Radical Prostatectomy Basic Information - A Patient Guide

Faculty, staff and patient advocates
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If you are reading a hard copy, please also refer to the above link for the most up-to-date information. Words that appear in bold are described in the glossary at the end of this document.

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Overview

A **radical prostatectomy** is a surgical procedure during which the **prostate gland** is removed using one of several available surgical techniques including the open retropubic; the less invasive laparoscopic; or the minimally invasive robotic approach. At UCSF, we currently favor minimally invasive laparoscopic robotic surgery using the da Vinci® robot. **Lymph nodes** near the prostate can be removed at the same time if clinically indicated (based on **cancer** grade and extent, serum **PSA** (*prostate specific antigen*) and imaging). Radical prostatectomy is one option for patients with clinically localized prostate cancer. Advantages include the following:

1) Potential cure with surgery (common, but not guaranteed).

2) Analysis of the removed gland by a pathologist allowing accurate assessment of cancer aggressiveness (stage and grade). This information can help determine a course of treatment if and when additional treatment is recommended. Such information is also used to determine the frequency of PSA testing after surgery.

SDURO0055 • Revised 08/2020

3) Quick information regarding the effectiveness of the treatment. Following surgery, the serum PSA level will, in most cases, be undetectable, but monitored regularly, nevertheless. Any recurrence of cancer can usually be detected early by periodic PSA testing. At UCSF, we utilize an “ultrasensitive PSA test” which can read at a level as low as 0.015 ng/mL, aiding in early detection. In primary treatment other than surgery, it may take a considerable period of time to accurately access the effectiveness of the treatment.

4) Opportunity to consider salvage (follow-up) treatments with radiation or other modalities. Although surgery does not preclude subsequent radiation treatments, surgery following radiation treatments may be very difficult.

5) Relatively limited risk of recurrence (i.e. beyond 5 years), which can be detected with appropriately timed PSA testing.

6) For higher-risk prostate cancer, the potential to combine surgery with other treatments, a strategy that may be associated with better long-term survival.

Patients with prostate cancer who are in good health and have a life expectancy greater than 10 years are candidates for radical prostatectomy. The procedure is associated with several side effects, although major complications are rare. Many patients may be candidates for a "nerve - sparing" radical prostatectomy where sexual function may be maintained by preserving the nerves that control erections depending on patient age and other factors.

NOTE: Radical prostatectomy is one of many options for the treatment of prostate cancer. *You should discuss all options with your physician or treatment team.*

Radical prostatectomy explained

A radical prostatectomy (RP) is surgery to remove the entire prostate gland and **seminal vesicles** (*glandular structures attached to the prostate gland*).

RP can be laparoscopic; meaning it can be open via an incision made in the abdomen. This is known as "radical retropubic prostatectomy". An RP may also be made via an incision through the perineum (the area between the scrotum and the anus). This is known as "radical perineal prostatectomy".

Laparoscopy is performed by making small incisions in the abdomen and passing specially designed scopes and instruments into the body. This may result in less discomfort, less blood loss, fewer complications and earlier return to work. At UCSF we perform laparoscopic radical prostatectomies using a robotic surgical system called the da Vinci® robot. The system features high definition magnification and surgical precision in 3 dimensions. Outcomes in terms of cancer control, urinary function and sexual function are as good as (and often better than) a radical retropubic prostatectomy. You will see 1-6 incisions (depending on the robotic system used, extent of cancer and surgeon preference) for the ports, which are less than ½ inch with one larger incision above the belly button where the prostate is removed. The robotic approach has been modified based on our, and others’, extensive experience with both open and robotic surgery in order to optimize outcomes. The subtle differences between procedures can be discussed with your surgeon.

In addition to removing the prostate gland, the lymph nodes draining the prostate may be removed as well. This is done to determine if the cancer has spread to the lymph nodes. This procedure is called "**pelvic lymph node dissection.**" The risk of having cancer in the lymph nodes relates to the severity of the cancer.

Before surgery

Before RP, tests may be performed to determine the extent of the disease. These include blood tests and various imaging tests such as **magnetic resonance imaging (MRI)**, **computerized tomography (CT)**, **bone scan**, and **positron emission tomography (PET)**. Some tests may be repeated at UCSF for those who were diagnosed elsewhere, such as ultrasound and review of **biopsy** slides.

A “Prepare Appointment” will be made to discuss your physical condition, medication use, relevant medical history and anesthesia either by phone or in person. You will meet in-person or have a phone consultation with one of the urology nurses, nurse practitioners or physician assistants to discuss various details that you will need to know in order to prepare for your upcoming RP. Before being admitted to the hospital, you will be instructed about eating and drinking and other preparations for surgery.

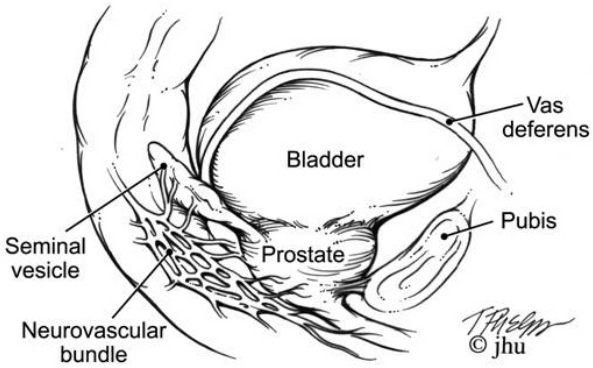
About anesthesia and the need to donate blood

General anesthesia is utilized during an RP. You will discuss various topics with your anesthesiologist such as any history of vomiting, nausea or motion-like sickness after surgery that may require medication for prevention.

Donation of autologous blood (your own blood), although an option, usually is not done given the limited amount of blood loss noted during robotic surgery and the remote (< 1%) risk of a blood transfusion being needed.

During surgery

After being put comfortably to sleep, the entire prostate gland and seminal vesicles, as described previously, are removed. Once the prostate gland and seminal vesicles are removed, the bladder, having been disconnected from the **urethra** by the removal of the prostate, is reattached to the urethra. To facilitate healing, a **catheter** is left in the bladder to allow drainage of urine. Care and removal of the catheter are discussed later. At times your surgeon may leave a "**drain**" (tube that drains fluid accumulations) in place. The drain is often removed on the day of your discharge from the hospital. As mentioned previously, regional lymph nodes may be removed.



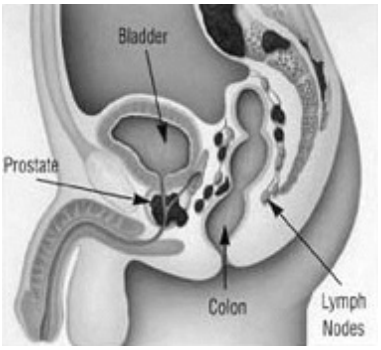
Nerve-sparing radical prostatectomy

The nerves and blood vessels ("neurovascular bundles"), which allow the penis to become erect, run on either side of the prostate. The figure shows a diagram of the surrounding anatomy and the neurovascular bundles (NVB). Either of these bundles may be partially or completely spared during RP, preserving sexual function in some patients. The best results are achieved if both bundles can be spared. Younger patients who are sexually active and report having good erections are most likely to benefit from preservation of the bundles. Older patients and patients who report limited erections may be less likely to benefit (although nerve preservation may improve urinary function as well). In some cases, preservation of the bundle may not be advised due to the location or extent of the cancer. As the nerves run very close to the prostate, preservation of the bundles in some patients may risk leaving cancer behind. The risks and benefits of nerve-sparing surgery should be discussed with your surgeon inasmuch as change in sexual function is a common *side effect of prostate cancer treatment whether it be with surgery or radiation.*

Sexual function returns gradually in patients who have undergone nerve-sparing radical prostatectomy. In most patients, little or no function is noted immediately after surgery. Erections may show improvement in the first six months, and may continue to improve up to 18 to 24 months after surgery.

Lymph node dissection (biopsy)

When prostate cancer spreads (**metastasizes**), it often does so into the lymph nodes in the area of the pelvis. For this reason, the lymph nodes draining the prostate may be removed to check for tumor spread. If your surgeon thinks you would benefit from a lymph node dissection, it would be done at the same time as the RP is performed. No additional incisions are necessary.



Credit Singapore General Hospital

After surgery

Eating and drinking
You will be given a full set of instructions upon leaving the hospital including helpful pamphlets on various subjects and specifics about eating and drinking. These instructions will emphasis helping you regain normal bowel function.

Bowel function
It is important to note, it can take at least two weeks to get back to normal bowel function. Your instructions will include medicines to take and practices to follow such as not straining to avoid irritation to the surgery site. Straining can result in an increased amount of pain, bleeding and delay in recovery.

Duration of hospitalization
After prostatectomy, most patients are well enough to go home the day after surgery, some may stay two nights and others my even leave on the day of the RP.

Going home with a catheter
You will be discharged home with a catheter draining urine from your bladder into a bag. Your nurse will teach you how to empty and care for your catheter and drainage bag. You will have instructions on how to clean your catheter, the area around your catheter, and your drainage bag as well as how to apply your leg bag and how to secure the catheter to your leg.

Removal of the catheter
Your catheter will be removed locally in the UCSF clinic approximately 7 to 10 days after your surgery, depending on the outcome of your surgery.

Managing incontinence
After your bladder catheter is removed, you may have leakage of urine ("**incontinence**"). Initially, the leakage may be significant (leakage all the time). Your provider or nurse will teach you exercises, which you can do to strengthen your **sphincter muscle**. Most patients regain very good control in 3-6 months.

Medications for home
You will be given prescriptions for a number of medications and full instructions for using them. They will include several that help you to return to normal bowel function as well as aiding you in making your recovery as speedy and comfortable as possible.

Sex after surgery
You will be instructed regarding sex following surgery. In the event of erectile dysfunction (ED), you will be given further instructions and guidance. The level of ED depends on the degree of nerve-sparing surgery that was achieved as well as other factors such as pre – operative sexual function, age, other medical conditions, medications, lifestyle, depression and anxiety. At UCSF, information and support in this area are widely available. There are medicines and aids that can help with recovery of erections.

The issue of fertility
Although patients continue to make normal sperm in their testes through much of life, after radical prostatectomy, ejaculation no longer occurs. For patients interested in protecting their ability to father children, we offer a full range of fertility preservation services including sperm banking before surgery. For further information please refer to https://crh.ucsf.edu/

The pathology report
It usually takes approximately 10-14 business days post-surgery to process pathology results. Once the pathologist receives the tissue from the surgery, there will be at least three features addressed in the pathology report: cancer grade, cancer stage, and margin status. (which indicates the possibility that the cancer may have already left the prostate.)

The need for additional treatment
Many patients do not need any additional treatment after a RP. You and your physician will make a decision on the need for additional treatment based on the pathology report and your ultra-sensitive PSA level after surgery (and occasionally the results of genomic tests done on the cancer that was removed).

Follow-up treatment

You will follow-up initially 8 to 10 weeks after surgery to review your pathology and ultra-sensitive PSA results, as well as your continence and erectile function. The frequency of visits and serum ultra-sensitive PSA tests will be determined based on the risk of cancer recurrence.

Other resources
UCSF offers many resources to assist patients with prostate cancer. Whether you are newly diagnosed and trying to decide what to do next or were diagnosed in the past and are looking for support and information, help is available.

Peer Support - Talk to a patient who has been through what you are experiencing by calling 415-885-7210.

All patients and their spouses/partners are invited to participate in the following support groups:
UCSF/San Francisco Prostate Cancer Support Group: 415-885-3693
Marin Prostate Cancer Information and Support Group: 415-459-4668
Prostate Cancer Support Group for Gay Men: 415-637-2895
Prostate Cancer Support Group for African American Men: 415-776-3123

For more information on the following, we urge you to contact the Patient and Family Cancer Support Center CRC@UCSF.edu via email or call 415-885-3693:

Preparing for Surgery Nutrition Counseling Exercise Counseling Symptom Management

Help with Psychological and emotional issues

Nurse-Navigator to help prostate cancer patients navigate the system: 415-885-7795

How to contact your providers

For non-emergency issues you may contact your providers by using MyChart. Your request will be routed to an appropriate clinician. Routine messages are answered within 3 working days, usually much sooner. All patients should be familiar with and enrolled on MyChart as it is the most efficient way to stay in contact, see test results, etc. http://www.ucsfhealth.org/ucsfmychart/

Phone calls can be made using (415) 353-7171. For telephone calls, our normal hours are Mon-Fri from **8:30 – 5. After hours reserved for urgent issues only. After hours or weekend calls should not be used to request medication renewals, test results or for routine, non-urgent issues.**

For emergency issues call, 24 hours a day 7 days a week, at (415) 353-7171 or visit your closest emergency room

A final note

The diagnosis of prostate cancer and its treatment evokes strong emotions in patients and their loved ones. It is important that you share your concerns, fears and frustrations with your physician/treatment team and those around you. Good communication is important to making informed decisions and for helping in recovery. The UCSF Cancer Resource Center provides helpful information on a wide range of topics. You may find participation in a support group very helpful. Information on support groups, including ones close to you, can be obtained from the Patient and Family Cancer Support Center.

The Symptom Management Service at UCSF offers treatment and counseling for physical and emotional symptoms of cancer. Treatments integrate medical, psychological, social work and spiritual approaches, which are offered along with regular cancer care. Services are coordinated with cancer treatments and with the support of patients' providers. http://cancer.ucsf.edu/support/sms/ or call 415-885-7671.

Osher Center for Integrative Medicine is another resource at UCSF. By joining modern medicine with established practices from different disciplines around the world, UCSF integrative practitioners are better able to relieve suffering, reduce stress and maintain the well-being of their patients. https://osher.ucsf.edu/ or call 415-353-7700

There is considerably more information available in the form of UCSF publications which may be of interest. For example, after electing to have surgery, refer to patient guide "After your Radical Prostatectomy: A Patient Guide (Preparing for, and knowing what to do after, your RP)" found here https://urology.ucsf.edu/prostate-cancer-education-documents

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Glossary of Common Terms

Biopsy: Sampling of tissue.

Bone scan: A radiologic imaging study that utilizes a radioactive compound that is injected into a vein to identify abnormalities in the skeleton.

Cancer: A condition of unregulated cell growth. Cancer cells, unlike benign cells, exhibit the properties of invasion and metastasis.

Catheter: Small tube inserted to drain or instill fluid.

Cell: Any one of the minute protoplasmic masses that make up organized tissue. A cell is the fundamental structural and functional unit of living organisms.

CT scan (Computerized tomography): A radiologic imaging study in which cross-sectional images of the body are obtained using x-rays.

Drain: A tube used to drain fluid accumulations after surgery.

Gleason grade: A numerical value given to prostate cancers that measures tumor grade. Grades are assigned to the most common pattern of cancer as well as the second most common. Grades for each pattern range from 3 to 5. A grade of 3 denotes a cancer that closely resembles benign or normal tissue. A grade of 5 is assigned to cancers that appear aggressive and differ significantly from benign tissue.

Impotence: Inability to get a natural erection.

Incontinence: Uncontrolled loss of urine.

Kegel exercises: Exercises designed to strengthen the muscles around the bladder and bladder opening. The exercises can be done anywhere or anytime. They are done by tightening and then relaxing the pelvic floor muscles.

Laparoscopy: A surgical technique in which small incisions are made in the body in order to introduce specially designed telescopes and instruments. In some cases a surgical robot can be used to facilitate laparoscopic surgery. The robotic system at UCSF is called da Vinci and facilitates robot-assisted laparoscopic radical prostatectomy.

Lymph node: The main source of lymphocytes of the peripheral blood. In addition, lymph nodes serve as a defense mechanism by removing noxious agents such as bacteria, toxins and cancer cells.

Metastasis: The transfer of disease from one organ or part to another not directly connected to it. The capacity to metastasize is a characteristic of all malignant tumors.

MRI Scan: An imaging study in which cross-sectional images of the body measure how different types of body tissue respond to a magnetic field.

Pelvic lymph node dissection: Removal of the lymph nodes adjacent to the prostate.

PET Scan: A positron emission tomography scan is a tests which images the entire body allowing for the detection of abnormalities such as cancer. It uses a drug or radioactive tracer that is specific for the abnormality or disease being evaluated. Therefore, there are many types of PET scans. The ones used most commonly for prostate cancer are PSMA and Fluciclovine (Axumin TM). This test can be done before treatment or if recurrence is suspected.

Prostate gland: A gland in the male which surrounds the neck of the bladder and urethra. The prostate contributes to the seminal fluid.

Prostate specific antigen (PSA): A protein that is specifically manufactured by prostatic epithelial cells. The level of PSA often correlates with the likelihood and extent of prostate cancer and the size of benign prostatic enlargement or BPH, as well as infection.

Radical prostatectomy: A surgery in which the entire prostate gland and seminal vesicles are removed.

Seminal vesicles: Glands located on either side of the prostate that secrete substances to nourish sperm.

Sphincter muscle: The muscle used to control the flow of urine from, and hold urine in, the bladder.

Transrectal ultrasound: A radiologic imaging test in which an ultrasound probe is placed into the rectum to image the entire prostate. This test facilitates prostate cancer staging and prostate biopsy.

Urethra: Canal that drains urine from the bladder. It passes through the center of the prostate gland.

Notes