Robot-Assisted Laparoscopic Radical Prostatectomy (RALP), with or without lymph node dissection

What is RALP?

Radical prostatectomy is an operation that removes the entire prostate gland, both seminal vesicles (small glands behind the bladder that produce most of the contents of semen) and a portion of both vas deferens (tubes that transport sperm from the testicles to the urethra). The prostate resides just below the bladder. Once the prostate is removed, the bladder is reattached to the urethra, re-establishing continuity of the urinary tract. In certain cases where there is a significant chance of spread of the cancer to the adjacent lymph nodes, a lymph node dissection on one or both sides may be performed as well.

This operation employs a laparoscopic technique, whereby the abdominal cavity is filled with gas, and a camera and surgical instruments are passed through port sites in the abdominal wall. The Davinci surgical robot is utilized by the surgeon to perform this operation, allowing for more precise movements, and enhanced visualization compared to traditional laparoscopic techniques.

Alternatives to this procedure include active surveillance of prostate cancer (monitoring for signs of cancer progression), radiation therapies, hormonal therapies, and other ablative treatments. Your surgeon has considered all of these techniques with you, and feels radical prostatectomy is an appropriate treatment choice.

Anticipated benefits include potential cure of your prostate cancer. When we do this operation, we make the assumption that the cancer is still in the prostate and has not

traveled out beyond its walls or to distant areas in the body. Despite all modern technology, there is no way to guarantee this before the operation.

There are also instances when we may suggest radical prostatectomy even when we know that there is a high likelihood that the cancer has already begun to spread beyond the prostate. Although not curative, it would be to try to achieve “local control” of the tumor. Your surgeon will have discussed this uncommon circumstance with you.

What are the risks?

Bleeding. As with any operation there will be some bleeding. Transfusion rates for this operation are typically less than 5%.

Infection. A preventative antibiotic is given prior to the surgery at the hospital, and overall infection rates are usually less than 5%. Most common sites of infection would be the skin where the surgical ports are placed, and are rapidly and effectively treated with antibiotics post-operatively.

Injury to nearby structures. There are numerous structures adjacent to the prostate that have risk of injury during this operation. Such risks are very low, but can include injuries to the large or small intestine, bladder, or ureters. In cases of inadvertent injury, additional surgery or treatments may be necessary.

Stress urinary incontinence. Defined as the loss of urine with stress (coughing, sneezing, lifting a heavy object), stress incontinence often occurs in the days and weeks following urinary catheter removal. This gradually improves with time, but in some cases, not completely, and protective pads may be needed. *Total* incontinence (the constant dripping of urine) or *urge* incontinence (the loss of urine following uncontrolled bladder spasms) are less common following radical prostatectomy.

Erectile dysfunction. You will have discussed with your surgeon whether or not a “nerve-sparing” surgery is going to be attempted on one side, both sides, or not at all. Even if all of the nerves are carefully preserved, erectile function may be impaired or completely absent. Your outcome will depend on your pre-operative erectile function, your anatomy, and whether one or both nerves are indeed successfully spared. Regardless, following radical prostatectomy, most patients may need some form of therapy to assist with erectile function. While return of urinary function takes only weeks to months, recovery of erectile function takes months to a few years.

Penile shortening. The mechanism is not completely understood, but this may occur as a long-term result.

Absent ejaculate. The structures involved in semen production have been surgically removed, and thus there is no expulsion of semen with orgasm. Sometimes, however, if the bladder contains some urine at the time of orgasm, some urine leak may occur. Urine is a sterile fluid, and should not cause any problems.

Bladder neck contracture. Sometimes, excessive scarring can form in the region of the bladder and urethral attachment, resulting in restriction of proper urine flow. Often, this scar can be opened up with a minimally invasive procedure. Unfortunately, this problem could recur and could eventually jeopardize urinary continence.

Lymphatic leak/obturator nerve injury. *In the setting of a lymph node dissection*, these are additional complications that can occur. Prolonged leakage of fluid from the lymph node region is uncommon, and is treated with the indwelling drain for a longer than typical period of time. The obturator nerve controls certain movements of the leg, and runs adjacent to the lymph nodes that are removed. If injured, these movements (closing the leg towards midline) can be impaired.

Anesthetic and other risks. Significant events such as heart attack, stroke, even death may occur as a result of any anesthetic, though such risks are extraordinarily low, especially if properly evaluated by your primary physician before surgery if indicated. Should you develop any pain or swelling of your lower legs and ankles following surgery, notify your doctor's office immediately, as this may indicate a blood clot in your leg (deep vein thrombosis or "DVT"). If a blood clot moves to the lung this could be immediately life-threatening, and usually presents with shortness of breath and/or painful breathing.

What are preparations for surgery?

Please have nothing to eat or drink after midnight prior to your surgery. If you take blood thinners, your surgeon will have discussed stopping this medication prior to your surgery. Sometimes, a bowel preparation is done to help clean out the colon the day before.

What happens after the surgery?

You will stay in the hospital for observation overnight. There will be a catheter in the bladder allowing urine to passively drain, and to facilitate healing of the bladder reattachment. The urine may be bloody, and this is normal. Additionally, there will be a surgical drain in the lower abdomen. The drain often is removed prior to discharge from the hospital, though the urinary catheter will remain for approximately one week. While many patients will go home the following day, we will make sure that you are able to walk, tolerate a diet, and that your pain is well managed prior to leaving the hospital. In the days following surgery, it is normal to feel some discomfort, especially in the incision sites.

Urinary catheter care. You will get instructions while in the hospital on how to empty the drainage bag and switch it to a larger bag for overnight use when you are sleeping. The drainage system can be easily concealed under your clothing. It is normal to have a small amount of blood drain along the outside of the catheter. This commonly happens while trying to have a bowel movement, and is not cause for alarm.

Resuming activities

You can go back to work when you feel able, usually within two to three weeks, but this of course depends on the nature of your work. Typically, we ask that you abstain from any heavy physical activity for up to six weeks.

You may drive when you feel able and are not under the influence of any medications.

Follow-up

Your doctor will arrange a follow-up visit, usually around one week following surgery, to perform a cystogram. This is an x-ray done by instilling contrast through the catheter to check that the bladder to urethra connection is completely healed and the catheter is ready to be removed. This will be arranged for you at the hospital. If healing is complete we will have you come to the office to remove the foley. If there is a leak, we will plan to repeat the x-ray in another week.

For any concerns, do not hesitate to call our office for advice or instruction.