci Surgical System* enables surgeons to perform delicate and complex operations through a few tiny incisions with increased vision, precision, dexterity and control. The *da Vinci Surgical System* comprises three components: a surgeon's console, a robotic cart, and a high-definition 3D vision system. The surgeon sits at the console and manipulates the 4 arms on the robotic cart which are attached to the patient. The *da Vinci System* scales, filters and translates the surgeon's hand movements into more precise micro-movements of the instruments. The system not only has benefits over open surgery due to the small incisions, but also overcomes the limitations of traditional laparoscopic (keyhole) surgery allowing more complex dissection and reconstruction.



Benefits of Robotic Surgery

As a result of these improvements for the surgeon, robotic surgery is associated with many benefits for patients:

- **less postoperative pain**
- **less blood loss**
- **smaller incisions and less scarring**
- **shorter hospital stays**
- **quicker recovery time**
- **faster return to normal daily activities.**

Robotic Surgery at the BUA

Contrary to the impression that the robot (the da Vinci System) performs the surgery, the system relies on a human operator for all of its actions. This requires specialist training, and our BUA surgeons are international trainers for robotic surgery and amongst the highest volume robotic surgeons in the country. In addition they were the first in the country to perform reconstruction of the urinary tract after removal of the bladder for cancer using the da Vinci system. With this wealth of experience we are able to provide the full spectrum of robotic procedures, including complex prostate, kidney and bladder surgery.

BUA Robotic Urology Procedures:

Robotic prostatectomy

Robotic cystectomy and intracorporeal reconstruction eg neobladder

Robotic partial nephrectomy

Robotic nephrectomy and nephroureterectomy

Robotic ureteric re-implantation

Robotic pyeloplasty

More information about the da Vinci system can be found at:

<http://www.intuitivesurgical.com/products/>