

Radical Prostatectomy - A Patient Guide

UCSF Urology Program

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Your Feedback: We regularly revise this information to keep it up to date and make it as useful as possible to the reader. Because changes and new developments can occur frequently, we suggest you talk to your provider for the latest information. Your feedback about any aspect of this document would be much appreciated. You can e-mail your comments to sarah.joost@ucsf.edu. If you wish to talk with a patient advocate, please call (415) 885-7210. This guide, along with other urologic oncology documents, can be viewed online with this link: <http://urology.ucsf.edu/patient-care/cancer/prostate-cancer>

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 *italics* are described in the glossary at the end of this document.

Overview

A *radical prostatectomy* is a surgical procedure where the *prostate gland* is removed. At UCSF we perform laparoscopic radical prostatectomies using a robotic surgical system called the da Vinci® robot. *Lymph nodes* near the prostate can be removed at the same time. Radical prostatectomy is one option for men with clinically localized prostate cancer. Potential advantages include the following:

- 1) Removal of the prostate and analysis by a pathologist which allows accurate assessment of cancer aggressiveness (stage and grade);
- 2) After surgery the serum PSA (*prostate specific antigen*) level should be undetectable, but monitored regularly. Any recurrence of cancer can be detected by periodic PSA testing. At UCSF, we utilize an ultrasensitive PSA test which detects PSA down to a level of .015 ng/mL and makes it possible to detect a recurrence at a very early stage;
- 3) Radiation treatments can be *given after surgery, if necessary*. If local recurrence of prostate cancer is detected, it is much easier to control and still be cured with reduced dose radiation. Unfortunately, it is much harder to have surgery after completing radiation therapy;

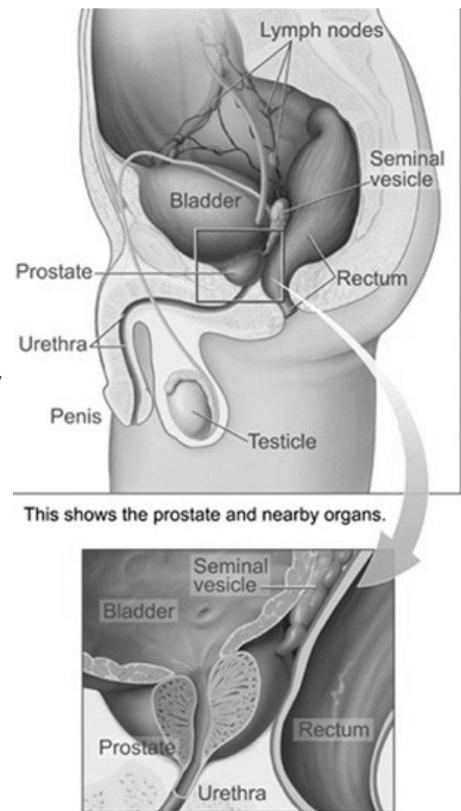
- 4) Surgery appears to be associated with a very limited (i.e. beyond 5 years) local recurrence which can be detected with appropriately timed PSA testing;
- 5) Information gained from the radical prostatectomy specimen (stage and grade) can be used to direct the need for any secondary treatments;
- 6) For higher-risk prostate cancer, surgery is often combined with other treatments which may be associated with better long-term survival than other management strategies.

Men 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 potential side effects, although major complications are rare. Many men may be candidates for a "nerve-sparing" radical prostatectomy where sexual function may be maintained by preserving the nerves that control erections.

What is a radical prostatectomy?

A radical prostatectomy is surgery to remove the entire prostate gland and *seminal vesicles* after a diagnosis of prostate cancer is made. Radical prostatectomy is one of many options for the treatment of prostate cancer. You should discuss all options with your physician.

Radical prostatectomy can be done with laparoscopy ("laparoscopic radical prostatectomy"); through an open *approach* via an incision made in the abdomen ("radical retropubic prostatectomy"); or in the perineum, the area between the scrotum and the anus ("radical perineal prostatectomy"). Laparoscopy is a technique in which surgery is performed by making small incisions and passing specially designed telescopes and instruments into the body. Laparoscopic radical prostatectomy 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 at least as good as a radical retropubic prostatectomy. You will see 5-6 incisions for the ports which enter through your abdomen and are approximately ½ inch with one larger incision near the belly button where the prostate is removed. The robotic approach has been modified based on our large experience with open surgery in order to optimize outcomes. The subtle differences between the 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 prostate cancer has spread to the lymph nodes. This procedure is called "*pelvic lymph node dissection*." The risk of having cancer in the lymph node can be estimated and only men with higher risk cancers need to undergo pelvic lymph node dissection.

What will happen before surgery?

Before surgery, a number of tests will be performed to determine the extent of the disease. These tests include blood tests and imaging such as CT, bone scan or a *transrectal ultrasound (TRUS)*. Some patients coming to UCSF already have had many of these tests and therefore may not need them again. If there are pathology slides from an outside hospital, they may be reviewed at UCSF for a second opinion to confirm the grade and extent of prostate cancer. In selected patients, additional imaging

tests may be ordered such as a bone scan and/or a CT or MRI scan of the abdomen and pelvis. A physical examination will be performed and you will discuss the various types of anesthesia with an anesthesiologist. This visit will be arranged by your provider and will likely occur the week before surgery. In addition to your "Prepare appointment" with your anesthesia team, you also either will meet in-person or have a phone consultation with one of the urology RNs to discuss various details that you will need to know in order to prepare for your upcoming surgery. You will be admitted to the hospital on the day of your surgery. However, you may begin a "bowel prep" at home on the day before your surgery. This is done to cleanse the bowel and may consist of a clear liquid diet, medication to promote bowel movements, and/or an enema. This is a routine preparation done before many types of abdominal and pelvic surgery.

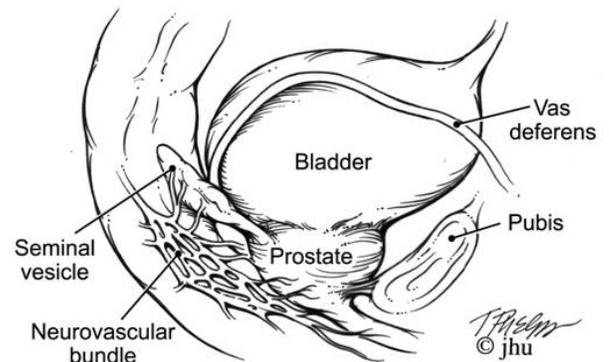
What type of anesthesia should I have and do I need to donate blood?

General anesthesia is utilized for this procedure. You will meet with your anesthesiologist to discuss a plan. It is very important to let them know if you have ever had vomiting, nausea or motion sickness after surgery. If this is the case, it would be ideal for you to start a medication the night before to prevent post-operative nausea and vomiting.

Donation of autologous blood (your own blood) usually is not necessary given the limited amount of blood loss noted by most surgeons. Blood loss tends to be less with laparoscopic surgery. The chance of needing a blood transfusion is low. If you do wish to donate blood, 1 to 2 units of blood can be stored and used if needed at the time of surgery. This needs to be arranged at a minimum of three weeks prior to surgery.

What happens during surgery?

At the time of radical prostatectomy, the entire prostate gland and seminal vesicles are removed. The seminal vesicles are glandular structures lying next to the prostate, which may be invaded by prostate cancer. Once the prostate gland and seminal vesicles are removed, the bladder is reattached to the urethra. A catheter is left in the bladder to allow drainage of urine while healing takes place. At times your surgeon may leave a "drain" (tube that drains fluid accumulations) in place for one or two days. The drain is often removed on the day of your discharge from the hospital.



Nerve-sparing radical prostatectomy

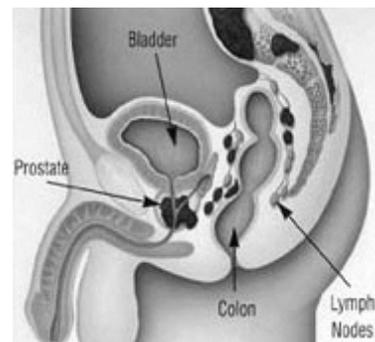
The nerves and blood vessels ("neurovascular bundles"), which allow the penis to become erect, run on either side of the prostate. The figure shows a diagram of the surrounding anatomy and the neurovascular bundles (NVB). These bundles may each be partially or completely spared during radical prostatectomy, preserving sexual function in some men. Either one or both bundles can be spared if possible. The best results are achieved if both bundles can be spared. Young men who are sexually active and report having good erections are most likely to benefit from preservation of the bundles. Older men and men who report limited erections may be less likely to benefit. 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 men may risk leaving cancer behind. The risks and benefits of nerve-sparing surgery should be discussed with your provider.

Sexual function returns gradually in men who have undergone nerve-sparing radical prostatectomy. In most men, 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. Return of erections may be facilitated by early use (even before surgery) of oral drugs (Viagra/Levitra/Cialis), penile injection therapy, or other treatments. You should discuss these and other options with your provider.

For more information, please see the Your Health Matters document *Managing Erectile Dysfunction- A Patient Guide*, which can be found in the prostate cancer page of our website urology.ucsf.edu.

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 prostatectomy is performed. No additional incisions are generally necessary.



Credit Singapore General Hospital

What should I expect after surgery?

Eating and drinking

You will begin to drink fluids shortly after the procedure. Your diet may be advanced to a regular diet on post-operative day one, depending on your progress.

Duration of hospitalization

After prostatectomy most men are well enough to go home the day after surgery. The four goals, which must be met in most cases before you may return home after surgery are the following:

- Pain control with oral medications
- Tolerating solid food
- Walking unassisted
- Adequate knowledge of the management of a Foley catheter

Drains and dressings

Abdominal incisions are closed with an absorbable suture, so no sutures or clips need to be removed. The incisions are covered with a bio-glue. The glue will gradually wear away, within a week or two.

Managing pain

There are three types of pain after a prostatectomy. It is important to know about each, and management of each type of pain since it is different for each condition:

1. Surgical Pain – A pain that is easy to localize at your incision sites as well as near the perineum (internal region where surgery was performed). Incision pain is tender to touch and/or movement. Incision pain management may include use of an abdominal binder to brace the abdomen for sudden movement, as well as use of a waffle cushion while sitting; regular use of ice packs to numb the areas of the incision pain and reduce overall swelling; use of both oral and IV pain medication which may include an anti-inflammatory like ibuprofen and/or Toradol, Tylenol as well as a narcotic. Narcotics use can be sedating, nauseating, as well as constipating, so there is an emphasis on a sparing use.

2. Gas Pain – A colicky pain that is throughout the abdomen and also can occur in the shoulders. Gas pain is very hard to pinpoint, comes on and off, and can feel quite crampy. Patients often report gas pain being the most intense pain after surgery. Gas pain is usually worst 1-2 days after surgery, and resolves once bowel function has returned. It may take a patient 1-2 days to pass gas, 3-5 days to have a bowel movement, and can take up to 2-4 weeks after surgery to get back to normal bowel function. In the hospital, gas management may include regular small walks (to help mechanically to push gas through bowels while waiting for return of bowel function); starting a stool softener and laxatives; heat packs to help alleviate gas cramps; lying on the left side in a fetal position in bed (to facilitate gas movement); minimizing narcotics (to reduce constipation side effects); encouraging small frequent meals, as well as avoiding food items that can promote indigestion (i.e. cruciferous foods, as well as greasy, heavy meals).
3. Bladder Spasms – A crampy, spasm-like pain that is over the area where the bladder is located. Patients often report either a strong urge to urinate or defecate, and/or feel a referred shock-like sensation to the tip of their penis. Initially, it is because of the surgery, and the bladder is spasming in response to being manipulated. These bladder spasms dissipate within 12 hours from the surgery, and is best managed with anti-bladder spasm medications (Ditropan, otherwise known as oxybutynin). Twelve hours after surgery, the most common reasons for bladder spasms are usually a Foley catheter not draining properly, or too much physical activity. Walking for a long a period means more times the Foley catheter rubs on the bladder, which can trigger spasms. The first item to address is emptying the Foley catheter bag regardless of how much volume may be in the bag. Often airlocks can develop, and when the Foley bag is emptied this may release an air lock. Another item to address is maximizing Foley catheter drainage. Evaluate the catheter tubing to ensure there are no kinks, and the Foley bag is properly oriented to drain by gravity. If the bladder spasms are not alleviated with these measures, then the spasms are likely due to over-activity. This is best managed by anti-bladder spasm medication, as well as putting a hot pack over the lower abdomen where the bladder is located.

Bathing

Your nurse will instruct you how to take a daily sponge or bed bath. Showers usually are permitted on post-operative day 2. Do not take a bath or swim until the Foley catheter is removed, which is likely within 7-10 days from surgery.

What you can do to help

To prevent complications, such as pneumonia and blood clots, you will be encouraged to do three things as soon as possible after surgery: walk, use your incentive spirometer (a small disposable device which encourages deep breathing) and wear your compression stockings while in bed. The nurses will instruct you on how to use the incentive spirometer and wear your compression stockings, and will assist you in walking after surgery until you can manage on your own. It is important to try to do your first walk as soon as possible. If possible, we recommend that you do a supervised walk with your nurse on the same day as your surgery. In addition, you may be prescribed an injectable blood thinner to help reduce the risk of blood clots.

Going home: what to expect

Additional information for after surgery can be found in the prostate cancer page of our website urology.ucsf.edu.

Look for the list of helpful documents on the left side of the page under Patient Information. You will see a document titled, "Radical Prostatectomy-FAQ (How to Handle Conditions That Might Occur After Surgery)"

Diet and exercise

After surgery, you **MUST** have someone drive you home from the hospital. It is normal to feel tired for several weeks after your surgery. Get plenty of rest, eat a well-balanced diet with plenty of protein and iron, and do some light exercise (such as walking) every day. You should drink enough to keep your urine clear. It is best to monitor the color of the urine in the catheter tubing, and not the urine in the bag. Urine that sits out for any length of time will get more concentrated, and have more sediment in it. The urine (in the catheter tubing) should be clear or light yellow. If the color is dark yellow or light red, you should drink more fluids.

Important activity limitations:

- no driving while the Foley catheter is in-place;
- do not lift anything heavier than 10 pounds for four weeks following your surgery;
- no exercises requiring excessive stress on your abdominal muscles or perineum (area near rectum) for six weeks. Examples of exercises to avoid are sit-ups, vigorous cardiovascular exercise, and upright bicycling. Light exercises, such as swimming, walking, jogging and stretching, can be done initially after the Foley catheter is removed. You can play golf within four weeks after surgery. It is important to remember, if you feel like a particular activity is causing either pain, blood in your urine, or causing more incontinence it is likely something you should avoid at that time. Cycling is safe 8 weeks after surgery but cyclists should use a split-channel seat to alleviate pressure on the perineum.

Driving

Driving is usually permitted after the catheter is removed. It is safe to resume driving once you have met all of the following criteria:

- you are comfortable with twisting your torso quickly so you can look over your shoulder when driving,
- the Foley catheter is removed, and you are off narcotic pain medication.

What about work and other activities?

The amount of time before you can return to work will depend on the nature of your job and your recovery progress. For office jobs, a period of 2-3 weeks after surgery is common, assuming the same criteria described for driving have been met. For jobs requiring more physical exertion, a longer time will be needed. It is common to resume relatively sedentary activities such as dining out and going to movies within 2-3 weeks after surgery, once again depending on your recovery progress. More strenuous activities will require a longer recovery time.

Caring for the incision

The incision for an open prostatectomy runs from above the base of the pubic area to below the navel. You will be able to shower for the first time on post-operative day #2. Following laparoscopy, you will have more incisions (5 to 6) but they are much smaller. They should be cared for similarly. You may also have a drain site after this surgery, and it will likely be removed prior to your discharge. There may continue to be some discharge up to 3-5 days after drain removal.

Once you leave the hospital the key words here are "clean" and "dry," showering once a day should do it.

No baths or swimming allowed until the Foley catheter has been removed and the incisions are healed completely (approximately 2 weeks). If you notice extreme or increasing tenderness, progressive swelling, more than a small amount of drainage (i.e. teaspoon) or any pus or redness at the incisions, notify your provider right away.

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 need to keep the catheter in place for approximately 7-14 days. The catheter works with gravity. You must keep the drainage bag below your bladder at all times, even when you shower. If your urine is not draining, lower the drainage bag and also check for any kinks or loops. Loops can cause an air-lock and prevent the catheter from draining. If you notice that the catheter is not draining, first try emptying your Foley bag. Then try ventilating the catheter by disconnecting the tubing where the Foley bag meets the Foley catheter and allow air into the system. Your nurse will show you how to do this before you are discharged. Ensure that your catheter is draining urine at all times. For more information refer to the videos located on the prostate cancer page on urology.ucsf.edu.

When will my Foley catheter be removed?

Your catheter will be removed in the clinic approximately 7 to 14 days after your surgery, depending on the outcome of your surgery. It's a good idea to increase your intake of fluids one hour before removal as this will help you to urinate sooner rather than later. You are expected to urinate within 4 hours of catheter removal. Stop taking Ditropan 24 hours before your appointment, as it could cause urinary retention once the catheter is removed. You will be given an oral antibiotic prior to your catheter removal. This will help prevent urinary tract infection. The actual antibiotic and duration is surgeon dependent.

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*. These are called Kegel exercises and they can be done anytime: when lying down, sitting, standing or walking. It is very easy for men to ensure they are doing Kegel exercises appropriately. You should see a slight lifting up movement in the penis when contracting your pelvic muscles. It's the same movement you would see when you abruptly stop urinating. Initially, the quality of the Kegel exercises is more important than the quantity. You should do each Kegel exercise by holding the squeeze for 10-15 seconds and then relaxing for the same duration. You should do this 5-15 times to complete one set of Kegels. We recommend you do 3-4 sets over the course of each day. These exercises will tend to decrease the amount of time it takes you to recover your continence. Do not practice your Kegel exercises while you have your Foley catheter inserted as it can cause some discomfort, and trigger bladder spasms. It is advisable to not initiate the Kegels until a day or two after Foley catheter removal. By that time, the urinary stream is stronger, and Kegels are less likely to result in urine retention. Men can also begin practicing their Kegel exercises before surgery to strengthen their pelvic floor.

At your local pharmacy you can buy incontinence pads such as "Attend" or "Depend" to protect your clothing and waterproof mattress pads to protect bedding. These can be obtained without a prescription and are available in a variety of sizes and absorbencies. Please bring one or two pads to your physician's office the day your catheter is to be removed. Your ability to maintain bladder control should improve significantly with time. Normally, continence returns in three phases: Phase I - you are dry when lying down; Phase II - you are dry when walking; Phase III - you are dry when you rise from a seated position, cough or exercise. Most patients regain very good control by 3-6 months. However, it may take more time for some patients. If adequate urinary control does not return by 12 months, consult your provider. There are several treatments available, including biofeedback, a urethral sling or artificial sphincter. It is not uncommon for men undergoing prostatectomy to have other underlying bladder problems. In these cases, additional treatments such as medications and Botox injections to the bladder might be useful. If you believe that the force or diameter of your urinary stream is slow or narrow, or if you have any difficulty or pain on urinating, notify your provider immediately. Rarely, scarring may cause blockage to the normal flow of urine. Most often, this can be treated easily by dilating the urethra.

Skin care

If you have any incontinence, your skin may become irritated (depending on the amount of urinary leakage). You may need to protect your skin with a barrier such as Desitin or A&D ointment. If you develop a rash, notify your provider.

Managing constipation

Constipation is a common side effect of pain and bladder spasm medications and sometimes can be a side effect of the anesthesia. During the time that you are taking these medications, be sure to increase your fluid intake (at least eight glasses of fluid a day), take stool softeners, and eat lots of fiber (whole grains, fruit and vegetables). Avoid cruciferous vegetables immediately after surgery as they tend to cause gas. Use the laxative and stool softener prescribed at time of discharge until you are off all medications that can contribute to constipation, and your Foley catheter is removed. It is better for stools to be a bit loose, than being constipated since straining with bowel movements are discouraged after surgery.

*Medications**

You may go home with the following medications:

1. You will be given a regimen of alternating pain medications that could include ibuprofen(Motrin), naproxen (Aleve), acetaminophen (Tylenol) following discharge. These medications reduce both pain and inflammation. You should take these for at least a few days after you go home, or until you are free of significant pain. It is best to alternate these with Tylenol to maximize the effect of the antiinflammatory and minimize the side effect of both medications.
2. A narcotic pain medication (i.e. tramadol, hydrocodone, Percocet or oxycodone), which you should take as directed by your prescription. These can cause nausea and constipation.
3. A medication for bladder spasm (i.e. ditropan/oxybutynin), which you can take up to every eight hours as needed. This can also cause constipation and drowsiness, as well as dry mouth. Stop taking ditropan 24 hours before your catheter is due to be removed.
4. A stool-softener (Colace/docusate) which should be taken as long as you are taking narcotic pain or bladder spasm medication or experiencing constipation from anesthesia unless you develop severe diarrhea.
5. A mild laxative (Senna) which should be taken as long as you are taking narcotic pain or bladder spasm medication or experiencing constipation from anesthesia, unless you develop severe diarrhea.

6. An elective laxative (MiraLAX®) which should be taken only if a bowel movement has not occurred within a 3 day period of time. You can combine with Colace and Senna.
7. A 3-day coverage of antibiotics that you will start the day prior to your Foley catheter removal to help prevent a urinary tract infection.
8. A medication for erectile restoration (Viagra, Levitra or Cialis). These medications work by increasing the flow of blood to the penis, which in turn may facilitate nerve recovery. You will be taking one of the three medications after surgery. If you do not have a strong preference for a particular medication, it is advisable to start with Cialis since it will likely be the medication you will start taking daily after your 8-10 week follow-up surgery appointment. Viagra and Levitra should always be taken on an EMPTY stomach. Cialis can be taken with food. Initially when you start Viagra, Levitra or Cialis, you take a half of a tablet two times a week. However, it is best to start these medications once you are feeling back to normal and you do not have any post-operative side effects. Usually, patients tolerate the medications well starting on post-operative day four or afterwards. If you have no side effects to the half tablet, then you should take the full tablet 2-3 times per week. This type of medication works best with stimulation. Viagra and Levitra usually will take affect within one hour, while Cialis takes a little longer to work and lasts longer. The medications can have the following side effects: change in vision, headache, stuffy nose, flushed face, and even heart palpitations. If you experience bothersome side effects, contact your urologist. You should not expect to have erections, although they may occur. It can usually take 6-8 weeks to start getting erections from these medications. Taking these pills early after surgery is meant to improve the likelihood that you will have good recovery of function later.
9. A neuro-protective medication (Trental, otherwise known as pentoxifylline) that has been shown in some studies to help decrease injury to nerves and facilitate nerve recovery.

If you are reading a hard copy, please also refer to this link for the most up to date information:
<http://urology.ucsf.edu/patient-care/cancer/prostate-cancer>

Below is a table of scheduled medications to take after surgery.** Be mindful this is a generic document and UCSF patients will be given specific discharge instructions. If there is a conflict between these two documents, please follow your discharge instructions. The “as needed” medications are not included in the calendar below.

POD=Post-Operative Day

POD 0	POD 1	POD 2	POD 3	POD 4	POD 5	POD 6
Surgery Day	Discharged Home!	Start Showering!				
Colace	Colace	Colace	Colace	Colace	Colace	Colace
Senna	Senna	Senna	Senna	Senna	Senna	Senna
Tylenol	Tylenol	Tylenol	Tylenol			
Ibuprofen	Ibuprofen	Ibuprofen	Ibuprofen			
POD 7*	POD 8*	POD 9*	POD 10*	POD 11	POD 12	POD 13
	Day Prior to Foley removal	MORNING OF Foley catheter removal				
Colace	Stop	TAKE	START	Colace	Colace	Colace
Senna	Ditropan	antibiotic	Cialis/Levitra/	Senna	Senna	Senna
	Colace	for catheter	Viagra	START	Pentoxifylline	Pentoxifylline
	Senna	removal	(starting day	Pentoxifylline		
		Colace	after Foley	(2 days after		
		Senna	catheter	Foley		
			removal)	catheter		
			Colace	removal)		
			Senna			

This calendar is an example as if you got your Foley catheter out on day 9; adjust timing for your designated Foley catheter removal. These recommendations are typical and may vary from what your physician may be prescribing. Please speak to your physician before beginning or changing any treatment.

*See medication instructions for POD 11 and POD 12 if having early removal of Foley catheter.

**If you are experiencing any post-surgery discomfort, dizziness, flu-like symptoms, or other generalized symptoms of fatigue and/or weakness do not start Cialis/Levitra/ Viagra

What about sex?

Erectile dysfunction (ED), “the consistent or recurrent inability of a man to attain and/or maintain a penile erection sufficient for sexual performance,” is a common result of prostatectomy. The level of ED that results after surgery depends on the degree of nerve-sparing surgery that was achieved as well as other factors: age, other medical conditions, medications, lifestyle, depression and anxiety. Unassisted sexual function may not begin until six months or more after surgery; however, it usually continues to improve over the next two to three years. Some men may not recover sufficient function for 18 to 24 months, some even longer. Your provider will discuss available treatments for erectile dysfunction. These include oral medications, intra-urethral suppository (MUSE), penile injections, vacuum devices, and penile prosthesis.

Keep in mind that pleasuring, cuddling and other loving activities can still take place regardless of erectile issues.

What about fertility?

Although men continue to make normal sperm in their testes throughout their life, after radical prostatectomy men are no longer able to ejaculate. This is because there is no longer a connection between the testicles and penis through which sperm normally travels. For men interested in protecting their ability to father children we offer a full range of fertility preservation services including pre surgery sperm banking. In conjunction with the urology oncology group our male reproductive health team provides counseling and treatment. For further information please refer to http://coe.ucsf.edu/ivf/fertility_preservation.html or call at 415/353.9115

Is there anything else I should know?

Swelling and bruising of the abdomen, penis and scrotum occur commonly after radical prostatectomy. This is temporary and should resolve within two to three weeks. Swelling of the arms, legs, and even in the scrotum is common initially after surgery. Patients typically gain 5-20 pounds of fluid weight from surgery that usually resolves within 1 to 2 weeks after surgery. If you have unequal swelling or pain in your arms or legs, call your urologist since this is abnormal, and the possibility of a post-operative clot needs to be evaluated.

What is the pathology report and how do I interpret it?

Once the prostate gland and lymph nodes are removed, a pathologist will coat the removed tissues surrounding the prostate with ink and fix all the tissues in substances that preserves the architecture of the tissues and allows the pathologist to detect the extent of the cancer using the microscope. The specimen is coated with ink to allow the pathologists to determine how close any cancer comes to the edge of the specimen. There are at least three features which are important in the pathology report: cancer grade, cancer stage, and margin status. The pathology report generally takes 1-2 weeks to come back. Your provider will review it with you.

Cancer grade

Cancer grade refers to how malignant cancer cells look through the microscope. Most often grade is assessed using the Gleason grading system named after the pathologist who developed it. Gleason grade is 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 is relatively non-aggressive. A grade of 5 is assigned to cancers that appear aggressive and differ significantly from benign tissue. Two grades are given: - a primary and secondary grade. The primary grade - assigned to the dominant pattern of the tumor, the secondary grade - assigned to the next-most frequent pattern. When added together, a total sum or Gleason sum is obtained. This sum can range from 6 to 10.

Cancers with both primary and secondary grades of 3 tend to have a better outcome (lower chance of recurrence), compared to cancers of higher grades. Cancers with grades of 4 and 5 (sum of 7 to 10), tend to have a higher chance of recurrence. A word of caution about Gleason sum 7 cancers (3+4 or 4+3): Gleason grade 3+4 cancers are associated with a lower risk of recurrence compared to grade 4+3 cancers.

Cancer stage

Cancer stage is a measure that defines the extent of a tumor. T2 cancers are those completely confined to the prostate. T3 cancers are those that have gone beyond the prostate, either through the capsule of the prostate, (T3a), or into the seminal vesicles, (T3b). Patients with T3 cancers are at an increased risk of cancer recurrence compared to those with T2 cancers. T4 cancers are rare and include cancers which have invaded nearby organs such as the bladder.

Margins

It is the goal of surgery to remove all the cancer. A positive margin means that the pathologist notices that cancer cells are at the very edge of the specimen, touching the ink that was applied during initial processing of the specimen. The pathologist will note the number and location of any positive margins. Those patients with positive surgical margins are at an increased risk of cancer recurrence as this may be an indication that some cancer may be left in the body. Patients with more than one positive margin are more likely to have the cancer recur compared to those with a single positive margin. Patients with an extensive positive margin (large area where the cancer is in contact with the edge of the specimen) are more likely to have recurrence of their cancer compared to those with a very small area (focal positive margins) where the cancer just touches the edge.

It is important to note that most patients with focal positive margins are cured by prostatectomy alone and do not require further treatment. Depending on the number and extent of margins, your physician may recommend post-operative radiation to decrease the risk of recurrence.

Assessing Risk

A major challenge in prostate cancer is determining which men need more or less aggressive treatment of their disease. UCSF developed a version of the widely used Cancer of the Prostate Risk Assessment (CAPRA) score to be used after surgery by adding surgical pathology data from radical prostatectomy to predict recurrence and mortality. This score is called CAPRA-S, and it can help us identify patients who may benefit from more aggressive treatment.

The CAPRA-S risk score is computed from diagnostic PSA plus the final Gleason grade, stage, surgical margin and nodal status after RP. Patients with multiple “adverse” pathologic characteristics—such as high grade cancer (3+4 or higher), positive surgical margins, extension of the cancer outside the margins (pT3 stage) or into the lymph nodes—are usually at greater risk of recurrence and in some cases will require additional treatment at some point. In fact, for many men with aggressive prostate cancers, the best treatment approach may be a combination of surgery, radiation, and other treatments.

The timing and the type of additional treatment vary and it can be difficult to determine what the best treatment regimen will be for a given patient. Emerging tests based on specific cancer-related genes may be able to help. UCSF has become a leader in validation studies for candidate biomarkers. We helped validate two studies: Prolaris (Myriad Genetics) and Decipher (GenomeDx Biosciences), which add genetic information to the surgical pathology characteristics. We found that using these tests plus CAPRA-S can more accurately predict whether recurrence will occur compared to using CAPRA-S alone.

Do I need any additional treatment?

Many patients do not need any additional treatment after a radical prostatectomy. 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. Your ultra-sensitive PSA should drop to undetectable levels after surgery. It is important to note that your PSA result will not be zero. An undetectable PSA is considered to be less than the lowest number the lab is able to test (as of this writing, less than .015 for the ultra-sensitive test utilized at UCSF, and less than 0.1 on the regular PSA used at some other institutions). It also is important, when getting your blood drawn for a PSA, that you go consistently to a facility that utilizes the same lab since measurements can vary among different labs.

All patients should have regular check-ups including routine PSA blood tests (traditionally every 3-4 months for the first year; every 6 months for the 2nd year; annually thereafter). Patients with rising or detectable PSA may need tests more frequently. In some cases, imaging tests (bone scan, CT scan, MRI, PET/CT scans, etc.) and/or genomic testing (e.g., Decipher) may be performed. If you have a recurrence of prostate cancer after surgery, then radiation, hormonal therapy or other treatments may be appropriate, depending on the details of the situation.

How often do I need to see my provider?

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

What other resources are available?

UCSF offers many resources to assist prostate cancer patients. 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 415-885-7210

All men 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

African American and gay men and their spouses/partners have additional support groups available:

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 UCSF Cancer Resource 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

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 provider and those around you. Good communication is important to recovery. Visit the UCSF Cancer Resource Center for 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 Cancer Resource Center.

The Symptom Management Service at UCSF offers treatment and counseling for physical and emotional symptoms of cancer. Assistance includes help with pain, fatigue, depression, anxiety, advanced-care planning and spiritual issues. Treatments integrate medical, psychological, social work and spiritual approaches, which are offered along with regular cancer care. Care is coordinated with cancer treatments and with the support of patients' providers. They can be reached by calling 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, integrative practitioners are better able to relieve suffering, reduce stress and maintain the well-being of their patients. Call 415-353-7700.

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.

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.

