Information for Patients

English

Radical prostatectomy

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Patient Information

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This information was produced by the European Association of Urology (EAU).

This leaflet contains general information about radical prostatectomy. If you have any specific questions about an individual medical situation you should consult your doctor or other professional healthcare provider.

The content of this leaflet is in line with the EAU Guidelines.

For more information, please visit patients.uroweb.org.

What is radical prostatectomy?

Radical prostatectomy is the removal of the entire prostate and the seminal vesicles. For radical prostatectomy you will receive general anaesthesia.

Discuss with your doctor the advantages and disadvantages of radical prostatectomy and if it is right for you.

The procedure

How is radical prostatectomy performed?

Radical prostatectomy can be performed as an open or laparoscopic surgery. For open surgery, the surgeon cuts the abdominal wall or the perineum to access the prostate directly. The prostate and the seminal vesicles are removed.

In locally-advanced prostate cancer, the surgeon will also remove any other tissue that is affected by the tumour.

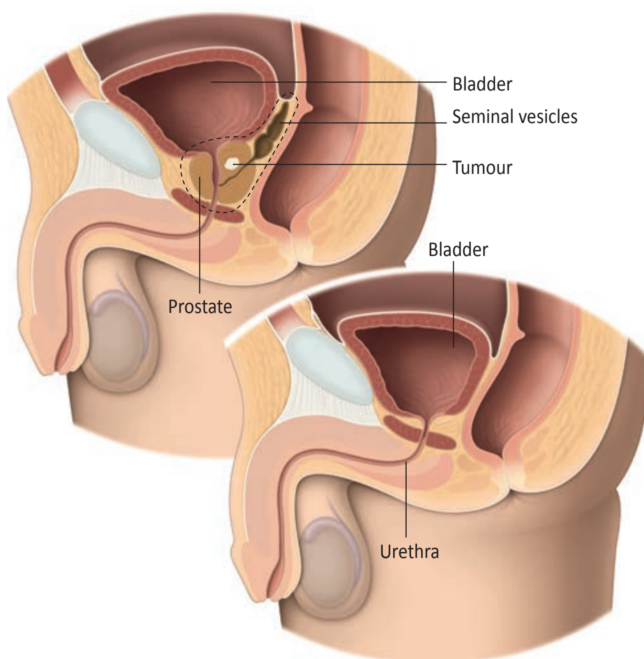

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Fig. 1a: During radical prostatectomy, the surgeon removes the entire prostate and the seminal vesicles.
Fig. 1b: The position of the bladder after surgery.

Then, the bladder and the urethra are attached together (**Fig. 1b**). The doctor inserts a catheter to help the urethra and bladder heal. Usually, the catheter is removed after 7 days. In laparoscopic surgery, the surgeon inserts small plastic tubes into your abdomen. Through these tubes, the surgeon can insert the instruments needed to remove the prostate. One of the small tubes is used to insert a camera which allows the surgeon to see a high-quality image of your prostate on a video monitor. Laparoscopic surgery can also be done with the help of a surgical robot system.

For the removal of a localised tumour or a locally-advanced tumour with radical prostatectomy, open and laparoscopic surgery appear to be equally effective.

Pelvic lymph node removal

If the cancer could spread or has spread to lymph nodes in the pelvic region, your doctor may decide to remove pelvic lymph nodes during radical prostatectomy.

How do I prepare for the procedure?

Your doctor will advise you in detail about how to prepare for the procedure. You must not eat, drink, or smoke for 6 hours before surgery to prepare for the anaesthesia. If you are taking any medication, discuss it with your doctor. You may need to stop taking it several days before surgery. Your doctor will advise you on when to start taking it again.

Side effects

What are the side effects of the procedure?

Usually, you can leave the hospital between 3 and 7 days after surgery. The length of hospital stay can vary in different countries. You may experience minor pain in the lower abdomen for some weeks after open radical prostatectomy. After the surgery, you may suffer from urinary incontinence or erectile dysfunction (ED). You may need treatment for these conditions.

You need to go to your doctor or go back to the hospital right away if you:

- Develop a fever
- Have heavy blood loss
- Experience severe pain
- Have problems urinating

* The underlined terms are listed in the glossary.

The removal of pelvic lymph nodes may cause lymphorrhea. This is a leakage of lymph fluid on the skin. The fluid leads to skin damage, and may cause an infection. Discuss the treatment of lymphorrhea with your medical team.

Impact

What is the impact of the treatment?

Radical prostatectomy may cause stress urinary incontinence (SUI). This is because the prostate surrounds the urethra, helping it to resist the pressure of a full bladder. If your prostate is removed this may have an effect on how much pressure the urethra can resist. There are several treatment options to improve or cure SUI.

Another common risk of the surgery is erectile dysfunction. Because the surgeon may need to remove tissue outside of the prostate, there is a risk that vessels and nerves are damaged or removed during surgery. This is a common cause of erectile dysfunction. During surgery, the surgeon tries to keep the nerves to the penis undamaged. The success of this depends on the aggressiveness of the cancer and where the tumour is located. If necessary, your doctor can recommend treatment for erectile dysfunction.

Keep in mind that the main goal of radical prostatectomy is to remove the tumour and cure you. Read more about recovery after surgery in the section Support after Surgery.

Erectile dysfunction after radical prostatectomy

Radical prostatectomy is a surgical treatment option to remove the entire prostate and surrounding tissue. If the tumour is limited to the prostate gland, the surgeon will try to keep the nerves that lead to the penis intact during surgery. This is called nerve-sparing surgery. Even if nerve-sparing surgery is successful, temporary ED is common after radical prostatectomy.

This is because your nerves are so delicate that they are affected by the slightest injuries. If any injury happens during surgery, the nerves stop transporting signals to the blood vessels in the penis. It can take up to 2 years for the nerves to recover.

The blood vessel running to and from the penis can also be affected by the surgery. As a result, less blood will flow to the spongy tissue of the penis, and damage it. Because of the damage it can be more difficult to recover from ED.

In some cases, nerve-sparing surgery is not possible because the tumour has spread outside of the prostate, or for other reasons. Recovery of erectile function after non-nerve sparing surgery is unlikely but not impossible. Discuss your concerns and possible treatment options with your doctor.

Follow-up

What will the follow-up be like?

After radical prostatectomy for prostate cancer, your doctor will plan regular follow-up visits with you. Routine follow-up lasts at least 5 years. During each visit, the doctor will test the level of prostate-specific antigen (PSA) in your blood. In some cases, you may need a digital rectal examination (DRE). Follow-up is important to monitor how you recover from surgery, to check your general state of health, and to detect possible recurrence of the cancer.

Treatment after surgery

If during follow-up the PSA level shows that the prostate cancer has not been completely removed you may need additional treatment to remove all tumour cells. Discuss with your doctor which option is best for you.

* The underlined terms a e listed in the gloss y.

Glossary of terms

Abdominal wall
The muscle and tissue that surrounds the abdominal cavity.

Bladder
Organ which collects urine from the kidneys.

Catheter
A hollow flexible tube to insert or drain fluids from the body. In urology, catheters are generally used to drain urine from the bladder.

Digital rectal examination (DRE)
A test in which the doctor uses a finger to feel the size, shape, and consistency of the prostate to diagnose conditions like an enlarged prostate or prostate cancer.

Erectile dysfunction (ED)
The inability to get or keep an erection firm enough to have sexual intercourse.

General anaesthesia
Use of drugs to make the patient unconscious and insensitive to pain.

Laparoscopic surgery
A minimally-invasive surgical technique in which the surgeon does not need to cut through skin and tissue. Instead, the surgeon inserts the surgical instruments through small incisions in your abdomen.

Locally-advanced prostate cancer
A prostate cancer where the tumour has spread outside of the prostate and into surrounding tissue.

Lymphorrhea
Leakage of lymph fluid onto the skin. The fluid leads to skin damage, and may cause an infection.

Nerve-sparing surgery
A type of surgery that attempts to save the nerves near the tissues being removed.

Open surgery
A surgical procedure in which the surgeon cuts skin and tissues to have direct access to the structures or organs.

Pelvic lymph nodes
The sum of lymph nodes collecting the lymphatic drainage of the legs, pelvis and pelvic organs.

Penis
The male organ for sex and urination.

Perineum
The space between the scrotum and the anus in men and between the vagina and the anus in women.

Prostate
The gland which produces the fluid which carries semen. It is located in the male lower urinary tract, under the bladder and around the urethra.

Prostate-specific antigen (PSA)
A protein produced by the prostate which may increase in men with a benign prostatic enlargement, prostatic inflammation, or prostate cancer.

Radical prostatectomy
A surgical procedure in which the entire prostate is removed.

Recurrence
The return of cancer after treatment and after a period of time in which the cancer could not be detected. This can happen either in the place where the cancer first was detected, or somewhere else in the body. There is no standard period of time.

Seminal vesicles
A pair of glands located below the bladder. They produce semen.

Stress urinary incontinence (SUI)
When your urethra or urinary sphincter cannot resist the pressure of a full bladder. As a result, you lose urine when the pressure on your lower urinary tract suddenly increases. This can happen during activities like coughing, sneezing, or laughing, exercise like running or jumping, or carrying heavy things like groceries.

Surgical robot system
An instrument to help doctors perform laparoscopic surgery. The surgeon controls the robotic instrument with remote control sensors.

Glossary of terms

Urethra

The urethra is the tube that allows urine to pass out of the body. In men, it's a long tube that runs through the penis. It also carries semen in men. In women, the urethra is short and is located just above the vagina.

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