Prostate Cancer UK Policy Position on Robotic Surgery

Our position

Prostate Cancer UK believes there is not yet enough good evidence to show that robotic surgery to remove the prostate is more beneficial than conventional laparoscopic surgery that is carried out by hand; however, we believe all men should be able to make an informed choice about whether they wish to undergo robot-assisted surgery or not.

A series of systematic reviews have suggested that men with prostate cancer who have their prostate removed via robot-assisted laparoscopic (keyhole) surgery are significantly less likely to have cancer remaining after that surgery, compared to all other forms of surgery, as well as having fewer side effects (such as incontinence and erectile dysfunction) and a shorter stay in hospital than men choosing open surgery (1–6).

Robotic surgery is currently available on the NHS in England only. Following a successful fundraising campaign, robotic surgery is to become available on the NHS in Wales (7) and there is a fundraising campaign underway in Scotland (8). In addition, the National Planning Forum in Scotland has been looking at ways to introduce robotic surgery to NHS Scotland (9). However, no such plans currently exist for Northern Ireland. As specialist training is important for this type of surgery, we want to ensure that more surgeons are trained to use robots as they become available across the UK.

At the time of writing, there are 22 NHS trusts in England that have the da Vinci® surgical system installed to perform robotic surgery. However, the distribution of robots is not equitable by geography or population density (10) and, in addition, not all available systems are used for prostate cancer surgery, but are used for kidney, colorectal or gynecological surgery.

At the time of writing, there are no da Vinci® surgical systems installed in NHS trusts in Wales, Northern Ireland or Scotland.

We want

- All men to be able to access robotic surgery when it is the right choice for them
- Robots to be made more available across the UK
- All men to have access to a surgeon who is trained to use the equipment
What is robotic surgery?

Robotic surgery is keyhole (laparoscopic) surgery that is performed under general anaesthetic by surgeons who have completed specialist training to be able to operate using the da Vinci® surgical system. Surgeons use a screen and a set of controls to move the machine and perform the surgical procedure. The screen allows the surgeon to both magnify and view the operation in 3D, while the da Vinci® surgical system mimics the surgeon’s movements with robotic accuracy.

Robotic surgery is relatively new, with surgeons first using the machines in 2000. In 2007, the Royal Marsden became the first NHS hospital in England to introduce the da Vinci® surgical system (11).

The installation cost of a da Vinci® surgical system is £1.5 million. The annual servicing costs are around £85,000 and the instruments and accessories cost over £1000 per procedure (12). Given that robotic surgery is the most expensive form of surgery for prostate cancer (13,14), it may be more cost effective for the NHS to set up few, high volume, multi-disciplinary centres with multiple robots in the hands of fewer surgeons (6). The National Institute for Health and Care Excellence (NICE) has recognised this and has recommended that machines be based at centres that are likely to treat a high volume of men (15,16).

Robotic surgery for prostate cancer

Robotic surgery is used to perform radical prostatectomies in the treatment of prostate cancer. In the UK in 2012, 29% (1,595) of radical prostatectomies were carried out using robotic surgery (17). Radical prostatectomy is an operation to remove the prostate gland and the cancer contained within it. It is a surgical treatment option that is suitable for men with cancer that is contained within the prostate (localised prostate cancer) and who are otherwise fit and healthy. Radical prostatectomy may also be an option for some men with cancer that has spread to the area just outside the prostate (locally advanced prostate cancer), but this will depend on how far the cancer has spread.

Reviews of how robotic surgery compares with other types of surgery have suggested that it has the same advantages for the patient as conventional keyhole surgery that is conducted by hand, such as less bleeding and scarring, and a faster recovery time (18); however, operating times were found to be longer for robotic surgery (2).

It is common for radical prostatectomy to result in long-term erectile dysfunction (impotence) and urinary incontinence. Some findings suggest that robotic surgery can achieve significantly improved erectile function recovery than conventional surgery, yet there has been little difference found for urinary incontinence outcomes (14,18). There is also some evidence to suggest that the chance of cancer returning may be reduced by robotic surgery (2); however, upon analysis of this evidence, researchers have cautioned that there is considerable uncertainty around these results (5).

NICE develops clinical guidance for the NHS in England. In January 2014 NICE updated the clinical guideline for the diagnosis and treatment of prostate cancer to include recommendations for the use of robotic surgery, advising commissioners to consider providing robotic surgery as a treatment option for localised prostate cancer (16).
References


