

Recovery of Erectile Function After Radical Prostatectomy

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Postoperative erectile dysfunction is a potential risk of surgery for prostate cancer, whether the operation is performed through an open surgical incision or with a robotic-assisted laparoscopic approach. The information on this sheet is intended to inform patients about recovery of erectile function and measures which can be taken to help the process.

Why does erectile dysfunction occur?

Located immediately adjacent to the prostate are the nerves and blood vessels necessary for erectile function. The nerves in the so-called neurovascular bundle are not responsible for penile sensation or a man's ability to obtain an orgasm. With stimulation, it is possible for a man to achieve orgasm even without an erection. The nerves are responsible, though, for causing dilation of the blood vessels necessary for penile rigidity. Even with the techniques for nerve preservation, some trauma to the nerves occurs during the surgical procedure. The likelihood of postoperative recovery correlates with how good a job the surgeon does, but also with patient age and preoperative erectile status.

What to expect after surgery

Since some trauma to the nerves occurs almost inevitably during the surgical dissection, most men have at least some difficulty obtaining adequate erections shortly after surgery. Recovery of nerve function after trauma is a long process. In fact, patients show gradual improvement in erectile function for up to three years and sometimes even longer after the radical prostatectomy. A typical patient who is ultimately going to have a good result, may be achieving around 50% of a normal erection six months after surgery. After one year, around half of men can obtain enough firmness for penetration and successful intercourse. Men in their 50's or early 60's do better than older patients.

What can be done to speed things up or improve results?

Periodic efforts to stimulate an erection and use of different medicines or assistance devices can allow intercourse before completely natural penile erections return. Importantly, using one of these methods to prompt an erection can also improve the chances of normal recovery.

Typically, we discuss erectile function when a man returns for a visit about six weeks after surgery. This is also when the first postoperative PSA is obtained. Also, at this visit,

we usually encourage a man to begin using one of the available drugs for erectile dysfunction. There are three such drugs currently approved by the FDA:

Viagra – The most commonly prescribed dosage levels are either 50 or 100 milligrams. We will usually prescribe 100 milligrams early after surgery since erections at that time point, generally, are relatively poor. It is best to wait 40-45 minutes after taking Viagra before attempting intercourse. The drug effects usually last for 4-6 hours. The most common side effects are facial flushing, some temporary blue/green visual color disturbances, and headache. The Symptoms may diminish as further doses are taken.

Levitra – We usually use a dose of 20 milligrams of Levitra. Waiting 30 minutes after taking the medicine before attempting intercourse is best and the effects last 4-6 hours. Headache and facial flushing are side effects but, visual color disturbances are less common than with Viagra.

Cialis – The full dose of Cialis is 20 milligrams. The drug is slower to work but the effects last longer (up to 36 hours). Again, headache and facial flushing may occur as well as some muscle or backache.

None of these medicines should be taken by men who use or even carry Nitroglycerine tables. Also, Levitra and Cialis should not be used in men who use a category of drugs called Alpha Blockers for treatment of hypertension. Be sure to remind your doctor of any medicines you take before any of these drugs are prescribed. None of these drugs appear to be better than the other in causing erections, although it is common for men to try different ones to see if there is one which works better for him. In the early period after surgery, we usually prescribe either Levitra or Viagra since their onset of action is relatively rapid. Cialis is a good drug to use when a man can count on it being effective, but we prefer the shorter acting drugs when it is a trial and error process.

Do I have to wait six months or longer to begin having intercourse ?

It is important for a man to attempt to stimulate erections periodically in order to improve his chances ultimately of having a good result. We recommend that at least once or twice a week that one of the drugs mentioned above be taken and efforts made to stimulate an erection. This can be a frustrating process at first. If recovery of erectile function is not occurring quickly enough and a man wants to pursue things more aggressively, there are several options:

Vacuum Pump Devices – The appeal of this method is its non-invasive nature. These medical devices consist of a plastic tube which is placed over the penis and a hand or battery pump which creates a vacuum and sucks blood into the penis. There is then a constriction ring placed around the base of the penis to hold the blood in place. Although this seems to be quite awkward, many patients have excellent results. The doctor can give you a brochure and prescription and the device can be obtained by mail or at pharmacies. They usually cost around \$400 but often are reimbursed by insurance, depending upon your particular plan.

Injection Therapy – Another commonly used method of a self-administered injection into the penis of a drug which dilates the blood vessels in the penis and causes an erection. The shot is given at the base of the penis using a small needle and it is not difficult to learn. Usually, a good erection occurs within a few minutes of administration and the erection lasts anywhere from 20-45 minutes. Sometimes, the erection can be excessively prolonged. Any erection lasting longer than four hours requires immediate attention so that the blood can be irrigated from the penis to avoid problems with obtaining erections in the future.

Many men are reluctant to take the step of performing penile injections. However, this is an easily learned technique and it can allow early resumption of intercourse. Further, prompting erections by this method may improve the chances of recovery of normal erectile function. Starting a program of self injection requires an office visit with a supervised injection and additional instructions.

MUSE – This is a suppository which is placed in the end of the urethra. The medicine in the suppository is quite similar to that used for the injections. It is less effective than injections but works in some men.

Penile Prosthesis - This is an operation to insert an inflatable devise in the penis. A penile prosthesis is quite effective and can allow a man to resume sexual intercourse if he never recovers sufficient erectile function on his own. A penile prosthesis usually is not considered for a year or more after a radical prostatectomy because it takes at least that long to determine whether erectile function is going to return ultimately.

Regaining erectile function is usually the slowest and, often, most frustrating aspect of recovery from a radical prostatectomy. Keep in mind the following:

- Ultimately, most men who had good erectile function before surgery will regain sufficient erections after a radical prostatectomy.

- Recovery is a long process, sometimes stretching into years.
- Working at trying to obtain erections will help you regain spontaneous, normal erectile function.
- There are various methods which can help you achieve erections and have satisfactory sexual intercourse while you are waiting for normal erectile function to return.
- All men (and couples) are different. There is no “normal” in how aggressively a man wants to pursue regaining erections and how important erectile function is to a particular man. Some men are less willing than others to push things along and try injection therapy or other methods. It is the doctor’s job to make you aware of what is available, but your responsibility to decide what is best for yourself. Do not hesitate to openly and honestly discuss this with your doctor.

Penile Rehabilitation

Postoperatively you will be given samples of Levitra. You can only get these samples in the Medical Center East pharmacy at Vanderbilt University Medical center. You will be given 10 mg samples and 20 mg samples. Have the prescription filled at the pre-surgery visit.

Week 3 and Week 4:

1. Beginning the third week after your surgery, take one 10 mg levitra and cut it in half (5 mg). Take Levitra 5 mg a day for 6 days. During this time you do not need any sexual stimulation.
2. On the 7th day, take Levitra 20 mg with sexual stimulation.

Week 5 until 3 months Postoperatively

1. Take Levitra 20 mg with sexual stimulation at least once a week. Three or four times a week (on the days you are NOT taking the 20 mg tablets) take 5 mg of Levitra without sexual stimulation. You will need to break the Levitra in fourths to take the 5 mg dose.

General Concepts:

1. If you are getting erections strong enough for intercourse with these pills you are encouraged to obtain regular erections using the medication. This does not mean you need to have sexual intercourse with each erection. The most important purpose in taking the medication at this time is to stimulate blood flow to the penis.
2. Sexual stimulation can be with or without a partner.
3. If you take Nitroglycerin, we will need a written and/or faxed letter from your cardiologist or primary care provider that gives you clearance to take an erectile dysfunction medication. Fax permission to: _____.

Example Calendar

| | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--------|---|--------|---------|-----------|----------|--------|----------|
| Week 1 | No Medication Week 1 | | | | | | |
| Week 2 | No Medication Week 2 | | | | | | |
| Week 3 | 5 mg | 5 mg | 5 mg | 5 mg | 5 mg | 5 mg | 20 mg |
| Week 4 | 5 mg | 5 mg | 5 mg | 5 mg | 5 mg | 5 mg | 20 mg |
| Week 5 | | | | | | | 20 mg |
| Week 6 | | | | | | | 20 mg |
| | Take 20 mg at least once a week. **Not more than 1 per day** | | | | | | |