

# Facing Prostate Cancer Surgery?

Learn about minimally invasive  
**da Vinci® Surgery**



**da Vinci® Surgery**



# The Condition:

## Prostate Cancer

Your prostate is a walnut-sized gland that is part of the male reproductive system. The prostate makes fluid that is part of male semen.

Prostate cancer occurs when abnormal cells grow out of control in your prostate gland. Worldwide, more than 900,000 men are diagnosed with prostate cancer each year, making it the second most common cancer in men behind lung cancer.<sup>1</sup> Widespread screening, early detection and improved treatment allow more men to survive prostate cancer; if the cancer is found early when it is localized or still contained in the gland, 5-year survival approaches 100%.<sup>2</sup>

Symptoms of prostate cancer can vary but may include: trouble urinating, difficulty starting or stopping your urine flow, weak or interrupted urine flow, painful or burning urination, difficulty having an erection, painful ejaculations, and/or frequent pain or stiffness in the lower back. If you are having symptoms, it is important to see your doctor.

Prostate cancer can be detected using screening tests such as a digital rectal exam (DRE), PSA (prostate specific antigen) test and biopsy. During a DRE, your doctor uses a gloved finger to feel for hard or lumpy areas on your prostate gland. PSA is a simple blood test that looks for signs of prostate cancer. If your PSA level is high or goes up compared to your last test, your doctor may order a biopsy to see if the increase is because of cancer or some other reason. During the biopsy, your doctor will use a thin needle to remove small tissue samples from your prostate. The samples will be studied under a microscope for signs of cancer.




## Treatment & Surgical Options:

Treatment and surgical options for prostate cancer may include radiation, cryotherapy, watchful waiting, hormone therapy or prostatectomy. Radiation and cryotherapy work by radiating, burning or freezing the prostate. With watchful waiting (also known as active surveillance), your doctor will monitor the cancer with regular tests and checkups.

Surgery to remove the cancerous prostate is known as a prostatectomy. According to the American Urological Association's Guidelines for the Clinical Management of Prostate Cancer, "The major potential benefit of [prostatectomy] is a cancer cure in patients in whom the prostate cancer is truly localized."<sup>3</sup>

Prostate cancer surgery can be performed with open surgery or minimally invasive surgery (laparoscopy). Open surgery requires doctors to make a large abdominal incision. It must be large enough for your surgeon to fit his or her hands and instruments inside your body. Open surgery allows doctors to see and touch your organs as they operate. With laparoscopy, surgeons operate through a few small incisions using long-handled instruments and a tiny camera. The camera sends images back to a video monitor in the operating room to guide doctors as they operate.

A photograph of an older couple sitting closely together on a light-colored couch. The woman, on the left, has short grey hair and is wearing a teal-colored short-sleeved shirt. She is smiling and has her arm around the man's shoulder. The man, on the right, has short grey hair and is wearing a light-colored polo shirt. He is also smiling. The background is slightly blurred, showing what appears to be a home interior with a window and some furniture.

Recent clinical studies concluded that surgery to remove the prostate offers men with localized cancer improved survival rates compared to radiation.<sup>4,5</sup>



# ***da Vinci* Surgery:**

## **A Minimally Invasive Surgical Option**

If your doctor recommends prostate cancer surgery, you may be a candidate for *da Vinci* Surgery. Using the *da Vinci* System, your surgeon makes a few small incisions - similar to traditional laparoscopy. The *da Vinci* System features a magnified 3D HD vision system and tiny instruments that rotate far greater than the human wrist. These features enable your surgeon to operate with enhanced vision, precision, dexterity and control. As a result of *da Vinci* technology, *da Vinci* Prostatectomy offers the following potential benefits over open surgery, including:

- › **More precise removal of cancerous tissue**<sup>6,7,8,9</sup>
- › **Ability to perform nerve sparing surgery which enables:**
  - **Faster return of erectile (sexual) function**<sup>10,11</sup>
  - **Better chance for return of urinary continence**<sup>9,10,11</sup>
- › **Less blood loss**<sup>6,9,10,11,12,13,14,15</sup> & **less need for a transfusion**<sup>6,9,11,12,13,14,16</sup>
- › **Lower risk of complications**<sup>6,9,12,13,16</sup> & **lower risk of wound infection**<sup>6,12</sup>
- › **Shorter hospital stay**<sup>6,9,10,11,13,17</sup>
- › **Fewer days with catheter**<sup>10</sup>
- › **Faster recovery**<sup>15</sup> and **return to normal activities**<sup>17</sup>

As a result of *da Vinci* technology, *da Vinci* Prostatectomy offers the following potential benefits compared to traditional laparoscopy:

- › **More patients return to pre-surgery erectile function (at 12 months)**<sup>18,19</sup>
- › **Faster return of urinary continence**<sup>6</sup>
- › **Less blood loss & need for blood transfusions**<sup>6,13</sup>
- › **Less chance of nerve & rectum injury**<sup>6</sup>
- › **Shorter hospital stay**<sup>6,13</sup>





## **Risks & Considerations Related to Prostatectomy & *da Vinci* Surgery:**

Potential risks of any prostatectomy procedure include:

- Urinary and sexual dysfunction due to nerve damage
- Rectal or bowel injury
- Blocked artery in the lung
- Blocked bowel
- Surrounding nerve damage

In addition, there are risks related to minimally invasive surgery, including *da Vinci* Prostatectomy, such as hernia (bulging tissue/organ) at incision site.<sup>13,20</sup>

## **Important Information for Patients:**

All surgery presents risk, including *da Vinci* Surgery. Results, including cosmetic results, may vary. Serious complications may occur in any surgery, up to and including death. Examples of serious and life-threatening complications, which may require hospitalization, include injury to tissues or organs; bleeding; infection, and internal scarring that can cause long-lasting dysfunction or pain. Temporary pain or nerve injury has been linked to the inverted position often used during abdominal and pelvic surgery. Patients should understand that risks of surgery include potential for human error and potential for equipment failure. Risks specific to minimally invasive surgery may include: a longer operative time; the need to convert the procedure to other surgical techniques; the need for additional or larger incision sites; a longer operation or longer time



under anesthesia than your surgeon originally predicts. Converting the procedure to open could mean a longer operative time, long time under anesthesia, and could lead to increased complications. Research suggests that there may be an increased risk of incision-site hernia with single-incision surgery. Patients who bleed easily, have abnormal blood clotting, are pregnant or morbidly obese are typically not candidates for minimally invasive surgery, including *da Vinci* Surgery. Other surgical approaches are available. Patients should review the risks associated with all surgical approaches. They should talk to their doctors about their surgical experience and to decide if *da Vinci* is right for them. For more complete information on surgical risks, safety and indications for use, please refer to <http://www.davincisurgery.com/safety>.

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<sup>1</sup> W.H.O. Globoscan 2008. Country Fast Stats. <http://globocan.iarc.fr/> <sup>2</sup> Jemal A. et al Cancer Statistics 2005. CA cancer J Clin 2005;55:10-30. <sup>3</sup> Prostate cancer clinical guideline update panel. Guideline for the management of clinically localized prostate cancer: 2007 update. Linthicum (MD): American Urological Association Education and Research, Inc. 2007; 82. <sup>4</sup> Merglen A, et al. Short- and long-term mortality with localized prostate cancer. Arch Intern Med. 2007 Oct 8;167(18):1944-50. <sup>5</sup> Cooperberg, MR, et al. and the CaPSURE (Cancer of the Prostate Strategic Urologic Research Endeavor) Investigators, Comparative risk-adjusted mortality outcomes after primary surgery, radiotherapy, or androgen-deprivation therapy for localized prostate cancer. Cancer. 2010 Nov 15;116(22): 5226–5234. doi: 10.1002/cncr.25456. <sup>6</sup> Tewari A, et al. Positive surgical margin and perioperative complication rates of primary surgical treatments for prostate cancer: a systematic review and meta-analysis comparing retropubic, laparoscopic, and robotic prostatectomy. Eur Urol. 2012 Jul;62(1):1-15. Epub 2012 Feb 24. <sup>7</sup> Weerakoon M, et al. Predictors of positive surgical margins at open and robot-assisted laparoscopic radical prostatectomy: a single surgeon series. J Robotic Surg. 2011. <http://dx.doi.org/10.1007/s11701-011-0313-4>. <sup>8</sup> Coronato EE, et al. A multiinstitutional comparison of radical retropubic prostatectomy, radical perineal prostatectomy, and robot-assisted laparoscopic prostatectomy for treatment of localized prostate cancer. J Robotic Surg (2009) 3:175-178. DOI: 10.1007/s11701-009-0158-2. <sup>9</sup> Health Information and Quality Authority (HIQA), reporting to the Minister of Health-Ireland. Health technology assessment of robot-assisted surgery in selected surgical procedures, 21 September 2011. <http://www.hiqa.ie/system/files/HTA-robot-assisted-surgery.pdf> <sup>10</sup> Rocco B; et al. Robotic vs open prostatectomy in a laparoscopically naive centre: a matchedpair analysis. BJU Int. 2009 Oct;104(7):991-5. Epub 2009 May 5. <sup>11</sup> Ficarra V; et al. A prospective, non-randomized trial comparing robot-assisted laparoscopic and retropubic radical prostatectomy in one European institution. BJU Int. 2009 Aug;104(4):534-9. Epub 2009 Mar 5. <sup>12</sup> Carlsson S, et al. Surgery-related complications in 1253 robot-assisted and 485 open retropubic radical prostatectomies at the Karolinska University Hospital, Sweden. Urology. 2010 May;75(5):1092-7. <sup>13</sup> Ho C, et al. Robot-Assisted Surgery Compared with Open Surgery and Laparoscopic Surgery: Clinical Effectiveness and Economic Analyses [Internet]. Ottawa: Canadian Agency for Drugs and Technologies in Health (CADTH); 2011 (Technology report no. 137). <sup>14</sup> Menon M, et al. Prospective comparison of radical retropubic prostatectomy and robot-assisted anatomic prostatectomy: the Vattikuti Urology Institute experience. Urology. 2002 Nov;60(5):864-8. <sup>15</sup> Miller J, et al. Prospective evaluation of short-term impact and recovery of health related quality of life in men undergoing robotic assisted laparoscopic radical prostatectomy versus open radical prostatectomy. J Urol. 2007 Sep;178(3 Pt 1):854-8; discussion 859. Epub 2007 Jul 16. <sup>16</sup> Trinh QD, et al. Perioperative outcomes of robot-assisted radical prostatectomy compared with open radical prostatectomy: results from the nationwide inpatient sample. Eur Urol. 2012 Apr;61(4):679-85. Epub 2011 Dec 22. <sup>17</sup> Hohwu L, et al. Open retropubic prostatectomy versus robot-assisted laparoscopic prostatectomy: A comparison of length of sick leave. Scand. J. Urol. Nephrol. Apr 7 2009;1-6. <sup>18</sup> Porpiglia F, et al. Randomised Controlled Trial Comparing Laparoscopic and Robot-assisted Radical Prostatectomy. Eur Urol. 2012 Jul 20. [Epub ahead of print] <sup>19</sup> Asimakopoulos AD, et al. Randomized comparison between laparoscopic and robot-assisted nerve-sparing radical prostatectomy. J Sex Med. 2011 May;8(5):1503-12. doi: 10.1111/j.1743-6109.2011.02215.x. Epub 2011 Feb 16. <sup>20</sup> National Cancer Institute. NCI Cancer Bulletin. Tracking the Rise of Robotic Surgery for Prostate Cancer. Aug. 9, 2011 Vol. 8/Number 16. Available from: <http://www.cancer.gov/ncicancerbulletin/080911/page4>



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