Precise, Minimally Invasive
Prostate Cancer Removal

Learn why da Vinci® Surgery may be your best treatment option
Facing Prostate Cancer

Prostate cancer is among the most common cancers diagnosed in men. In the US, one in six men will be diagnosed in their lifetimes.¹

While no one will say that facing prostate cancer is easy, the good news is that with increased awareness and screening, more men are diagnosed early. Thus, most cancers are diagnosed while still localized.

Treatment Options for Prostate Cancer

When prostate cancer is believed to be localized, there are five common treatment options available to a patient:

1. Surgery to remove the cancerous prostate (radical prostatectomy)

2. Radiation of the cancerous prostate, through either external radiation or radioactive seed implants (radiation therapy or brachytherapy, respectively)

3. Freezing of the cancerous prostate (cryotherapy)

4. Hormonal therapy, which is non-curative and often done in conjunction with radiation therapy or cryotherapy

5. Observation (watchful waiting)

Patients should discuss the advantages and disadvantages of each treatment approach with their doctor.

For localized prostate cancer, radical prostatectomy has traditionally been considered the definitive way to treat the cancer, by removing it.²

This guide was designed to provide patients with information on the surgical treatment of prostate cancer, which can be performed in a very precise, minimally invasive manner using the da Vinci® Surgical System.
Surgery: The Definitive Treatment for Prostate Cancer

“Because the entire prostate gland is removed with radical prostatectomy, the major potential benefit of this procedure is a cancer cure in patients in whom the prostate cancer is truly localized.”²
- 2007 American Urological Association Clinical Guidelines

It is estimated that 91% of the prostate cancers diagnosed in the US are clinically localized,² which means that most men are potential candidates for cancer removal.

Choosing Surgery: Patient Perspectives

James Porter, MD
*da Vinci* Surgeon and *da Vinci* Prostatectomy patient

“…We often see a lot more cancer in the prostate than we would have predicted based on the biopsy. I knew with surgery that I was going to get the final word with regard to how much cancer I had... I guess you could call it ‘the need to know.’”

Donald Sosin
*da Vinci* Prostatectomy patient

“You have a chance with this kind of surgery to get rid of the cancer... If I had to do it again, I would do it again — except sooner.”

Surgery: Confidence in Knowing Your Status

Removing the cancerous prostate lets your doctor see the extent and nature of the cancer. This step can be critical: In clinical studies, up to 35% of tumors are undergraded; in other words, they are more aggressive than the pre-surgery assessment and biopsy results indicated.3

Margin status refers to whether or not there is cancer present at the very edge (the margin) of the removed prostate gland. A negative margin means that all edges of the prostate are free from cancer cells. A negative margin is a good indicator that all of the cancer has been removed.

Surgery: Preserving Your Options

Choosing surgery over radiation can make it easier for your doctor to detect a cancer recurrence, through careful PSA* monitoring, after a radical prostatectomy than after radiation therapy.4 It can also help preserve your radiation treatment options if your cancer returns. After radiation therapy, there may be damage to the tissue surrounding the prostate. If you have tissue damage, nerve-sparing surgery may no longer be an option should your cancer recur. However, radiation usually remains an option for patients who have had surgery to treat their prostate cancer.5

*PSA= Prostate-Specific Antigen, a protein that may indicate the presence of cancer.
Long-Term Survival and Localized Prostate Cancer

With any cancer treatment, the first priority is survival. Several large studies suggest that there is a greater chance of long-term survival for patients undergoing surgery over other potential treatments.

15-Year Relative Risk of Death Lower with Radical Prostatectomy than with Radiation

A study of 3,159 patients found that 15 years after treatment, those who had undergone radical prostatectomy had a 40% lower risk of death from prostate cancer than radiation patients.⁶
In a study of 844 patients with localized prostate cancer, the patients who had undergone prostatectomy showed a higher prostate cancer survival rate than men choosing other treatments.
Precision with da Vinci Surgery

The da Vinci System provides your doctor with several clinical advantages that can allow him or her to perform a more precise surgery:

**Precision**
The da Vinci System’s tiny wristed instruments have an even greater range of motion than the human hand. da Vinci seamlessly filters any tremors from your surgeon’s hands and scales his or her motions, translating them into more precise movements of the instrument tips.

*da Vinci Surgical System instruments are approximately the diameter of a pencil.*

**Vision**
High-definition 3D vision and 10x magnification enable your doctor to see both the cancer and healthy tissues and blood vessels at a level of detail far beyond what is possible with open surgery or conventional laparoscopic surgery.

**Control**
The da Vinci System’s Intuitive® Motion provides control through an interface that allows your doctor to use natural movements similar to traditional surgery.
The prostate gland is attached to nerves, the rectum and the bladder. The goal of nerve-sparing surgery is to maximize preservation of important nerves, blood vessels and structures that control urinary continence and sexual function, without compromising cancer control.

**In Prostate Cancer Treatment, Precision Matters**

In prostate cancer treatment, millimeters matter. Nerve fibers and blood vessels are attached to the prostate gland. To spare these nerves, they must be delicately separated from the prostate before its removal. In comparison, radiation beam treatment can vary by several millimeters. In one study of newer radiation beam therapy the average variation of the beam target was 3mm between sessions."8 This variation can cause different amounts of radiation energy to be delivered to the edges of the prostate where the nerves are located.
Surgeons use the precision, vision and control provided by the *da Vinci* System to assist them in removal of the cancerous prostate while preserving important nerves and blood vessels.

In several large published studies, *da Vinci* Prostatectomy has shown equal or lower rates of positive surgical margins (the measurement of cancer cells left behind) than large studies of other forms of surgery.

Cancer control is variable and based on each patient’s specific cancer type. Surgeon experience is also an important factor. Talk to your doctor about what your individual expectations should be regarding cancer control.

Please visit [www.daVinciProstatectomy.com](http://www.daVinciProstatectomy.com) for more cancer control data.
Studies have shown that patients who have undergone *da Vinci* Prostatectomy may experience a faster return of urinary continence following their surgery, compared with other surgical patients. Surgery patients also report lower rates of urinary pain than radiation (brachytherapy) patients.

### Speed of Return to Urinary Continence

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<tr>
<th></th>
<th>3 Months</th>
<th>6 Months</th>
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<tbody>
<tr>
<td><em>da Vinci</em> Prostatectomy</td>
<td>89.8%</td>
<td>95%</td>
</tr>
<tr>
<td>Open Surgery</td>
<td>54%</td>
<td>80%</td>
</tr>
<tr>
<td>Laparoscopic Surgery</td>
<td>62%</td>
<td>77%</td>
</tr>
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### Increased Urinary Pain

<table>
<thead>
<tr>
<th></th>
<th>2 Months</th>
<th>24 Months</th>
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<tbody>
<tr>
<td>Surgery</td>
<td>18.4%</td>
<td>2%</td>
</tr>
<tr>
<td>Radiation</td>
<td>63.7%</td>
<td>19%</td>
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</table>
The prostate is surrounded by a delicate layer of nerves that support erectile function. Many patients are candidates for a nerve-sparing prostatectomy, where the prostate gland is removed but the surgeon maximizes preservation of these nerves.

### Precision Matters: Sexual Function

Several studies have shown that patients potent prior to surgery have experienced a high level of recovery of sexual function (defined as an erection sufficient for intercourse) within a year following *da Vinci* Surgery. Talk to your surgeon about reasonable expectations for recovery of sexual function and ask about a rehabilitation program that may include exercises and drug therapy.

#### Radiation and Sexual Function

Radiation can cause long-term damage to the nerves and important structures involved in sexual function. Many patients undergoing brachytherapy or external beam radiation treatment develop erectile dysfunction (as many as 50% in several studies.)\(^{21, 22}\) Many radiation patients are also placed on hormone therapy, which can have an immediate negative impact on sexual function.\(^{23}\)
As a minimally invasive treatment, *da Vinci* Surgery for prostate cancer offers numerous potential benefits compared to traditional open surgery. Using *da Vinci*, surgeons operate through tiny 5-12mm incisions — which is roughly the diameter of a pencil.

Potential benefits include:

- Shorter hospital stay\(^{24}\)
- Significantly less pain\(^{25}\)
- Less blood loss and fewer transfusions\(^{26}\)
- Less scarring
- Faster return to normal activities\(^{27}\)

Learn more at [www.daVinciProstatectomy.com](http://www.daVinciProstatectomy.com)
Important Considerations with da Vinci Prostatectomy

While clinical studies support the use of the da Vinci Surgical System as an effective tool for minimally invasive surgery, individual results may vary. da Vinci Prostatectomy is a surgical procedure, and all surgery carries inherent risks. Though data suggests that da Vinci Surgery can provide excellent cancer control, faster return to sexual function and to urinary continence as compared with other treatment options, all prostate cancer treatments, including surgery, can increase risk of incontinence and/or urinary symptoms and impotence. Additionally, there is no guarantee of the benefits described for every patient. For example, some individuals may not be candidates for a full nerve-sparing procedure due to the extent of their cancer. And as with any surgical treatment, results of da Vinci Surgery are in part surgeon-dependent and can improve significantly with surgeon experience.

da Vinci Surgery provides a minimally invasive approach while preserving the potential outcome benefits of traditional open surgery. Its exceptional precision can provide you with effective cancer removal, as well as a better chance of preserving delicate nerve structures responsible for sexual function and urinary continence, as compared with traditional surgery or radiation.

In summary, da Vinci Surgery can help to put cancer behind you so you can get back to your life as quickly as possible.

With the added precision, vision and control provided by the da Vinci System, your surgeon can offer you the gold standard treatment — surgery — with all the potential benefits of a minimally invasive procedure.
Clinical References


While clinical studies support the effectiveness of the da Vinci® System when used in minimally invasive surgery, individual results may vary. Surgery with the da Vinci Surgical System may not be appropriate for every individual. Always ask your doctor about all treatment options, as well as their risks and benefits. © 2009 Intuitive Surgical. All rights reserved. Intuitive, Intuitive Surgical, da Vinci, da Vinci S and EndoWrist are trademarks or registered trademarks of Intuitive Surgical. PN 870298 Rev. B 5/09
For more information about *da Vinci* Prostate Cancer Surgery visit:

www.daVinciProstatectomy.com