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This information is provided to assist Dr Berry's patients understand the robotic prostatectomy procedure and the process of preparing and recovering from surgery. Further information including a copy of this document and other documents as well as patient educational video's are available through Dr Berry's web site www.alexanderberrymd.com

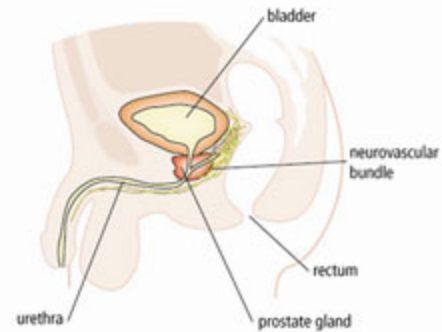
Robotic Radical Prostatectomy - General Information

Anatomic radical prostatectomy, or open surgery, is the most commonly performed surgical procedure for treatment of localized prostate cancer. A less invasive option, robotic radical prostatectomy has its basis in traditional open surgery, with less blood loss and better cosmetic results.

Robotic instruments improve visualization, enabling precise dissection of the prostate and neurovascular structures. Additionally, robotic laparoscopic suturing techniques allow for a meticulous connection of bladder to urethra following removal of the prostate. This offers the potential for less scarring of the urethra following surgery. Figure 1 displays the anatomy of the prostate, bladder, and neurovascular bundles.

Figure 1

Illustration of the neurovascular bundles and their relationship to the prostate prior to its removal. Note that once prostate is removed, the bladder must be sutured back to the urethra. The rectum sits behind the prostate and care is taken to avoid entry during surgery.

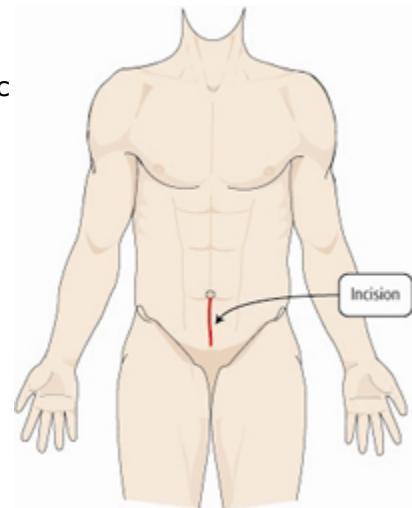


The procedure

Robotic prostatectomy is performed using a camera and thin, specialized instruments placed in the abdomen through three tiny (half inch) and one small (2 inch) incisions.(1) In comparison, open surgery requires a 5-8 inch incision. (see figure 2a and 2b)

Figure 2a

The traditional radical prostatectomy is performed through a 5-8 inch incision and travels from the belly-button to the pubic bone.



Advantages of minimally invasive robotics over open surgery

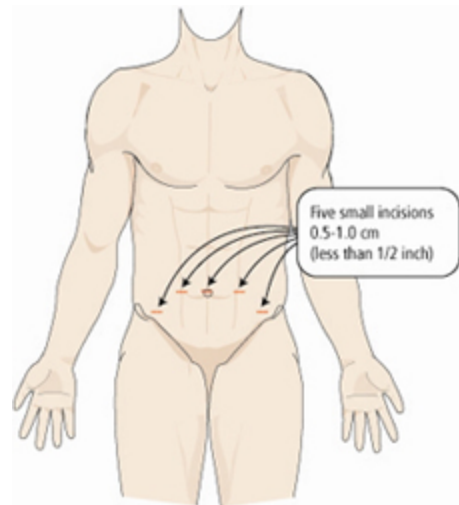
- Significantly less blood loss (tenfold lower rate of blood transfusions)
- Better cosmetic result
- Quicker return to normal activity
- Improved visualization of surgical field

Three robotic arms controlling the camera, which produces a magnified view, and two highly specialized laparoscopic instruments are introduced through 1cm incisions. First, the prostate is separated from the bladder and the seminal vesicles are dissected free from surrounding blood vessels and nerves. Next, the prostate is carefully dissected from its bed. To ensure maximum cancer control, great care is taken to determine whether the tumor has grown outside the prostate. Your surgeon does this through preoperative tests as well as tactile and visual cues during the procedure.

Figure 2b

The robotic prostatectomy is performed through 4-5 small incisions in the abdomen.

If no growth is detected, the surgeon can spare at least one neurovascular bundle (nerves that control erection) in the vast majority of patients. Both neurovascular bundles can be spared at least 80% of the time in appropriate candidates, optimizing the likelihood of return of erectile function.



In some cases, your surgeon may perform a sampling from the pelvic lymph nodes to evaluate for spread of the cancer.

The bladder is then sutured back to the urethra using robotic knot tying techniques inside the pelvis. Finally, the urinary catheter and pelvic drain are placed and incisions closed with absorbable sutures. The procedure typically lasts 2-4 hours depending on body size, prostate size and amount of inflammation surrounding the prostate.

Results

The success of surgery for prostate cancer is measured in three key ways:

- Cancer control
- Preservation of urinary continence
- Return of Erectile Function

We have found that early cancer control as well as continence and sexual function following robotic radical prostatectomy are similar to open surgery.

Cancer control

Robotic prostatectomy has been performed in this country for under ten years, so analysis of long-term cure rates is difficult. However, studies have shown that during an early period of follow-up, cancer control using the laparoscopic procedure is similar to open surgery.

Continence (urinary control)

Many patients have temporary incontinence following either open or laparoscopic prostatectomy. Recovery of continence occurs gradually after

either approach, and the majority of patients return to baseline urinary function in 6-8 months; continued improvement occurs for up to 24 months. At least 90% of patients are considered "dry" one year following surgery. However, some may choose to wear a "safety pad" to catch occasional dripping of urine during coughing, sneezing or heavy activity.

Sexual function

The return of erectile function is based on many factors, including age, preoperative function, having an active sexual partner and degree of nerve sparing. We have found that patients who were potent pre-operatively and undergo bilateral nerve sparing have a 50% to 80% likelihood of regaining potency by 12-24 months.

The nerves that control erections run close to the prostate. These are not the same nerves that control orgasm so it is possible to feel orgasm after surgery without an erection.

Please see Dr Berry's penile rehabilitation handouts for further information on the options available for you.

Remember - Age and preoperative erectile status plays an important role - At least 75% of men under 60 years of age can expect recovery of potency, while only 50% over 60 years can.

Blood loss and other surgical complications

Average blood loss is 150-200cc during laparoscopic prostatectomy compared with 800cc during open surgery. Blood transfusions are extremely rare with less than 1% chance of occurring. The other important surgical risks associated with prostatectomy are the potential for infection and damage to adjacent structures. The most important structure near the prostate is the rectum which has a less than 1% chance of being damaged during the procedure. In addition there are general risks of surgery including anesthesia, blood clots and cardiac events. These are all extremely uncommon.

There are delayed complications of surgery. The most important is the rate of bladder contracture or scarring at the site the urethra is rejoined to the bladder. For robotic surgery the rate of contracture is less than 5%.

It is also important to remember that the prostate produces 95% of ejaculatory fluid. After any prostate therapy for prostate cancer there is no ejaculation since the prostate has been either removed or destroyed.

Planning before your Prostate Surgery

There are a number of things that you can do to assist in helping get the best outcome from your prostate surgery.

The weeks before surgery

Get in shape

Typically Dr Berry likes to wait a minimum of 10-12 weeks after your biopsy before performing surgery. The reason of this is to let the bruising that occurred in the biopsy process heal. This is very important to maximize the chance of performing nerve sparing surgery allowing the inflammation to fully resolve. A smoother recovery is often the result of entering surgery in the best shape you can. Use the time between your diagnosis and the surgery to actively exercise.

For men with a higher BMI (>28) and a low risk, low volume prostate cancer (Gleason 6 with PSA under 4 and fewer than 50% of your cores positive) there is a 6-12 month window for treatment to be performed. Dr Berry may suggest trying to lose 10-20 lbs during this time period. There is an association between preoperative weight and post procedure continence. To maximize your chance of good post procedure continence you should try to maintain an ideal weight and perform Kegel exercises.

The best way to lose weight and gain shape is to use a combination of a dietitian to help improve how and what you eat and a personal trainer through your local Y to help set exercise goals.

Scheduling

The majority of prostate cancers that we diagnose are low risk (Gleason 6). While many patients have anxiety about their cancer it is important to remember there is up to a 6-12 month window in which an operation can be safely performed without the risk of the cancer spreading. This window for intermediate risk patients (Gleason 7) is likely 3-9 months.

We are able to work with you to help schedule the surgery at a time that allows you to have people around you to support you through the post operative period when you will be restricted in some of your movements and activities.

The week before surgery

Kegel Exercises

One of the keys to continence following robotic prostate surgery are Kegel exercises. These are familiar to many women who are encouraged to perform Kegel exercises after childbirth to minimize their chance of urinary leakage with cough or sneeze. Similarly Kegel exercises have been shown to help men regain their continence much quicker following pelvic surgery compared to not doing the exercises. They are very simple to perform and I encourage men to start performing Kegel exercises the week before surgery.

How to perform Kegel exercises

Begin by locating the muscles to be exercised:

Practice trying to stop or slow the urine without tensing the muscles of your legs, buttocks, or abdomen. It is very important not to use other muscles, because only the pelvic floor muscles help with bladder control

If you are able to slow or stop the stream or urine, you have located the correct muscles. Feel the sensation of the muscles pulling inward and upward.

Hint: Squeeze the muscles in the rectal area to tighten the rectum as if trying to hold back gas. You will be using the correct muscles.

You should hold each contraction for 6 seconds and then relax for 6 seconds. Each set of Kegel's has 5 contractions. You should perform 6 sets of Kegel exercises per day for a minimum of 6 weeks after your surgery.

Make pelvic muscle exercises a part of your daily routine: You must do them regularly to maintain bladder control. A full set takes less than a couple of minutes to perform and can be performed while watching TV, reading or stopped at a traffic light.

Do not perform Kegel exercises while the catheter is in place as this leads to discomfort but restart after the catheter is removed.

The following web site has instructions for Kegel exercises.

http://kidney.niddk.nih.gov/kudiseases/pubs/bcw_ez/insertC.htm

Blood thinners

Please remember to stop all blood thinners 7 days before surgery. These include prescription medications and over the counter non-steroidal medications such as

- Aspirin
- Coumadin
- Motrim

- Ibuprofen
- Advil
- Eleve

Please check with your primary doctor to assure that it is safe to cease these medications. If there is a history of heart disease, please check with your cardiologist to ensure that general anesthesia is safe.

Day before surgery

To prepare for your surgery you will be given instructions to maintain a liquid diet for 24 hours prior to surgery and a small bowel cleanser will have been prescribed. This helps us to better visualize the bladder and the prostate during surgery.

Clear liquids include chicken broth, jello, apple juice, cranberry juice, coffee without milk etc. You will also take a bowel prep the day before surgery called Magnesium Citrate. You should drink a single 10-ounce bottle late in the afternoon the day before your surgical procedure. It should begin working within 30 minutes to 3 hours. The bowel prep with magnesium citrate will not apply if you suffer from kidney disease or renal insufficiency

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