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## Localized Prostate Cancer

The underlined terms are listed in the glossary.

If you are diagnosed with localized prostate cancer, your doctor can recommend treating the cancer with conservative management, radical prostatectomy, radiation therapy, or new experimental techniques. Each treatment has its own advantages and disadvantages. The choice depends on your individual situation.

This section describes the different treatment options which you should discuss with your doctor.

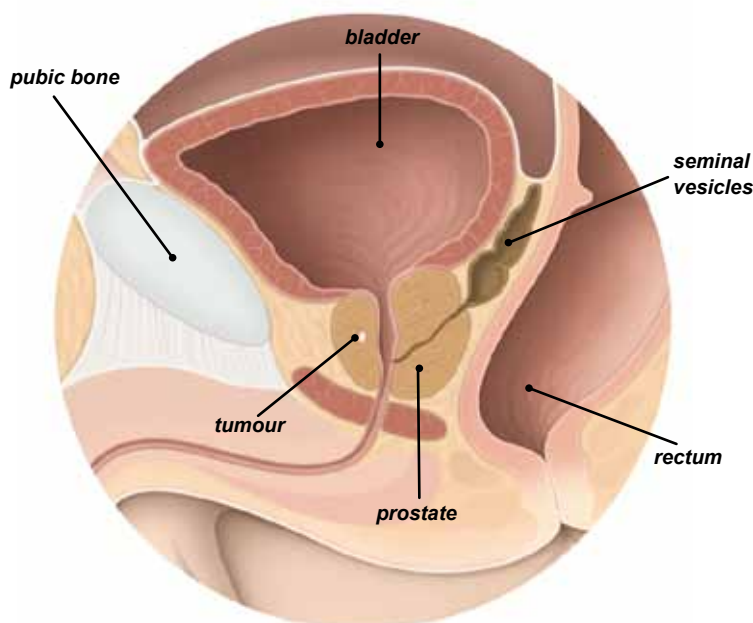
This is general information, which is not specified to your individual needs. Keep in mind that individual recommendations may depend on your country and health care system.

### What is localized prostate cancer?

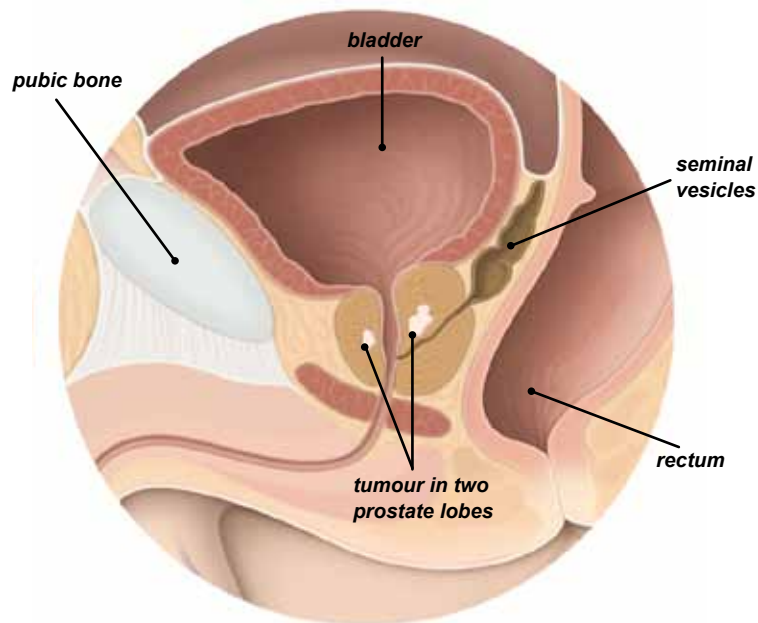
Localized prostate cancer refers to a tumour which is limited to the prostate and has not extended to other parts of your body. It may be a T1 or T2 tumour, depending on its size and where it is located in the prostate.

T1 means that the tumour is too small to be felt during a digital rectal examination (DRE) or seen on a scan. T1 tumours are confirmed with a biopsy and assigned an a, b, or c based on the analysis of the pathologist.

A T2 tumour means that prostate cancer can be felt during a DRE, but is still limited to the prostate. Your doctor will also assign an a, b, or c to this stage, depending on the size of the tumour and whether it is in one or more lobes of the prostate (**Fig. 1 and 2**).



**Fig. 1: A T1 prostate tumour is too small to be felt during a digital rectal examination or seen on a scan.**



**Fig. 2: A T2 prostate tumour is limited to the prostate.**

## Treatment options

The most common treatment options for localized prostate cancer are conservative management, radical prostatectomy, and radiation therapy. Which treatment pathway is best for you depends on:

- The tumour characteristics
- Your medical history
- Your age
- The kind of treatment available at your hospital
- Your personal preferences and values
- The support network available to you

In conservative management the doctor monitors the tumour and its growth and recommends further treatment when necessary. This treatment is generally indicated when the tumour has a low Gleason score.

Radical prostatectomy is the surgical treatment in which the entire prostate and the seminal vesicles are removed.

Your doctor could also recommend radiation therapy. This therapy damages and kills cancer cells. You may be treated with external beam radiation therapy or brachytherapy.

## Conservative management

Conservative management is a type of treatment where the progress of your disease is closely monitored. In prostate cancer, this can be done through active surveillance or watchful waiting.

During active surveillance the doctor monitors the tumour and its growth, based on a strict visiting schedule. During each visit, several tests are done including checking the level of prostate-specific antigen (PSA) in your blood. The aim is to switch to other treatment options if there are signs that the disease is progressing. Active surveillance is a treatment pathway to cure localized prostate cancer with a low Gleason score. If you have locally-advanced prostate cancer, other treatment pathways will be recommended.

Watchful waiting is a form of symptom-guided treatment. The aim is to switch to other treatment options only when symptoms appear. Your doctor may recommend watchful waiting if other treatment options are not the best for your individual situation.

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

## Radical prostatectomy

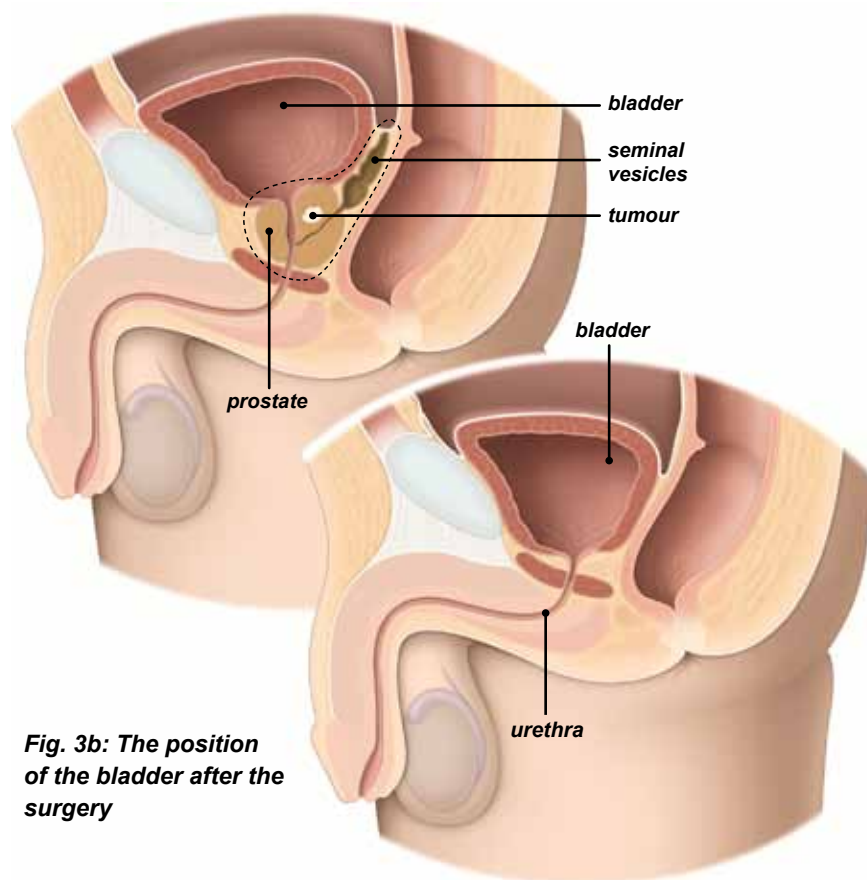
Radical prostatectomy is a surgical treatment option for localized prostate cancer. The aim is to remove the entire prostate and the seminal vesicles. For radical prostatectomy you will receive general anaesthesia.

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

### 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, and the bladder and the urethra are attached together (**Fig. 3**). The doctor inserts a catheter to help the urethra and bladder heal. Usually the catheter is removed after 7 days.

**Fig. 3a:** During radical prostatectomy the surgeon removes the entire prostate and the seminal vesicles.



**Fig. 3b:** The position of the bladder after the surgery

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 aid of a surgical robot system.

For the removal of a localized prostate 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.

### **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. 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

Read more about recovery after surgery in the section *Support after Surgery* on page 11.

### **What is the impact of the treatment?**

Radical prostatectomy is a common procedure for localized prostate cancer.

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. You can read more about these in the section *UI after Prostate Surgery* in EAU Patient Information on Urinary Incontinence.

Another common risk of radical prostatectomy is erectile dysfunction. During surgery, the surgeon needs to operate close to the nerves and vessels in the penis. 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 SUI or erectile dysfunction. Do not hesitate to discuss any concerns with your doctor. Together you can decide if other treatment options are more suitable for you.

Keep in mind that the main goal of radical prostatectomy is to remove the tumour and cure you.

### **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 treatment options are best for you.

### Terms your doctor may use:

**Open surgery** → a surgical procedure in which the surgeon cuts skin and tissue to have direct access to the prostate

**Nerve-sparing surgery** → a surgical procedure which helps to keep sexual function by saving nerves on both sides of the prostate gland

**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 the abdomen

**Surgical robot system** → an instrument to help surgeons perform laparoscopic surgery. The surgeon controls the robotic instrument with remote control sensors

## Radiation therapy

Radiation therapy damages and kills cells and is used to attack cancer cells. It can be done with external beam radiation therapy or brachytherapy. Prostate cancer cells are generally responsive to radiation therapy. Because of advances in radiation therapy techniques, it has become an effective treatment for localized prostate cancer.

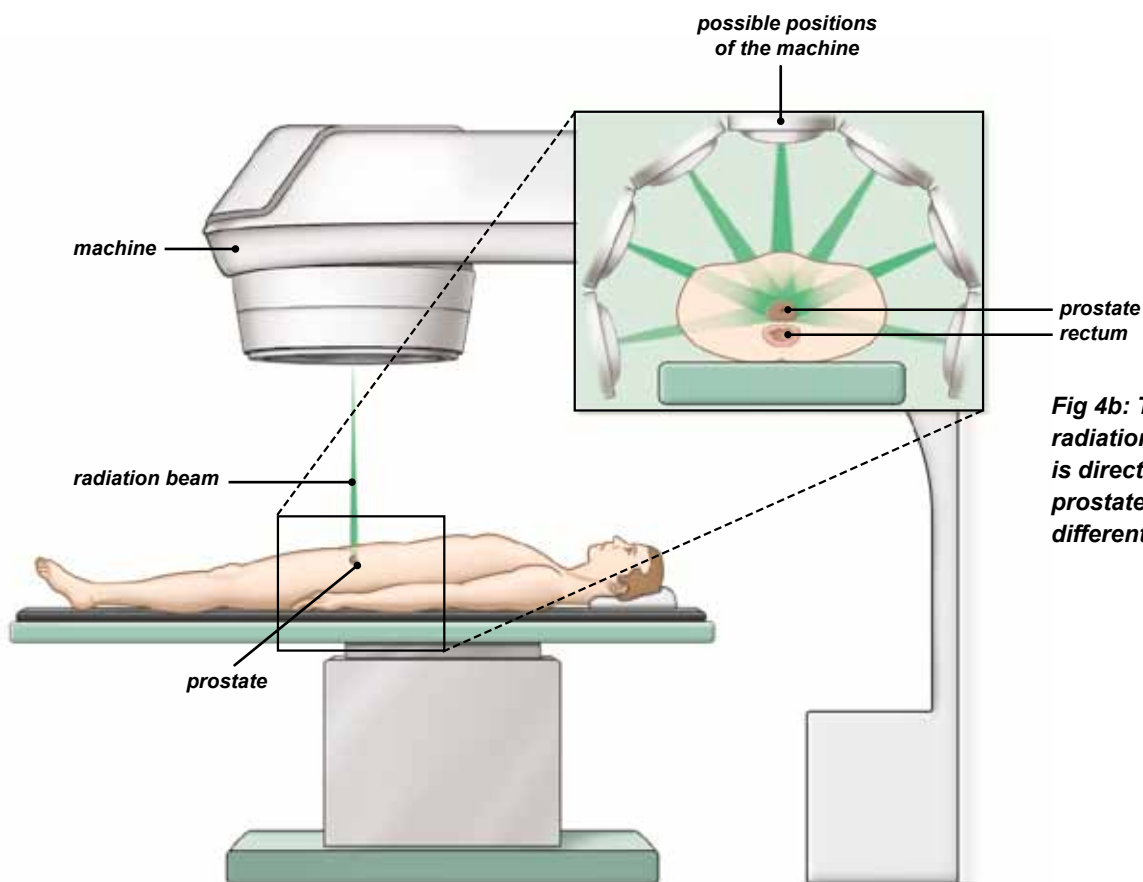
Discuss with your doctor the advantages and disadvantages of radiation therapy and if it is right for you.

### How is radiation therapy performed?

The goal of radiation therapy is to kill the cancer cells in the prostate. Because the radiation can also kill cells in other organs, such as the bladder, it is important that the radiation beam mainly targets the cancerous cells and limits the damage to other tissue. Developments in radiation therapy have increased the precision of the beam, and allowed for a higher dosage of radiation with fewer side effects.

The standard course of external radiation therapy (**Fig. 4**) lasts around 8 weeks, 5 days a week. You receive one dose of radiation per day. The treatment takes about 20 minutes each day, and you do not have to be admitted to the hospital.

Before the start of a course of radiation therapy you will get a CT scan. This is done to map the area that will be radiated as well as the surrounding tissue that should not be treated. In recent years, image-guided radiation therapy



**Fig 4b: The radiation beam is directed at the prostate from different angles.**

**Fig. 4a: External beam radiation therapy damages and kills cancer cells.**

has become more widely available. For this type of therapy the radiation oncologist locates the prostate very precisely with the help of an x-ray or CT scan to make sure that the radiation dose is delivered to the prostate.

Another form of radiation therapy is brachytherapy. For this type of treatment, a source of radiation is inserted directly into the prostate (**Fig. 5**). Your doctor may suggest this treatment if you have a low Gleason score and no urinary symptoms.

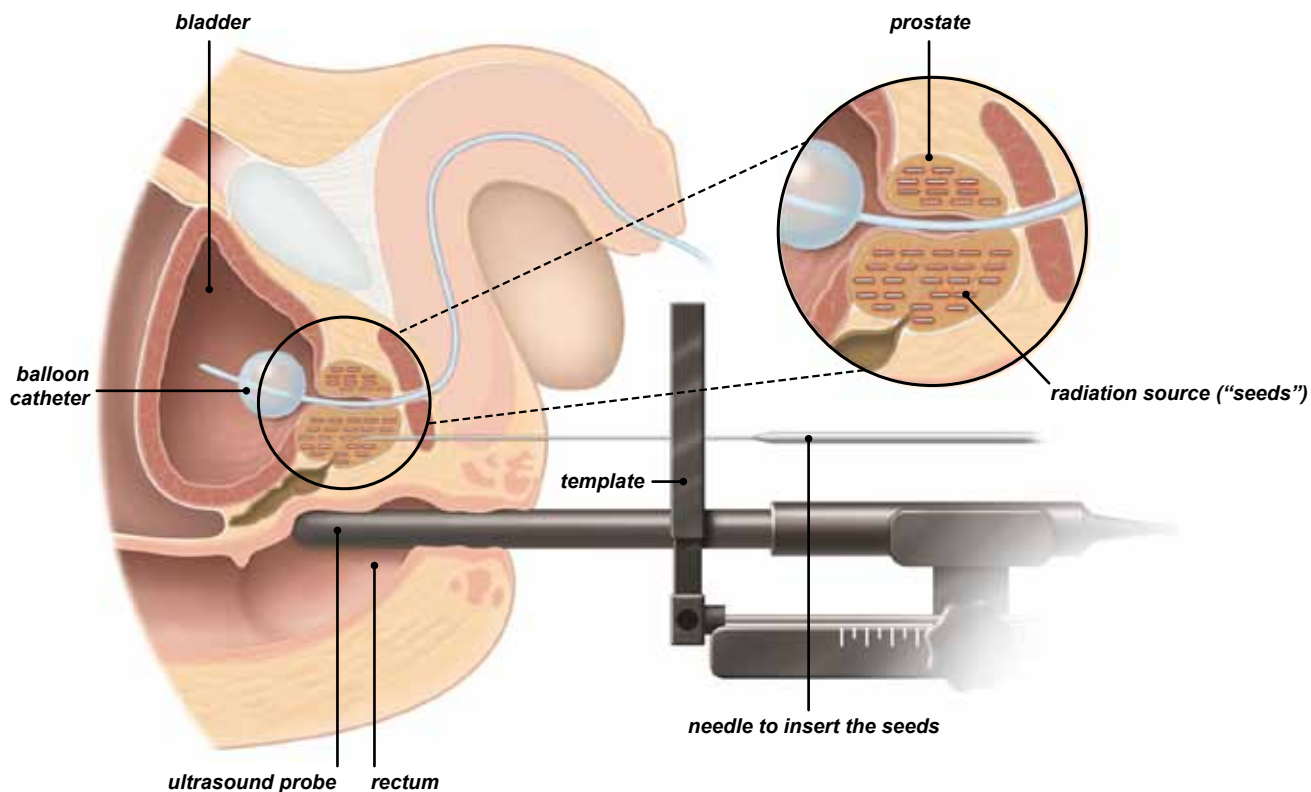
### **How do I prepare for the procedure?**

Your doctor will advise you in detail about how to prepare for the procedure. You will receive a schedule for eating and drinking before each session to make sure that your bladder is comfortably full and the rectum is empty before the procedure. If you are taking any medication, discuss it with your doctor. Generally you do not need to stop taking it during radiation therapy.

### **What are the side effects of the procedure?**

Common side effects are a burning sensation when you urinate, urinary frequency, and anal irritation. This is because the surrounding organs, particularly the bladder and the rectum, also receive some radiation. Usually these symptoms appear halfway through the treatment course and disappear several months after it ends.





**Fig. 5:** In brachytherapy a radiation source (“seeds”) is inserted directly into the prostate.

A common side effect of radiation therapy is bleeding in the bladder and the rectum, even several years after treatment. You could also experience lower urinary tract symptoms (LUTS), or erectile dysfunction.

How bothersome the side effects of radiation therapy are varies from person to person, and is related to your general health and the type of radiation therapy you get.

Read more about how to deal with the side effects of radiation therapy in the section Support for *Radiation Therapy* on page 12.

### **What will the follow-up be like?**

After radiation therapy 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 the treatment, to check your general state of health, and to detect possible recurrence of the cancer.

### **Radiation therapy in combination with hormonal therapy**

If you have localized prostate cancer with a high Gleason score, your doctor may recommend radiation therapy in combination with hormonal therapy. Your doctor will discuss in detail how you should prepare for this treatment.

### **Treatment after radiation therapy**

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 treatment option is best for you.

## New experimental techniques

Besides surgery, radiation, and conservative management there are other treatment options for localized prostate cancer, such as:

- Cryosurgical ablation of the prostate (CSAP)
- High Intensity Focussed Ultrasound (HIFU)
- Focal therapy

### What is CSAP?

Cryosurgical ablation of the prostate (CSAP) is an experimental technique to treat prostate cancer. It is a minimally-invasive surgery in which freezing temperatures are applied directly to the tumour cells to kill them (Fig. 6).

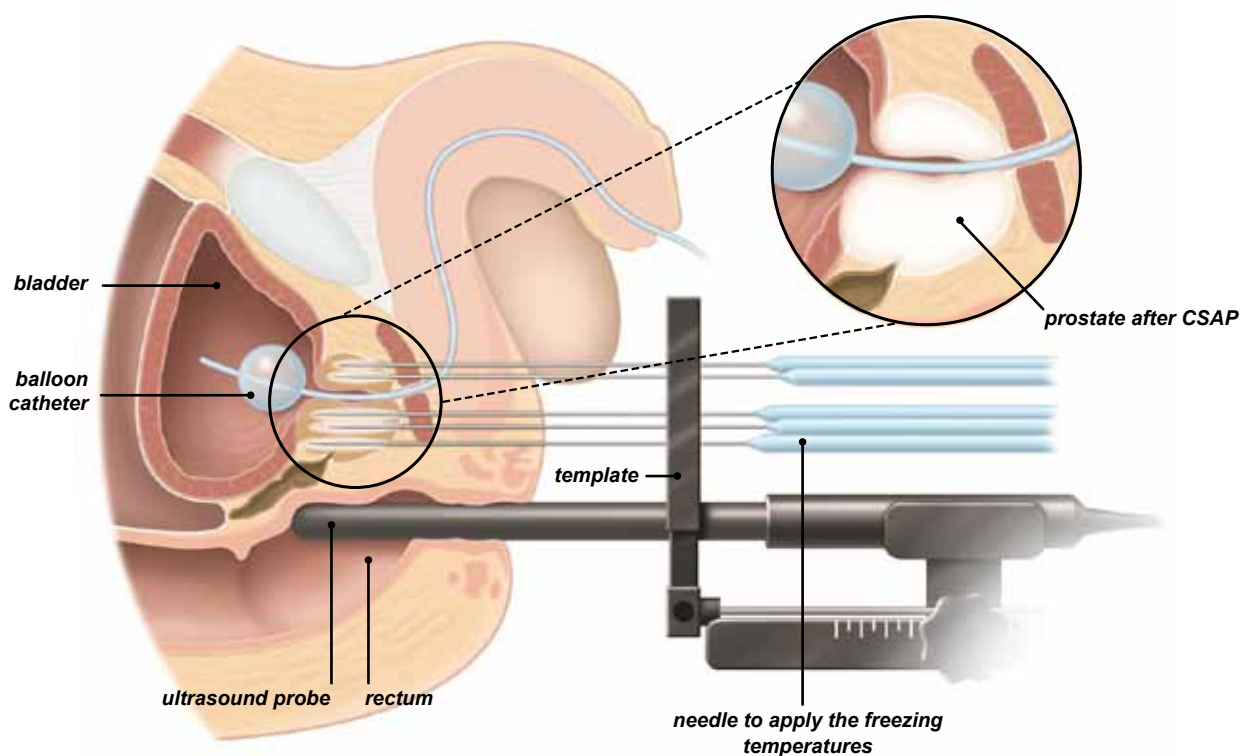


Fig. 6: Cryosurgical ablation of the prostate (CSAP) kills cancer cells by freezing them.

### What is HIFU?

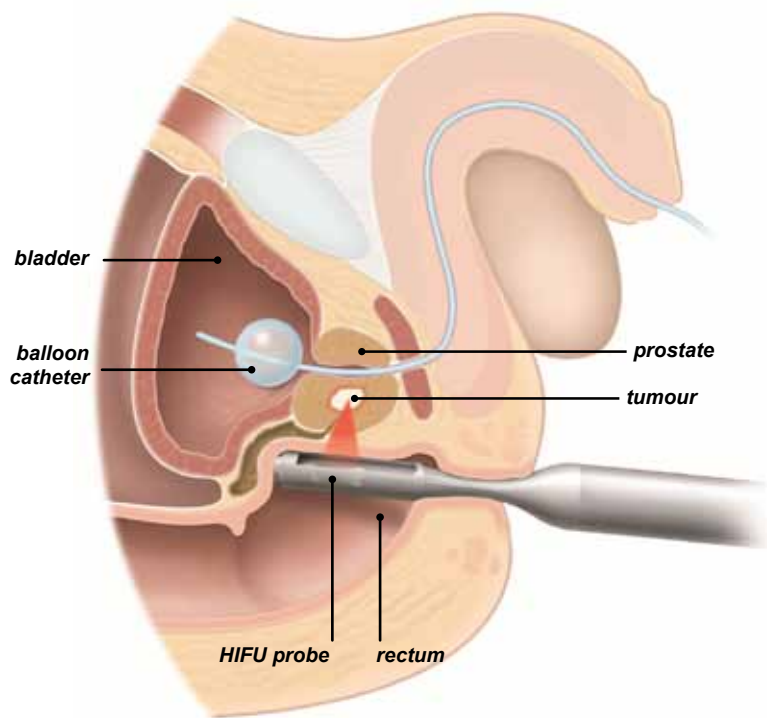
High-intensity focussed ultrasound (HIFU) is an experimental technique to treat prostate cancer. It uses the energy of high-frequency sound waves to heat the cancer cells and kill them (Fig. 7).

### What is focal therapy?

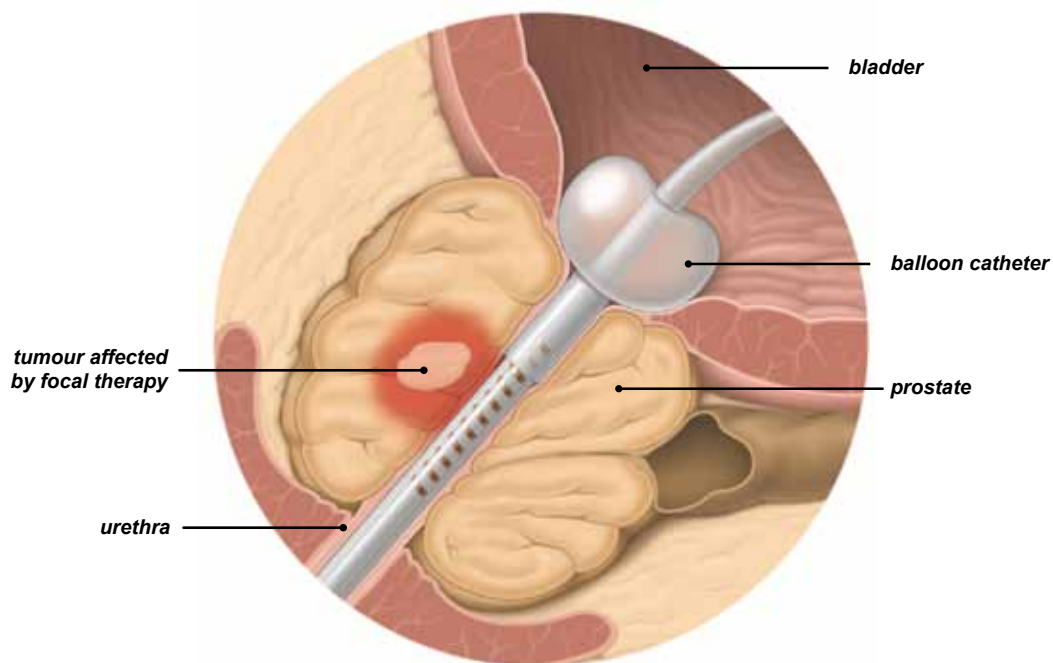
Focal therapy is a term for several experimental techniques to destroy small tumours in the prostate. Because the tumour cells are targeted directly, there is not much damage to other tissue in the prostate or the lower urinary tract (Fig. 8).

Your doctor will discuss these treatment options if other therapies are not an option for you. This also depends on your personal preferences and values. You may be offered these treatments as part of a clinical trial.





**Fig. 7: High-intensity focussed ultrasound (HIFU) uses the energy of high-frequency sound waves to heat cancer cells and kill them.**



**Fig. 8: In focal therapy the prostate tumour cells are targeted directly so there is not much damage to other tissue.**

## Treatment of recurrence

It is possible that prostate cancer comes back after you have been treated. This is known as recurrence. The cancer may come back in the prostate, in tissue around the prostate or pelvic lymph nodes, or in other parts of the body. The follow-up treatment pathway depends on where the cancer is. Your doctor will recommend imaging tests such as CT, MRI, PET scan or bone scans to locate the tumour, identify its characteristics, and determine treatment.

If you have been treated with radical prostatectomy and the PSA level in your blood rises, this could be a sign of recurrence. Your doctor may recommend salvage radiation therapy. In this procedure, the area where the prostate was located will be radiated to kill cancer cells. If your cancer was treated with radiation therapy, your doctor may recommend to treat recurrence with radical prostatectomy.

If you have been treated with experimental techniques, discuss with your doctor which treatment option is best for you.

## Support

Getting diagnosed with cancer has a great impact on your life and the lives of your loved ones. Cancer can make you feel powerless. It can cause feelings of anxiety, anger, fear, or even depression. Undergoing treatment for cancer is intense and will affect your work, your social life, and your sexuality.

To find support, approach your doctor or nurse in the hospital, or ask your family doctor. They will be able to give you contact information about patient organizations or others who can help you with psychological support, or practical matters such as financial advice.

### Preparing for a consultation

Preparing for a consultation can be very useful. It will help you and your doctor better address your questions and concerns. It can also help you prepare for treatment and the possible side effects. Here are some things you can try:

- Write down the questions you would like to ask the doctor. This will help you remember things that you want to ask. Writing down questions can also help you organize your thoughts
- If you can, take someone with you to the visit. It is good to have someone to discuss what the doctor said and you probably remember different things
- Ask for information about your specific type of prostate cancer
- If the doctor uses words you do not understand, ask for an explanation
- Tell your doctor what medicine you take and if you take any alternative medicine. Some of these medicines can affect the treatment

After the consultation you can:

- Search the Internet or go to the library for more information about your type of cancer. Be aware that not all the information you see online is of good quality. Your doctor or health care team can point you to reliable websites

- Contact a patient organization, they can offer support and information
- Discuss with your health care team the possible financial consequences of your treatment. They might be able to direct you to people or places where you can get advice about your economic situation or even financial help
- If you want, you should ask for a second opinion from another specialist

### How to find a patient organization nearby

Patient organizations can be very helpful. To find one close to you, ask your family doctor, nurse, or doctor at the hospital. You can also search the Internet for a patient group.

### Support after surgery

In the first days or weeks after surgery you may need help with everyday activities. If you can, ask family, friends, or neighbours to help you with things like buying and carrying home food, cooking, cleaning, washing, and gardening. You can also ask your health care team for information about professional home care.

After surgery, it is common that you experience fatigue. This means you feel more tired than usual, you are out of energy, have trouble concentrating, and it does not get better after you sleep. Most people experience fatigue for 1-2 months after the surgery. To deal with fatigue, you can:

- Write down things that give you energy and give them priority during the day or week
- Get help with household tasks like washing, cleaning, or gardening
- Take short naps several times during the day
- Try to be as active as you can. A short walk every day is better than a long walk once a week

- When planning social activities like a trip or a visit, keep in mind you may need time to rest during the day. Discuss this with your family, friends, or caregiver so that you can plan ahead. It is important to tell them when you are feeling tired

Radical prostatectomy may cause stress urinary incontinence (SUI). This means that you lose urine during certain activities, for example coughing, laughing, running, or lifting. Here are some tips to help manage your symptoms:

- Try to make sure you always know where the nearest toilet is. Never be afraid or embarrassed to ask where the toilet is when you are away from home
- If you have problems with dribbles of urine you can use a drip collector, or a pad. Drip collectors are worn over the penis and held in place by your underwear
- Invest in odour preventers. Ask your pharmacist or family doctor about these
- Wear dark-coloured clothes. Lighter-coloured clothes may show stains more easily
- Wear loose clothes for comfort
- Have an extra set of clothes at hand

You can read more about these in the section *Living with UI in EAU Patient Information on Urinary Incontinence*.

Another common risk of surgery is erectile dysfunction. There are various options to treat this condition. The most common ones are pills, injections, or a prosthesis. Discuss with your doctor what is the best option for you.

Dealing with SUI or erectile dysfunction after radical prostatectomy can be difficult. They can have long-lasting psychological effects. Talk to your surgeon, nurse, or family doctor so they can help you find the support you need.

## Support during radiation therapy

During the course of radiation therapy you can generally carry on with your daily activities. The treatment can affect your lower urinary tract and bowel, and may cause fatigue. Fatigue can be a result of the daily trips to the hospital. Usually these symptoms go away a few months after treatment.

Your skin may be affected by the radiation. To care for your skin you can:

- Avoid scratching or rubbing the radiated area
- Ask your doctor or nurse which type of skin lotion you should use to deal with skin irritation
- Avoid sun exposure
- Use a high-factor sunscreen
- Wear loose-fitting clothes in natural fabrics such as cotton or linen
- Wash yourself daily with mild soap and lukewarm water
- Gently pat your skin dry after washing
- Avoid the sauna

## Follow-up

After surgery or radiation treatment you will meet with your doctor. In this visit, both the results of your treatment and the follow-up schedule will be discussed. Ask for a care plan so you can see how often you will need to see your doctor, and what kind of tests could be needed before each visit. This depends on the characteristics of your disease.

Write down questions you may have before the visit. Examples of questions you can ask are:

- Is the cancer gone?
- Do I need additional treatment? If so, what options are relevant for me?
- What tests do I need before the follow-up visits?

It is important that you continue to attend the follow-up visits. During these, the doctor monitors your health and can detect possible tumour recurrence on time. It is also important to tell your doctor if you notice any new symptoms that may be related to prostate

cancer. If you notice symptoms, do not hesitate to contact your health care team before the visit.

## Lifestyle advice

It is important to maintain a healthy lifestyle during and after treatment. Try to get physical exercise regularly. Find an activity that you enjoy doing. If you have doubts about what you can do, ask your doctor to refer you to a physiotherapist.

Try to eat a balanced diet with a mix of vegetables, fruit, and dairy. Also include starchy food like bread and potatoes, rice or pasta, and protein-rich food like meat, fish, eggs, or legumes. Try to eat less sugar, salt, and fatty food. If you have any questions, ask your doctor to refer you to a dietician.

Try to stop smoking. It may help you recover faster after treatment.

## Psychological support

After the treatment you may worry about your prognosis, the impact of cancer on your social or financial situation, or other issues.

It is common to worry about the cancer coming back. Most people who have been diagnosed with cancer, or their loved ones, will probably have these worries and thoughts. If you feel worried, contact your doctor and find out the risk of cancer recurrence. You can also ask the doctor about psychological support if you feel you need to have someone to talk to. A patient organization can also offer support.

During treatment you will be away from your work. Talk to your boss about the best way for you to get back to work. Perhaps you could work part time, or in a different function.

Discuss the possible financial consequences of your treatment with your health care team. They might be able to direct you to people or places where you can get advice about your economic situation, or even financial help.

The side effects of the treatment can make it difficult to fully participate in social and economic life. Changes in your daily life as a result of the disease or the treatment can lead to isolation. Talk to your doctor or nurse. They can help you find the support you need.

A cancer diagnosis can make you look at life in a different way and you may realise you now have different priorities. This can affect your work or relationships and can make you feel disoriented and uncertain. Talk to family and friends and take all the time you need for this process. If you do not feel comfortable addressing these issues with those close to you, you can ask your health care team for a referral to a psychologist. The psychologist can give you the tools to deal with these feelings and help you to realise the changes you want or need.

Cancer treatment can affect your sexuality. Feelings of depression and fatigue can also have a negative effect on your sex life. It is important that you talk to your partner about your feelings. There are many ways in which you can be intimate. If it is difficult for you to be sexually active, be near each other, touch each other, give and take hugs, and just sit or lay down close to each other.

### **Support for family and friends**

A cancer diagnosis not only affects the patient, but also the people around them. As a loved one, you can offer support in many different ways. Sometimes you can help with practical things like laundry, gardening, or grocery shopping.

It may also be helpful to go to the doctor together. You could offer to drive to the visit or help formulate questions to ask during consultation. Being there for the consult can also be good. You may remember different things or focus on other details, which you can later discuss together. You could also ask the doctor how the treatment may impact your lives in terms of caregiving and psychological effects.

The diagnosis and treatment can be very emotional for everybody involved. Cancer treatment is intense

and your life may change suddenly. Questions about prognosis, effects of the treatment, and even the possibility of dying may come up. As a friend or loved one you can be there and listen. You don't need to have the answers.

If you feel you need somebody to talk to, approach your family doctor or the medical team to get support. Patient organizations also offer support for family members or friends of people who have been diagnosed with cancer.

### **Support for partners**

A cancer diagnosis can put pressure on your relationship. Often talking to each other becomes more difficult because of the time and energy spent on treatment. You could decide to discuss any difficulties with a therapist.

You may experience a similar degree of stress, anger, and depression as your partner. You could feel exhausted, both physically and emotionally. This can be a result of the responsibilities of caring for your partner, and taking on extra tasks around the house. Be sure to make time for yourself and think about your own needs and wishes.

Your partner's cancer treatment can affect your sex life. Try to talk to your partner about your feelings. There are many ways in which you can be intimate. Be near each other, touch each other, give and take hugs, and just sit or lay down close to each other.

It is normal to worry about being left alone. If you feel you need somebody to talk to, approach your family doctor or your spiritual advisor. Patient organizations also offer support for partners.



## **This information was updated in January 2015.**

This leaflet is part of EAU Patient Information on Prostate Cancer. It contains general information about this disease. If you have any specific questions about your individual medical situation you should consult your doctor or other professional healthcare provider. No leaflet can replace a personal conversation with your doctor.

This information was produced by the European Association of Urology (EAU) in collaboration with the EAU Section of Uro-Oncology (ESOU), the Young Academic Urologists (YAU), the European Association of Urology Nurses (EAUN), and Europa Uomo.

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

You can find this and other information on urological diseases at our website: <http://patients.uroweb.org>

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