

# Urologic Surgical Associates of Delaware

## *Specializing in Robotic Surgery*

### Robotic Prostatectomy

[Da Vinci](#) Robotic Prostatectomy (also known as Robotic Assisted Prostatectomy) has recently gained popularity as the most advanced method of performing laparoscopic radical prostatectomy. This minimally invasive procedure coined its name from the [Da Vinci© Robot](#), which is manufactured by "[Intuitive Surgical](#)". Because this treatment for prostate cancer provides the best cancer cure rates with very low side effects, it is currently the most commonly used treatment for prostate cancer in the United States.

The Robot combines the latest achievements in medical technology and laparoscopy including:



Surgeon's console and patient side cart



High-performance InSite® Vision System



Proprietary EndoWrist® Instruments

- **Ergonomically designed surgeon's console.** While sitting comfortably at the console, the surgeon operates while viewing a 3-D color image of the surgical field.
- **Patient-side cart with four interactive robotic arms** (three instrument arms and one endoscope arm)  
**Endowrist instruments** execute the surgeon's commands through the key-hole port sites in the patient's abdomen. Surgical team members assist the surgeon by properly installing the Endowrist instruments.
- **High-performance InSite® Vision System** with high-resolution 3-D endoscope provides real-time 3-D images of the operative field, with magnification of 12-15 times. This advanced technology spares nerves and delicate tissues during the operation, which plays an important role in patients' fast recovery and maintenance of the patients' sexual and urinary function.
- **Proprietary EndoWrist® Instruments.** The instruments are designed with seven degrees of motion that mimic the movements of the human hand and wrist. All movements of the surgeon hands are translated into precise movements with micro-instruments.

Most patients diagnosed with prostate cancer should consider da Vinci Prostatectomy as their treatment of choice. Radical Prostatectomy has been shown in fifteen year studies to

provide better cure rates than radiation treatment. If you are considering surgery for prostate cancer there is no reason to consider open surgery. Robotically assisted Laparoscopic Radical Prostatectomy is superior to open prostatectomy in every important measure. Robotic Prostatectomy has a faster recovery, far less blood loss, far better preservation of sexual function, better preservation of urinary control, and most important of all, it provides better cancer control.

Robotic Prostatectomy is performed by placing six small port sites, about pinky nail to thumb nail sized, into the abdomen. These port sites allow specialized instruments to be exchanged into the abdomen throughout the procedure. No incision is required. Blood loss is greatly reduced. Visualization is superb, far better than with open surgery. The tremendous magnification, binocular view, and bloodless surgical field allow for preservation of the nerves for sexual function and an improved ability to resect the cancer in its entirety. Most men with normal sexual function under the age of sixty-five will return to normal sexual function after da Vinci Robotic Prostatectomy. The male ejaculate passes through the prostate and so removal of the prostate for prostate cancer permanently interrupts ejaculation. It does not affect orgasm and you will still experience the rhythmic contraction of ejaculation but little or no fluid will come out.

Prostate cancer is slow growing and so accurate data requires long-term follow-up. At 15 years of follow-up, surgery is more effective than radiation in curing prostate cancer. Overall, patients have an approximate 15% risk of cancer recurrence after treatment. Prostate cancer recurrence after radiation has no proven effective curative therapy. Prostate cancer recurrence after surgery can be treated with radiation with at least a 50% cure rate.

Both of the curative treatment options (radiation and surgery) carry risks. The two major forms of treatment are surgery and radiotherapy. There are multiple types of radiotherapy, including seed implantation and external beam radiotherapy. In general all forms of treatment have some risk of erectile dysfunction. The likelihood of experiencing a decrease in your ability to obtain and maintain an erection with any of these treatment options is greatly impacted by your pre-existing erectile status. Any risk factors for erectile dysfunction that you may have now (such as increased age, diabetes, a history of smoking, vascular disease, etc) will increase the probability that you will experience a decrease in your erections after treatment. In general, SEEDS (brachytherapy) carries a 20-40% risk of decreasing your ability to obtain and maintain erections. EBR (external beam radiation) carries a 40-60% risk of decreasing erectile abilities. Dv RP (da Vinci robotic prostatectomy) carries a 20-40% risk of decreasing your erectile abilities. If your cancer is particularly aggressive and requires bilateral wide excision of the neurovascular bundles your risk of erectile dysfunction with surgery approaches 100%.

Each of these treatment options can cause difficulties with urination after treatment. The radiation delivered to the prostate by EBR and/or SEEDS can cause irritative voiding symptoms and worsen the symptoms of bladder outlet obstruction. Because these treatment options are centered around leaving the prostate in place radiation can be a more challenging treatment option for men with an enlarged prostate. This is especially

true if you have pre-existing symptoms of bladder outlet obstruction such as frequency of urination, getting up at night to urinate, and straining to urinate. For patients with a very large prostate and significant voiding symptoms special attention needs to be paid to the size of the prostate and the severity of the voiding symptoms. It may be necessary both in terms of symptom control and efficacy of the radiotherapy treatment, to reduce the volume of the prostate. Prostate volume reduction can be achieved prior to SEEDS or EBR by either hormonal ablation or a procedure to reduce prostate volume (such as KTP Laser Prostatectomy or TURP) or some combination of these treatments. For EBR and SEEDS there is a 10-20% risk of significant long term voiding dysfunction following the treatment. This risk is impacted by any pre-existing voiding dysfunction. Surgical removal of the prostate requires removing the prostate from the bladder and urethra. This necessitates a surgical procedure on or near the urinary sphincter. The urinary sphincter is the muscle responsible for maintaining urinary continence. Therefore, with radical removal of the prostate there is a 10-20% risk of suffering stress urinary incontinence. Stress urinary incontinence is a leakage of urine when you cough or sneeze or stand from a chair.

These treatment options also increase your risk of suffering a cardiovascular or pulmonary event during the treatment. That is, at any given time in your life there is a risk that you could have a heart attack or a stroke or pulmonary embolus. This risk is increased whenever your body is put under stress. The stress of undergoing EBR increases your risk of such an event very mildly. SEEDS requires an anesthetic and so this increases your risk of having such an adverse event slightly. Radical surgery requires approximately 3-4 hours under general anesthesia with a blood loss (50-400 cc for da Vinci Robotic Prostatectomy, 400-1200 cc for Open Radical Prostatectomy) and so this increases the risk of such an adverse event by slightly more than seed implantation. Another way to look at this risk is that the risk of having a cardiovascular or pulmonary event during surgical removal of the prostate in an otherwise healthy male is similar to your risk of being injured in a car accident on your way to the doctor's office. If you are fairly healthy this risk is small and so it does not stop us from doing reasonable things but yet this risk is real.

EBR is generally delivered over 4-6 weeks as outpatient therapy. During this period the patient experiences some fatigue and is more likely to have voiding symptoms such as frequency, urgency, blood in the urine, pain with urination, and painful bowel movements. SEEDS is performed as outpatient surgery. There will be a one day stay with daVinci Robotic Prostatectomy. With daVinci Robotic Prostatectomy the catheter is generally removed in 3-7 days. The recovery of urinary control after open RP requires 2-3 months and with Laparoscopic or da Vinci robotic RP it takes zero 0-8 weeks. Twenty percent of Lap RP patients have urinary continence when the catheter comes out.

To make an informed and thorough decision about your prostate cancer treatment plan you should take into account your risk for extra capsular disease based on the [nomograms](#) (see our patient information brochure on Elevated PSA and Prostate Cancer with the Prostate Cancer Nomograms) and what your treatment options would be if indeed you have a cancer recurrence after your primary therapy. Regardless of your preoperative data

and your chosen treatment plan you will have some risk of recurrence overall. The risk of cancer recurrence after any primary treatment for prostate cancer is roughly 15%. If your PSA is low and your gleason score is low and you have low volume disease (low volume disease is when only one or perhaps two of the biopsies specimens are positive for cancer), then your risk of recurrence is low. If you have high score, high PSA, high volume disease then your chance of recurrence is higher. The higher your risk of extracapsular disease on the nomograms the higher your risk of cancer recurrence after treatment with any of the three options. But no matter how favorable your preoperative data appears there is always some risk of recurrence. If your primary treatment is EBR or SEEDS then treatment for a potential cancer recurrence can be problematic. There are no proven curative treatments for cancer recurrence after EBR or SEEDS. Da Vinci Robotic Prostatectomy can be done for cancer recurrence following radiotherapy of the Prostate. Surgery performed on a previously radiated prostate is more hazardous and carries greater risk of significant complications (increased blood loss, possible need for urinary diversion) and so such surgery is still considered experimental in the United States. Cryotherapy (freezing of the prostate) can be used for cancer recurrence after radiotherapy but it, too, carries significant risk.

If a patient has a cancer recurrence following dV RP (da Vinci Robotic Prostatectomy) then EBR can be used. Such treatments generally carry at least a 50% cure rate. So, with EBR or SEEDS as primary therapy there is no proven treatment for a recurrence of prostate cancer. But, if RP is used as primary therapy then EBR can be used to treat a recurrence and such treatments have at least a 50% cure rate.

### **Who Should Have Surgery?**

Almost any patient with prostate cancer may be a candidate for Robotic Prostatectomy but there are some patients for whom surgery should be the preferred treatment choice. Because surgery is more effective at curing prostate cancer and recurrence after surgery can be treated with radiation the younger you are at diagnosis the more important it is to choose surgery. Therefore any healthy man under the age of 65 with prostate cancer should consider Robotic Prostatectomy as the treatment of choice. Also, if you have significant urinary symptoms and/or an enlarged prostate you should consider surgery to treat both the cancer and the enlargement. If you consider surgery there is absolutely no reason to choose open surgery over robotic surgery. Robotic surgery is better than open surgery in every way measurable (quicker recovery, less blood loss, better preservation of erections, better preservation of urinary control, and most important of all it is better at cancer control).

### **Additional Information:**

- **DaVinci Surgery Web Site**
- **USA Delaware Educational Videos**
- **Prostate Cancer Information**