

Robotic Radical Prostatectomy **for clinically localized prostate cancer**

I. Knowing your condition:

While prostate cancer is the second most common type of cancer in American men and the second leading cause of cancer death in men, it is highly curable when diagnosed and treated early. One in six men will be diagnosed with prostate cancer, yet only one in 35 will die from the disease. The risk associated with early-stage prostate cancer ranges from minimal risk of having any problems from the disease to very aggressive tumors which may become life threatening. Determining the risk and necessity of treatment in a man with prostate cancer requires a thorough and accurate diagnosis and evaluation.

The prostate gland is in a delicate location in the male reproductive system just below the urinary bladder and is surrounded by nerves important for erectile function. Surgical removal of the prostate (radical prostatectomy) is one of the treatment options for clinically localized (early stage) prostate cancer. Surgical removal requires great care to maximize the chance for cure while balancing the need to optimize post-operative urinary control and erectile function. Robot-assisted laparoscopic radical prostatectomy (RARP) has emerged as an attractive option among the surgical treatment for men with early-stage prostate cancer. We are achieving equivalent results to the standard open surgical approach with smaller incisions, less pain, less blood loss, fewer complications, and shorter recovery times. One of the primary benefits of incorporating robotic assistance is that the surgical field is magnified 10-15x and the robotic arms with tiny instruments allow the surgeon to operate in a narrow area as if his or her own hands were inside the body doing the operation.

Urologic surgeons typically make 5-6 tiny incisions in the patient's abdomen through which a camera and the robotic instruments are inserted. The surgeon operates the robot sitting at a console away from the patient. The camera permits the surgeon a magnified 3-dimensional view inside the body of the patient. The surgeon directs the robot's miniaturized instruments to remove the prostate gland and seminal vesicles while preserving the nerves and continence mechanisms, as is feasible. An assisting surgeon, standing by the patient, changes the various robotic instruments as needed to perform their delicate movements deep within the pelvis of the patient.

As with open radical prostatectomy, the robot is used to remove the entire prostate gland, seminal vesicles, and some surrounding peri-prostatic tissue depending on the pre-operative pathology information from your biopsy and imaging tests. Occasionally, a specimen is collected and sent for a "frozen section" where the pathologist will in real-time during the operation assess this sample tissue for cancer outside of the prostate. The results of this frozen section can occasionally lead to changes during the operation in an effort to optimize the cancer control. Pelvic lymph nodes may also be removed during the operation ("pelvic lymphadenectomy") to determine if the cancer has spread to these lymph nodes based on individual risk assessment and pre-operative discussion.

Depending on your pre-operative "risk stratification," which is based on clinical information including your PSA, biopsy results, prostate examination, and imaging, typically one of two procedures will be recommended:

- **Robotic Radical Prostatectomy:**

Robotic surgery to remove the prostate and seminal vesicles. The urethra then surgically connected to the bladder to form an “anastomosis” (new connection) where the prostate used to be. A pelvic lymphadenectomy (reviewed below) is typically not performed if, based on your risk stratification, there is a 2% or less chance that there could be lymph node involvement with prostate cancer.

- **Robot-Assisted Radical Prostatectomy with Pelvic Lymphadenectomy:**

Pelvic lymphadenectomy is typically performed if, based on your risk stratification, there is a greater than 2% chance that there could be lymph node involvement with prostate cancer. This typically adds approximately 30-45 minutes to the operation to accomplish and there are unique risks including lymphocele formation (fluid collection of lymphatic fluid around the lymph node dissection site, which can occasionally become infected). There are major nerves and blood vessels that surround the site where lymph nodes are dissected and care is taken to prevent injury to these structures.

II. Pre-Operative Instructions (before your surgery):

Depending on your other health problems, a consultation with a cardiologist or other physician may be necessary to make sure that you are healthy enough to undergo the procedure and to make sure that your risks of complications are minimized. The pre-operative evaluation consists of a history, physical exam, blood tests, and a urine sample. It may additionally include a chest x-ray, electrocardiogram, and other tests as needed such as CT, MRI, bone scan, or PSMA PET Scan. You may also be requested to meet with an anesthesiologist and/or your primary care physician for pre-operative visits who will review your medications and answer your questions about the anesthesia you will receive. Please follow their advice very carefully.

It is important to stop your blood thinners (antiplatelet agents and/or anticoagulants) prior to surgery in coordination with your prescribing physician to minimize the risk of significant bleeding during surgery. These medications include (but are not limited to): aspirin, Plavix (clopidogrel), heparin, Coumadin (warfarin), Xarelto (rivaroxaban), Eliquis (apixaban), Pradaxa (dabigatran), Lovenox (enoxaparin). Aspirin, Aggrenox, ibuprofen, naproxen, Indocin (indomethacin), or Bufferin should be discontinued seven (7) days prior to your surgery. Plavix should typically be stopped 5-7 days prior to surgery. Coumadin / Xarelto / Eliquis / Pradaxa / heparin / Lovenox should typically be stopped at least 3-5 days prior to surgery as recommended by your prescribing physician. Depending on the need/indication/risk of holding for these medications there may be some flexibility regarding these drugs. If you have any questions or concerns, please speak with your prescribing physician. The decision to hold these medications may carry inherent risk and should be coordinated with your prescribing physician. Please ensure that we are informed of all medications you take at home.

Kegel Exercises – “Kegels”:

- We recommend that you perform a set of repeated exercises known as Kegels (pronounced KAY-gul) 2-4 times daily after your surgery once your Foley catheter comes out. Instructions for these are provided at the end of these handout. However, these exercises *can be started prior to surgery, which will help in the recovery of urinary control after surgery*. We strongly recommend you familiarize yourself with Kegels before surgery to practice and be comfortable doing them post-operatively.

After your surgery has been scheduled you will be given further instructions, please go through all of these carefully. In general, you should:

- Make sure to review your pre-operative advice for the medications you need to take.
- Avoid stress in the days leading up to your operation.
- Avoid taking dietary supplements and over the counter medications 2 weeks prior to surgery as they may cause bleeding or other unexpected reactions.

- Let your treating doctor know about all of the medications and supplements that you are taking.
- The day before your surgery eat only light meals with only clear liquids after breakfast. Clear liquids include water, apple juice, Jell-O with no fruit, coffee with no cream, tea, and any soda. Milk, coffee creamer, dairy products, orange juice, grapefruit juice, any juice with pulp, and combination juices are NOT clear liquids.
- Please take two tablets of Dulcolax® (bisacodyl) the afternoon on the day prior to surgery. If you have problems with constipation then please follow the instructions of your primary care physician / gastroenterologist. This is to make sure your bowels are cleared prior to your operation. These medications are available over the counter. After your surgery we want to avoid constipation and will typically prescribe a stool softener at the time of discharge. While you are admitted to the hospital post-operatively you will typically be prescribed suppositories and/or enemas to minimize the risk of constipation / ileus post-operatively.
- Have nothing to eat or drink after midnight the night before your surgery. Cape Cod Hospital will contact you the day before surgery to go over final instructions with you regarding your diet pre-operatively. Please follow their instructions carefully. Clear liquids are anything you can see through. Examples of clear versus non-clear liquids:

	Choose these foods/beverages	Do not eat these foods/beverages
Fruit/Juices	Clear fruit juices without pulp such as apple, grape, and cranberry juice	Nectars, canned, fresh or frozen fruits
Soups	Broth, bouillon, fat free consommé	Cream soups, soups with vegetables, noodles, rice, meat or other food in it
Beverages	Coffee, tea (hot or cold), Kool-Aide, soda, water, lactose free supplements if recommended by your doctor	All others
Sweets and desserts	Fruit ice (without chunks of fruit), plain gelatin, clear hard candy, popsicles made from clear juices	All others
Vegetables	None	All
Milk and dairy products	None	All
Breads, cereals and grain products	None	All

- Follow the instructions given by your anesthesiologist and hospital staff.
- Take your medications on the morning of your procedure as instructed by your surgeon, anesthesiologist, primary care provider, AND/OR staff.
- Bring a relative or friend to assist you on the day of surgery.
- We also encourage deep breathing, meditation, and/or physical exercise so you will be relaxed as possible on the day of surgery. Furthermore, for our overweight patients, we encourage for you to make a serious attempt to lose weight in the weeks leading up to your surgery. Weight reduction can make the operation easier, reduce the risk of complications, and improve surgery results.

III. Post-operative & Discharge Instructions (after your surgery)

Dietary Advice:

- Typically, immediately following surgery, you will be restricted to a liquid diet. The morning after surgery, after a trial of liquids and if you are progressing as anticipated, you will typically be permitted to have regular food.
- It is important to note that you do not need to eat / drink everything on the plate and your appetite will be somewhat lower than it was before surgery.

- At first, you should start by eating small meals frequently throughout the day and ultimately building up to the normal 3-meals-per-day.
- We strongly recommend taking all efforts to avoid constipation, especially in the first few days/weeks after surgery. Straining to have a bowel movement puts pressure on the surgical site inside your abdomen and at the incision sites, increasing the risk of hernia formation. To minimize the risk of constipation, stay well-hydrated, increase roughage in your diet, and drink prune juice or orange juice. If necessary, please take an over-the-counter stool softener or laxative of your choice. We typically prescribe a stool softener called docusate (Colace®) at your discharge from the hospital. Polyethylene glycol 3350 (MiraLAX®) is often administered during your hospitalization and is a laxative that can be taken as needed at home (over-the-counter).
- If you notice blood in your urine, increase your fluid intake to dilute the urine. This is expected after prostate surgery.
- In the first few days after surgery avoid carbonated drinks such as soda/carbonated beverages.
- Drink 8-10 glasses of water/fluid every day if you do not have any fluid restrictions to make sure you remain hydrated after surgery.

Movement/Activity:

- Walking is critically important after surgery. One of the major benefits of robotic surgery is the improved pain relative to open surgery, and in most cases, we will advise you to start walking the same day as surgery. Walking encourages early return of bowel function (allows you to pass gas and have a bowel movement sooner than you otherwise would have), effective breathing, mobilizes secretions, improves circulation, reduces the risk of blood clots and pneumonia, prevents stiffness of the joints, and relieves pressure. The goal is to be walking in the hall for approximately 2-3 hours/day while you are awake.
- If an activity hurts, stop doing it.
- Do not sit in one place for longer than 90-120 minutes at a time.
- Avoid heavy lifting (greater than 10 lbs) which is approximately the weight of a gallon of milk for approximately 4-6 weeks. This reduces the risk of hernia formation at the incision sites. Avoid strenuous activity for at least 2-4 weeks. Stairs should not be a problem. Take them slowly and use support if needed.
- Place your hand over your incision sites (especially the incision where the surficial specimen was removed, usually the largest incision present) while coughing, straining, and during bowel movements. Absolutely NO biking, motorcycling, or horseback riding for 4 weeks after surgery.
- You can do as much walking and stair climbing as you can tolerate. Go slowly and work your way back to your pre-surgery activity level.
- You may shower 48 hours after surgery. Do not scrub your incisions, simply allow soap and water to run down over them. Gently pat your incisions down after your shower. Do NOT tub bathe/swim/submerge your incisions under water for 4 weeks after surgery.
- Do not drive if a catheter is in place at the time of your discharge and while taking pain medications. If you have any pain that would make it difficult to stop the car suddenly you should not be driving.
- Avoid bending at the waist when possible. If you must pick something up, bend with your knees, not your waist. Stoop to pick up the item.
- Continue judicious walking when you are discharged home following your hospitalization. This will help you build back your strength and speed up your recovery. Gradually increase the amount walking each day but do not “over-do” it. It is best to take short frequent walks throughout the day and gradually increase the distance you walk each time. Take planned rest periods during the day. The best gauge is your own body and how you feel. Walking also reduces the risk of blood clots forming in the legs.

Abdominal Incisional Sites/Incisions:

- You will typically have approximately 6 port sites (small incisions through which the robotic instruments are inserted into the body) that are typically closed with absorbable suture material and skin glue (Dermabond). Occasionally these skin sites are closed with staples which typically should be removed at your follow-up appointment. There may be gauze dressings over these incisions which should be removed within 48 hours after surgery.
- A small amount of drainage from the incisions can happen. Please do not apply any lotions, creams, alcohol or hydrogen peroxide to your incisions as this will interfere with the protective covering. This skin glue will dissolve and fall off over time. Do not scrub the incisional sites.
- If there is pus or bad smelling fluid draining from an incision or if the incisions become red and painful, contact our office immediately as these can be signs of infection.

Urinary/Foley Catheter:

- When you wake up from surgery you will have a urinary (Foley) catheter in your bladder. A Foley is a tube carrying urine from your bladder into a urinary bag. This catheter is held inside your bladder/in place by a fluid balloon inside the bladder that is attached to the catheter.
- The catheter will remain in place when you leave the hospital. It typically stays in place until your newly created bladder and urethra “anastomosis” (connection) heals, which typically takes approximately 7-10 days. Your surgeon will instruct you regarding the timeline for removal.
- At home overnight, the catheter should drain into a large urinary bag (not the “leg bag” which will get full if not switched out for overnight, leading to backup of urine into the bladder, which could damage the anastomosis). The large bag (for night use) and a small bag (for day use) along with instructions for changing them will be provided to you at the time of discharge (please ask if you do not understand).
- It is normal to feel some pressure and discomfort from the catheter. It is also common to experience some blood in your urine or around the catheter when moving your bowels. Always make sure the tubes are not kinked or blocked so the urine flows freely. Take stool softeners and/or laxatives, as above, as needed to avoid straining and constipation.
- If the catheter falls out on its own it is critical you notify your doctor or go to local emergency where they can replace the catheter. Always inform the physicians and nurses who take care of you in the future that you have had a “radical prostatectomy” as this may require the assistance of a urologist to place the catheter, especially if very close to your surgical date.
- DO NOT ALLOW A NON-UROLOGICAL PHYSICIAN OR NURSE TO REPLACE YOUR CATHETER IF YOU JUST HAD SURGERY. This could affect the anastomosis where the bladder has been re-attached to your urethra during surgery.
- It is common to experience bladder spasms with your catheter in place. Leaking around the catheter is usually from a bladder spasm however if your catheter is not draining, please notify our office because it could be obstructed. You may be given a prescription for bladder medication (anticholinergic or sympathomimetic) to be taken as needed for spasms.

Abdominal Drain

- At the conclusion of your surgery, you may have a small drain coming out of the abdomen. This is used to drain excess or collected blood/fluid from the surgical site if deemed necessary in the operating room. Typically, this will be removed prior to discharge home in your hospital room. This does not require anesthesia to remove and should be mildly uncomfortable but not significantly painful.

Pain Medication

- It is expected to have some pain after surgery. Your nurses and physicians will monitor your pain level and adjust medications as needed to keep your pain under control and manageable. We use a combination of pain medications after surgery, and many do not require opioid (“narcotic”) medications after robotic surgery due to the minimally invasive nature of the surgery.

Incentive Spirometry

- You will be provided with a plastic device after surgery to expand your lungs to prevent post-operative pneumonia/respiratory complications and ensure recovery. This will be used throughout your hospital stay. It is recommended that you use this device approximately 10x per hour while you are awake. We encourage patients to use this device prior to surgery if possible/available.

Sequential Compression Devices (SCDs)

- These devices will be applied to your lower legs and will inflate/deflate periodically to improve the circulation in your legs. These devices, occasionally in combination with medications to thin the blood around the time of surgery, help prevent blood clots from forming in your legs.

Foot exercises

- Recommended to additionally help prevent blood clots from forming. Begin with pointing your toes towards the foot of the bed. Then point your toes up to your face. Repeat this simple exercise as frequent as possible while you are awake.

Routine/General Instructions:

- Pathology results are typically available in 5-7 business days. You are discharged home prior to final pathology results. Your doctor or staff member from the hospital will discuss this with you over the phone or at your follow up visit. The pathology results may be made available to our patients via the MyChart online portal prior to your follow-up visit. You may choose to review your pathology results prior to your follow-up visit however some aspects may be difficult to understand without our explanation and insight. Rest assured, your pathology results (if available) will be reviewed closely at your follow-up appointment and all we will be happy to answer any and all questions at that time.
- As discussed above, we advise that Kegel exercises be started in the early post-operative period. These should be performed 3-4 times a day once the catheter comes out. These will help to strengthen the muscles around your bladder to help prevent the leakage of urine. However, when you are urinating after the catheter comes out, do not start and stop, but try to finish your urination in one go. The start and stop technique should be employed in the pre-operative period to help you understand the muscles which need to be strengthened.
- If you are experiencing perineal pain (pain between your scrotum and rectum) after surgery, please wait until this has subsided (sometimes 2-6 weeks) before beginning Kegel exercises. Feel free to take acetaminophen (Tylenol®), use hot fomentation, and/or cold compresses to help alleviate this pain.
- Sometimes, after surgery, your abdomen will be distended and it may be difficult to fit into your regular pants. It is advised that you wear elastic waist pants for comfort. You may consider bringing underwear one size large than usual to the hospital to wear after surgery to optimize your comfort.
- The recovery of continence and erectile function after a radical prostatectomy will not occur immediately. Even though nerves may have been preserved there is still some amount of trauma or stretching from the operation which will require time to heal. Urinary continence recovery may take several months and sometimes even up to 12 months. A small percentage of men (5-10%) do not recover urinary control at 12 months.

- Erectile function recovery is variable and may take 6-12 months; recovery may go on up to 18 months on occasion. Not all men are able to regain erectile function following RARP due to the nature of the surgery and pre-operative erectile function, however we encourage all patients able to obtain erections pre-operatively to consider our penile rehabilitation protocol (outlined later in this document) in an effort to optimize the recovery of erectile function after surgery.
- You must discuss these aspects of your care with your doctor or APP at your follow up visit.

Minor problems you may encounter after radical prostatectomy:

- Bruising around the incision sites: this is not uncommon and should not alarm you, this typically resolves over time.
- Mild abdominal distention, constipation, or bloating: make sure you are taking your stool softener and/or laxative as directed. You can have abdominal distention which may persist for 1-3 days, which occasionally can be caused by a condition called ileus (slow bowels). If you do not have a bowel movement or feel uncomfortable 48 hours after surgery, try taking a stool softener or laxative as directed. If you still have not had a bowel movement, it is safe to use a Dulcolax® suppository or enema. Increasing the amount of fiber in your diet and your water intake is strongly recommended.
- Scrotal/Penile swelling and bruising: this is typically normal. It may appear immediately after surgery or may start 24-48 hours after surgery. Your scrotum may swell to approximately the size of an orange. This may take as long as 2 weeks to return to normal size. You may also try elevating your scrotum on a small towel and you can wear a scrotal support or tight-fitting underwear. You can take acetaminophen (Tylenol®) or ibuprofen (Motrin®), available over the counter, unless there is a contraindication in your specific case.
- Small amounts of bloody drainage around the Foley catheter or in the urine: this is common, especially after increasing activity or following a bowel movement, and should improve over time. Please avoid excessive straining to have a bowel movement and take stool softeners as directed.
- Leaking urine around the catheter: you may have some urine that leaks around the catheter. If this happens you may need to wear a pad inside your underwear for protection/absorption. This may be from a bladder spasm. Please call, however, if you are noticing a significant amount of urine leaking around the catheter and/or no drainage through the catheter to the urinary bag itself, as this could be representative of the catheter being displaced or obstructed, and you should call our office, as below.
- Bladder spasms: Bladder spasms occasionally occur while the catheter is in or shortly after the catheter is removed. You may feel mild to severe bladder pain or cramping, the sudden/urgent need to urinate or a burning sensation when you urinate. Please call us if this persists as there are some medications that can be prescribed to relieve your discomfort.
- Perineal pain/testicular discomfort: This is a pain between your rectum and scrotum and may also be felt as testicular discomfort. This may last for several weeks after surgery, but typically resolves. You can try acetaminophen (Tylenol®) or ibuprofen (Motrin®) tablets as directed by your physician and the packaging instructions. Please call us should these medications not adequately control your pain.

Recovery Time:

- The total operation typically lasts 3-5 hours and your hospitalization usually lasts 24-48 hours. Most patients are discharged home the day after surgery. All patients will go home with a catheter in place continually draining the urine into a urinary leg bag. You will receive instructions from the nursing staff in the hospital regarding care for the catheter at home. You will be up and walking in the hospital within a few hours after surgery.
- You will be seen typically 7-10 days after surgery for removal of the catheter in our office.

- Return to work is discussed on a case-by-case basis. We recommend avoiding heavy lifting greater than 10 lbs for 4-6 weeks post-operatively to decrease the risk of hernia formation. If you are comfortable returning to light duty shortly after surgery once the catheter has been removed this is typically acceptable.

Urinary Control:

- Most men have difficulty with urinary control at the beginning and will require some form of protection such as a pad that fits inside your underwear. You can use Depends/Guards/Attends or men's pads and brief-style underwear (Jockey) following catheter removal. Sometimes the leakage may be more significant requiring an adult diaper. We recommend that you plan ahead and purchase these items prior to the catheter being removed. You should bring these to your appointment when the catheter is removed.
- Within 4 weeks some men have achieved reasonable control of their urine and require minimal protection. This varies on a case-by-case basis. After 3 months there is a slower rate of improvement in continence that may continue for 6-18 months. We typically quote that approximately 90-95% of men will have control by one year. The time to recovery of urinary control varies on a case-by-case basis.
- Kegel exercises should be started/resumed after the Foley catheter has been removed as long as you have no significant perineal pain or discomfort. These exercises help to regain your continence; at first it may be hard to find these muscles. They may be found by starting and stopping your urine stream or to pull in and up at the level of the anal sphincter as if having diarrhea then hold for 3-5 seconds. Once you find the correct muscles repeat the flexing and relaxing of the muscles without urinating. Begin by squeezing the muscles for a count of 3 then relax for a count of 3. You may then extend times to a count of 12. More details regarding Kegels can be found later in this document.

IV. General Follow-up Appointment Schedule:

1st post-operative visit – approximately 5-10 days after surgery:

- You will come to the urology office for your catheter removal. At this visit you will also be informed of your pathology report (if available) with interpretation and further discussion.

2nd post-operative visit – approximately 6 weeks after surgery:

- We ask that, if possible, you have your PSA blood test performed a few days before this appointment so we have it to review at this visit.
- We will ensure you are healing appropriately after surgery and discuss functional recovery and associated recommendations.

3rd post-operative visit – approximately 3-6 months after surgery:

- We ask that, if possible, you have your PSA blood test performed a few days before this appointment so we have it to review at this visit.
- We will discuss your individualized functional recovery and associated recommendations.

4th post-operative visit (and beyond) – approximately 9-12 months after surgery:

- Subsequent follow-up appointments will occur at varying frequencies depending on your pathology results and erectile function recovery.

**At follow-up visits we will review (or draw if not yet drawn ahead your visit) a prostate specific antigen (PSA) blood test to assess for evidence of cancer recurrence. We will be accessing your functional recovery by physical examination and with our questionnaires. We will typically want to have an updated PSA test drawn before all follow-up appointments. Please call us to obtain an order if necessary to complete the lab test before your visit. If this is not possible, we can complete the PSA test after your visit.*

V. Kegel Exercises:

Pelvic muscle exercises strengthen the group of muscles called the pelvic floor muscles. These muscles relax & contract under your command to control the opening & closing of your sphincter which controls flow of urine from the bladder to urethra. When these muscles are weak, urine leakage may result. However, you can exercise them and in many cases aid in regaining your urinary control.

You need to build the strength and the endurance of your muscles. It is recommended that you start doing Kegel exercises 4-6 weeks prior to surgery, but stop after surgery while the catheter is in place, and restart after removal of catheter.

These exercises strengthen the pubococcygeus (PCG) muscle simply by tightening & relaxing it. A person can learn to identify these pelvic muscles by simply stopping & starting urine flow while voiding. Exercise your pelvic muscles regularly over the course of your lifetime to improve & maintain bladder control. While doing this the abdominal, thigh, and buttocks muscles should remain relaxed.

These pelvic muscle exercises must be performed faithfully to maximize the effect on urinary control. We recommend making them part of your routine such as at meal time, watching television, stopped at traffic lights, and waiting in lines.

Begin by locating the muscles to be exercised: as you begin urinating try to stop or slow the urine without tensing the muscles of your legs, buttocks, or abdomen; this is very important. Using other muscles will defeat the purpose of the exercise. When you are able to stop or slow the stream of urine you know that you have located the correct muscles. Feel the sensation of the muscles pulling inward & upward.

You may squeeze the area of the rectum to tighten the anus as if trying not to pass gas. This helps locate the correct muscles. Squeeze your muscles to the slow count of 5. Then, relax the muscle completely to the slow count of 5. The five second contraction and the five second relaxation make one “set”.

VI. Recovery of Erectile Function (“Penile Rehabilitation”):

Regaining erectile function after RARP requires time, even when nerves are spared, to recover from the inflammation and potential stretching associated with surgery. Other factors associated with recovery of erectile function include pre-existing erectile dysfunction before surgery, age, medical co-morbidities including high blood pressure, heart disease, diabetes, obesity, psychiatric conditions, and various medications. Medications such as Viagra® (sildenafil) and Cialis (tadalafil) are called PDE-5 inhibitors and play a role in the recovery and final outcome of erectile function after surgery.

Recovery of erectile function may take 12-18 months and may require continued use of medications or other treatments. There is a possibility that it may not recover at all, especially if you have problems obtaining erections existing before surgery. If you do have an erection with an orgasm, the ejaculation (release of fluid during orgasm) will no longer occur in any post-prostatectomy patient. This is because the seminal vesicles (which store fluid in the ejaculate) and the vas deferens (the tubes that carry sperm from the testicles to the

prostate and urethra) are removed/cut to successfully perform the surgery. This also means that you will no longer be able to father children via natural conception/intercourse after surgery.

Rehabilitation of erectile function is much like rehabilitation from a sports injury: proper conditioning and medical treatment starting around 6-8 weeks after surgery may potentially speed up recovery, however it is not guaranteed. If you notice penile fullness/engorgement or partial erections in the months after surgery, this is a positive sign that some of the nerves are working or re-growing.

We suggest the following steps to optimize the recovery of erectile function after RARP starting at approximately 6-8 weeks after surgery:

- Start PDE-5 inhibitor (e.g., sildenafil or tadalafil) at least 3-5 days/week. Patients with pre-existing heart conditions may require clearance from their primary physician and/or cardiologist before starting these medications. Side effects will be reviewed at your post-operative appointment and educational material is available.
- Start using a vacuum erection device (“VED”) (manual or automatic) once or twice daily for 10 minutes at a time, which helps in pumping oxygenated blood into your erectile tissue and may prevent penile shrinkage which can happen occasionally after RARP. These can be obtained via an order by our office or you may choose to undertake your own research online (such as through Amazon.com) and purchase one independently.

It is still expected that the sensation and pleasure associated with orgasm will be maintained after surgery. You may climax and experience this sensation without an erection. It is important to talk with your spouse or significant other regarding these changes. A change in your sex life will impact both you and your significant other.

Usually starting at approximately 6 months post-operatively, we may consider the following additional steps:

- MUSE® (alprostadil) (intraurethral suppository) which consists of a pellet and an applicator which you would insert into your urethra. Be aware of the mode of use and potential side effects. Side effects will be reviewed at your post-operative appointment and educational material is available.
- Intracavernosal injection (ICI) of pharmacologic agent (e.g., TRIMIX) in which you would inject the prescribed medication directly into your penis with a needle. If interested, we will set up an appointment to review this technique and provide additional information. Side effects will be reviewed at your post-operative appointment and educational material is available.

Finally, if all other treatment options are unsuccessful, or if you have poor pre-operative erectile function at baseline, we typically introduce the concept of a penile prosthesis (implant) placement for advanced erectile dysfunction management, which requires a surgical operation for placement.

VII. Reasons to call the office / present for evaluation:

Please call 911 for medical emergencies. For non-urgent medical concerns, please contact our office (508-771-9550) or seek medical care, specifically should you experience any of the following:

- Issues with your Foley catheter such as if it falls out, is not draining well, you have significant bleeding around or through the catheter, or you have large blood clots in the urine leg bag.
- Significant bleeding around your incision site(s).

- Incision site(s) become red, swollen, painful, or warmer to the touch.
- Pus drainage from the incision(s).
- There is new gap noted in an incision or it opens up.
- Fever/chills with temperature of 101° F or higher.
- Worsening abdominal pain, distension, and/or bloating.
- Nausea/vomiting preventing you from eating/drinking.
- Severe pain not relieved by medications.
- Inability to pass gas or have a bowel movement.
- Leg pain, swelling, or redness.
- Chest pain or shortness of the breath (please call 911 if severe / sudden).
- Difficulty passing urine or your urine output becomes less than it normally has been.
- Sensation of feeling low, fainting, and/or low blood pressure.

PREPARING FOR SURGERY

You have been advised by your physician of the need for a major surgical procedure. In order to have the best outcome possible, and to improve your recovery time, it is important to prepare yourself for the stress of surgery. The stress of surgery has been related to running a marathon. It is important to make yourself as fit as possible between now and the time of your surgery. Being fit reduces your complications after surgery and helps you get back to your normal activities quicker. There are important areas you can work on to improve recovery including nutrition and exercise. If you smoke or have diabetes, smoking cessation, and keeping your blood sugar levels controlled are also important. Optimizing these areas between now and the time of your surgery can make a big difference in the success of your procedure and your recovery.

Nutrition

Studies show that complications after surgery are decreased and recovery is shorter for people who have been eating a heart healthy diet prior to surgery.

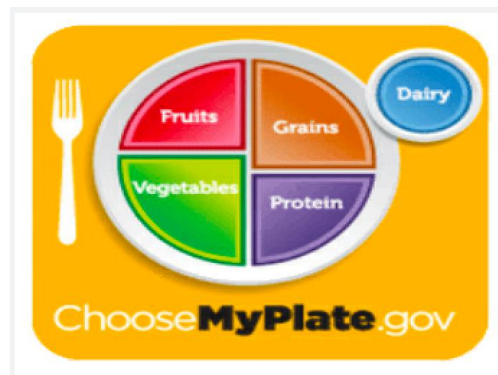
Between now and your surgery:

1. Avoid sugary and processed foods as well as saturated fats.
2. Concentrate on eating lean protein, whole fruits and vegetables and whole grains. For dairy products, consume low or fat free dairy items.

Examples of lean protein: low or fat free dairy, beans, fish and shellfish, nuts and seeds, skinless chicken or turkey, lean beef, pork loin, bison, and egg whites.

Examples of whole grains: whole wheat bread, whole wheat pasta, whole wheat cereal, whole grain rye, whole grain barley, oatmeal, brown and wild rice, quinoa and buckwheat.

3. Stay well hydrated. Drink multiple 6-8 ounce glasses of fluid (ideally water) daily.
4. It is also important to limit your alcohol. Drinking more than 2 drinks per day may increase the risk of complications after surgery. You should not consume any alcohol for at least 24 hours before your surgery.



Additional nutritional tips:

Addition of high protein drink - twice a day. Your body needs protein before surgery to help maintain muscle and improve your recovery (1.2 g/kg).

Examples of high protein shakes: Ensure High Protein, Orgain Clean Protein, Fairlife Core Power Protein, Atkins Plus Protein, Boost High Protein

If you are overweight, losing some weight prior to your surgery can also help with fewer complications and shorter recovery time. It is important to talk to your surgeon regarding recommended weight loss.

Exercise

Both cardio and resistance exercise is important prior to your surgery. Exercise before surgery can help you return to your current activity level quicker. This will improve your ability to be independent and take care of yourself after surgery. If you have a low activity level you can improve your fitness in as little as a few weeks. Your improved fitness can help with an easier and quicker recovery.



Walking is a great way to improve your physical activity. If you are not physically active you will need to slowly increase your activity. Exercise does not have to be strenuous to be helpful. The goal is to be walking three miles per day. This can be done with three one mile walks or even six half mile walks. If you are very active now please continue to stay active before surgery. Other forms of cardio exercise include thirty to sixty minutes a day of swimming, cycling, gardening, dancing or taking an exercise class.

Resistance exercises help build muscle mass. This is also important prior to surgery. Muscle mass will improve your recovery and help you get back to normal quicker. If you do not already perform resistance exercises now is the time to start. Here are some beginner exercises to try:

[Wall squats](https://www.youtube.com/watch?v=Ge1Z18uw1RA&feature=youtu.be) <https://www.youtube.com/watch?v=Ge1Z18uw1RA&feature=youtu.be>

[Crunches](https://exrx.net/WeightExercises/RectusAbdominis/BWCrunch) <https://exrx.net/WeightExercises/RectusAbdominis/BWCrunch>

[Push-ups](https://www.youtube.com/watch?v=WcHtt6zT3Go) <https://www.youtube.com/watch?v=WcHtt6zT3Go>

[Bridge](https://www.youtube.com/watch?v=5NUu_IHcSMI&feature=youtu.be) https://www.youtube.com/watch?v=5NUu_IHcSMI&feature=youtu.be

[Bicycles](https://www.youtube.com/watch?v=Zj9VYEOZKb0&feature=youtu.be) <https://www.youtube.com/watch?v=Zj9VYEOZKb0&feature=youtu.be>

[Superman](https://exrx.net/WeightExercises/ErectorSpinae/ContraLateralSuperman) <https://exrx.net/WeightExercises/ErectorSpinae/ContraLateralSuperman>

[Plank](https://exrx.net/WeightExercises/RectusAbdominis/BWFrontPlank) <https://exrx.net/WeightExercises/RectusAbdominis/BWFrontPlank>

[Hamstring stretch](https://exrx.net/Stretches/Hamstrings/StandingBenchSingleLeg) <https://exrx.net/Stretches/Hamstrings/StandingBenchSingleLeg>

[Quadriceps stretch](https://exrx.net/Stretches/Quadriceps/Kneeling) <https://exrx.net/Stretches/Quadriceps/Kneeling>

[Spine stretch](https://exrx.net/Stretches/ErectorSpinae/Lying) <https://exrx.net/Stretches/ErectorSpinae/Lying>

[Hip stretch](https://exrx.net/Stretches/HipExternalRotators/LyingPiriformisMod) <https://exrx.net/Stretches/HipExternalRotators/LyingPiriformisMod>

Smoking Cessation

Smoking has many negative effects on the body and increases complications after surgery by 40%. Smoking is the leading cause of several cancers, including those involving the lung, kidney, and bladder. If you stop

smoking you can decrease your risk of complications after surgery. Smoking cessation decreases the risk of pneumonia, heart attack, infections, blood clots and wound healing complications. You need good oxygen levels after surgery for healing of tissue and blood vessels. Smokers have lower blood oxygen level due to an increase in carbon monoxide.

NicoDerm use:



What happens to your body when you quit smoking?

- 20 minutes after last cigarette your heart rate and blood pressure begin to drop to normal ranges.
- 8 hours after quitting your carbon monoxide levels will decrease.
- 24 hours after quitting your risk of heart attack decreases.
- 48 to 72 hours after quitting you may have increased secretions, wheezing or coughing.
- After 72 hours, breathing is easier and lung capacity improves.
- 2 to 4 weeks you will notice a decrease in secretions, breathing will be easier and circulation will improve.
- 4 to 6 weeks your immune system will normalize.
- 12 weeks you have improvement in your lung lining and lung function.