UZ LEUVEN

Radiation treatment for prostate cancer

Patient Information

Introduction

This information brochure aims to provide prostate cancer patients with more details about their radiation treatment. This brochure also includes some useful advice that will help ensure that the radiation treatment runs smoothly and will limit or prevent certain problems or discomfort.

If you would like more information or have specific questions, please do not hesitate to contact your doctor or nurse.
We are here to help you.

The Radiation Department Staff

TREATMENT PROGRESS

STATUS CONSULTATION

Before the start of the treatment you will meet one of our radiation oncologists, who specialises in radiation treatment for prostate cancer. This initial contact will take place at the radiation unit. The radiation oncologist will discuss the most appropriate treatment (your treatment plan) with you and provide more details concerning the total number of radiation sessions, the overall dose and the number of radiation sessions per week. Potential side effects of the radiation treatment you may experience will also be discussed. You should take into account that even with the same type of disease the treatment may vary from patient to patient.

A nurse will then provide further details and explain the practical progress of your treatment. You will not receive any radiation treatment at weekends or on public holidays, unless the necessary number of radiation treatments per week is at risk (several public holidays in the same week or maintenance of the radiation equipment).

PREPARATION OF THE RECTUM AND BLADDER

Importance of good preparation

Current radiation techniques enable us to accurately target the radiation onto the prostate and limit the radiation dose that reaches surrounding tissue. Obviously, we cannot change the shape of the anatomy. The prostate (bed or prostatic fossa) is located underneath the bladder and in front of the rectum.

The location of the prostate and seminal vesicles can change daily as a result of stools and a full bladder. We need to minimise this variation for the purpose of the radiation treatment. This is achieved in two ways:

1. by emptying the rectum using a glycerine suppository.
2. by emptying the bladder and then drinking a specific amount of fluid.

You need to arrive 30 to 40 minutes early for each radiation appointment, depending on the time you need to prepare yourself and complete the above mentioned preparations.

Practical progress of the preparations

- You don't need to fast, unless agreed otherwise during the status consultation.
- You need to insert a glycerine suppository into your rectum and then wait approximately 10 minutes.
- Once the glycerine suppository has worked and you have managed to pass stools, you can also empty your bladder.
- If you no longer feel the need to pass stools and you have emptied your bladder, you can drink two cups of water (approximately 400 ml).
- 15 minutes after having drunk the two cups of water, you can put your appointment list in the red tray next to the radiation equipment to indicate to the nursing staff that you are ready for the radiation session.

If you have difficulty completing these preparations you can notify the nursing staff in charge of the radiation equipment. These preparations may need to be adapted over the course of the treatment (e.g. you may have to drink more or less). The nursing staff in charge of the radiation equipment will inform you about any changes.

Nutritional advice

We recommend that you start observing the following nutritional advice before you start the radiation treatment and stick to it until the treatment is finished. It will make the rectum and bladder preparation process less troublesome and you will suffer less from trapped wind.

- ✔ Try to drink enough water (1.5 litres per day is recommended).
- ✔ Try to reduce your intake of coffee.
- ✔ Avoid carbonated drinks (soft drinks, sparkling water, alcoholic drinks).
- ✔ Avoid spicy and gas producing foods (cabbage, beans, onions).

You may be given additional nutritional advice by the doctor during the status consultation, if they deem it necessary in your particular situation. You should follow these instructions to ensure that the preparations run as smoothly as possible.

CT SIMULATION

An appointment will be arranged at the CT simulator to set up an individual treatment plan. A CT scan (computerised tomography) will be taken whilst you are lying on the CT table in the correct radiation position. A radiation session will be 'simulated' or 'imitated'. A CT scan produces a three dimensional image that enables the radiotherapist and physician to calculate/devise an individual treatment plan based on your internal physical characteristics. A CT simulation is painless.

When you enter the CT area, we will ask you to state your surname, first name and date of birth. This is an essential check for the nurse to avoid potential misunderstandings or errors. It is important that you position yourself on the treatment table in exactly the same way for each treatment session. With prostate treatment you will have to lie on your back with a soft support underneath your head, knees and feet. Four tattoo points will be applied to the abdomen and pelvis. The nurse will mark the points by pricking the skin. Although very small, these markers are permanent, which is why they are referred to as tattoo points. They are used as a reference during the radiation sessions.
A CT simulation can take from 30 minutes to an hour.
At the end of the CT simulation the nurse will give you details of your radiation appointments (day and time) and the number of the radiation therapy machine. An additional MRI scan will be arranged because this type of examination produces an optimum image of the prostate.

MRI SCAN

A radiology nurse will ensure that you are as comfortable as possible when lying on the examination table. You will then slowly proceed into a tunnel, which is open ended on both sides. It is also very light and airy. It is important that you stay as motionless as possible during the examination. The medical team will be outside the examination room but will be able to see you through a window and via a camera. You can always contact them via an alarm button and they can hear you via an intercom system. An MR examination usually takes 20 to 30 minutes.

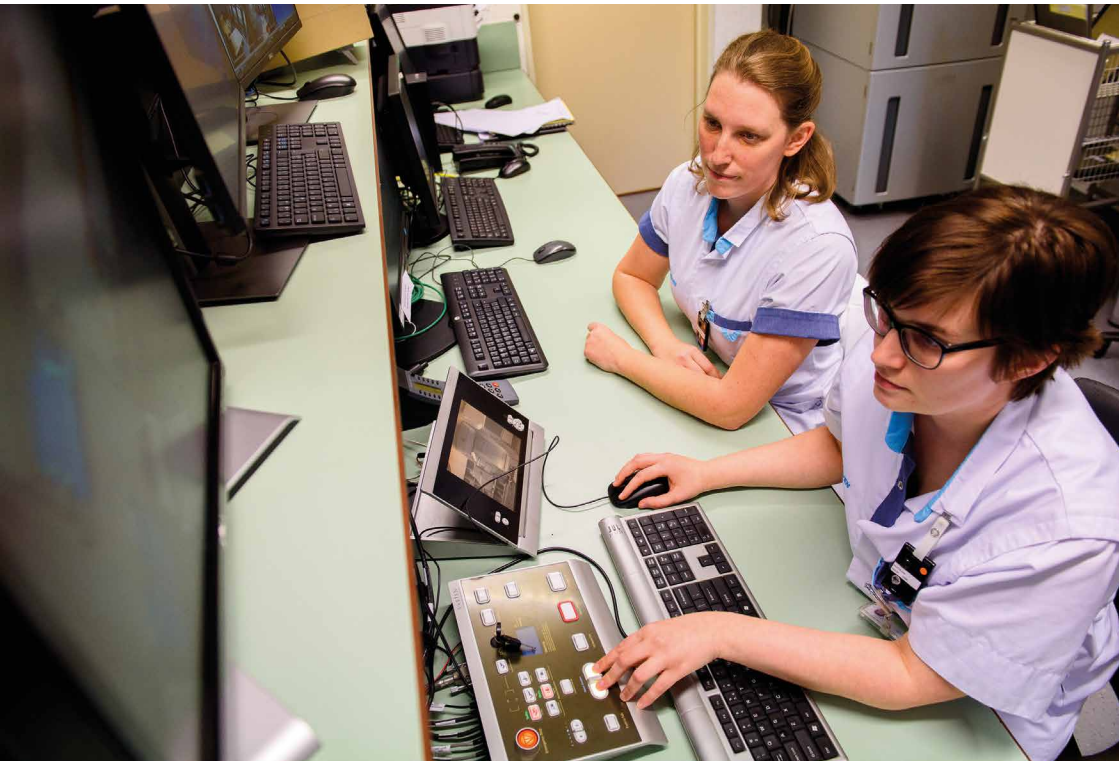
RADIATION TREATMENT

The first radiation session usually takes place two to three weeks after the CT simulation. This interval is needed to prepare your treatment plan.

The rectum and bladder preparations are carried out before the start of the radiation treatment (see pages 4 and 5 for more details).

When you enter the radiation room we will ask you again, as with the CT simulation, to state your surname, first name and date of birth. Before treatment can start the nursing staff will carefully move you into the correct position on the table. They will then leave the treatment room. Before the actual radiation treatment is applied a CBCT ('cone beam CT') is produced daily to check that you are in the appropriate position and the radiation plan can be executed correctly. The table may move slightly before the actual radiation treatment starts to perfectly replicate the position of the simulation.

It is particularly important that you remain motionless during the radiation treatment until the complete dose of radiation has been administered. You can continue to breathe and swallow normally You won't feel anything during the radiation treatment, but the machine may produce a penetrating buzzing noise. The radiation treatment takes 10 to 15 minutes each day, from when you enter the radiation treatment room until you leave. The nursing staff will monitor you from the adjoining control room via cameras placed in the treatment area. They will also be able to hear you via an intercom system. The law stipulates that family or friends are not allowed to enter the treatment room for safety reasons.

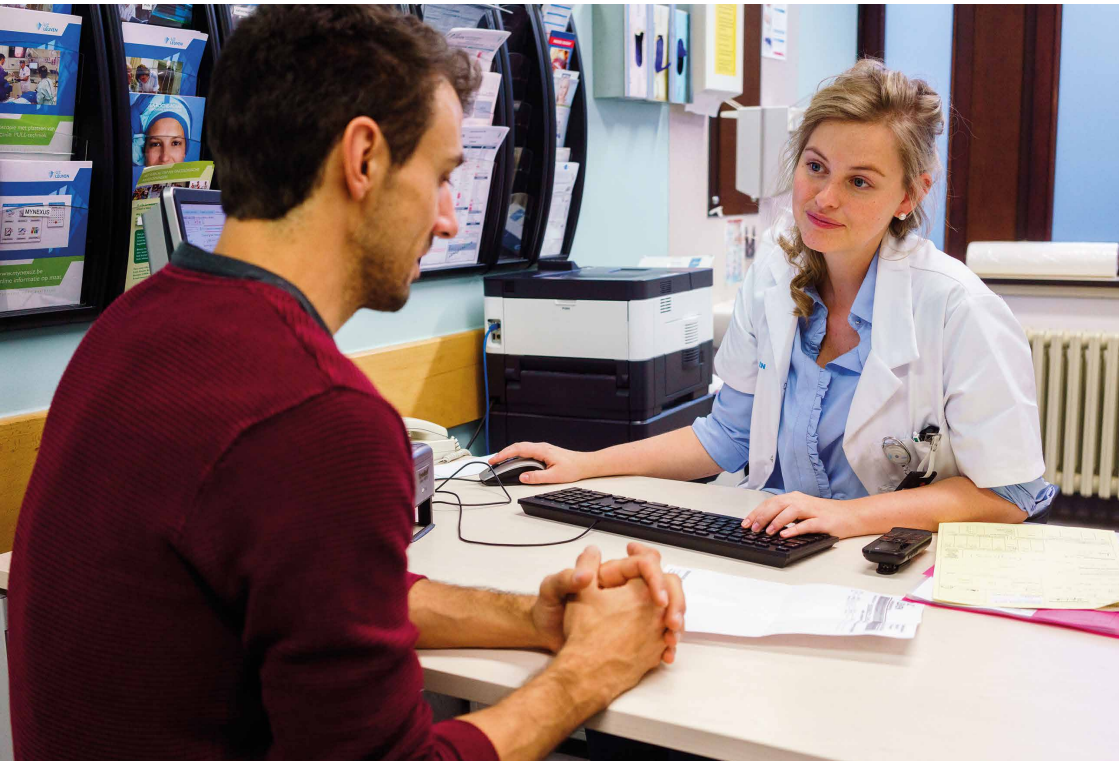


AlignRT

When positioning you on the radiation table, the nursing staff will use AlignRT, a skin surface scanning system that projects your actual position in digital format (you will see a red light on your skin) onto your position during the CT simulation. This enables the nursing staff to make minor adjustments to your position if necessary.

MONITORING BY THE DOCTOR

You will be closely monitored during your radiation therapy by the nursing staff and a junior doctor, who will be in touch with you on a regular basis. If you are monitored privately by a doctor/member of staff, they will coordinate the monitoring process.
If you don't have any particular questions there is no need to see a doctor every week, but we do ask that you consult them at least once every two weeks. This will enable the doctor to properly monitor your treatment. It is important to always report any problems you may encounter. You can also ask the doctor for prescriptions and certificates.
On the last day of your radiation treatment you will be given an appointment for your next check-up with the doctor. If you don't feel well or are worried about certain aspects in the days or weeks following the completion of the radiation treatment, you can consult your GP to arrange an early consultation by telephone.



To ensure that the consultations with the doctor run smoothly we will ask you to complete a questionnaire beforehand. The questionnaire can be accessed via the online patient dossier: ‘mynexuzhealth’. You will receive the necessary information and a log-in code following the CT simulation or during the status consultation. If you have difficulty opening the questionnaire, feel free to notify the nurse so that we can help you.

POTENTIAL PHYSICAL REACTIONS FOLLOWING RADIATION TREATMENT

THERAPEUTIC EFFECTS

Radiotherapy treatment uses ionising rays that destroy malignant (cancer) cells. Prostate cancer radiation treatment is applied externally using appropriate equipment (linear accelerators).

All human tissues are composed of cells, which can duplicate if necessary, for example to replace old or damaged cells. If this duplication process is disrupted and cells begin to divide uncontrollably, a tumour may develop. A tumour may be benign or malignant. A malignant tumour, or cancer, may grow into the surrounding healthy tissue and give rise to secondaries (metastases). For treatment purposes the radiation dose in the tumour must be sufficiently high, whilst irradiation of the surrounding healthy tissue must remain as low as possible to provide maximum protection. This minimises damage to normal or healthy cells, allowing them to repair easily, whilst ensuring the destruction of malignant cells. By administering individual radiation sessions of a few minutes several times a week, it is possible to damage cancerous cells effectively whilst ensuring that healthy tissues have the chance to repair. Ionising radiation cannot be seen, smelled or felt. Irradiation causes no pain.

SIDE EFFECTS FROM RADIATION TREATMENT

Current radiation techniques and sound preparation of the rectum and bladder will ensure that there are far fewer side effects from prostate radiation treatment than there were a few decades ago. Nevertheless, you may suffer some of the side effects described below during the radiation therapy.

- Not everyone will suffer these side effects as a matter of course.
- The seriousness of potential side effects is not related to the eventual results of the treatment:
- If side effects occur during radiotherapy, they usually disappear again spontaneously two to three weeks after the treatment.

The following are some of the common side effects of radiation treatment.

Effect of radiation on intestinal mucosa

The fact that your intestine always receives a dose of radiation too can lead to inflammation of the intestinal mucosa. The following are some of the side effects you may suffer from:

- ✗ Frequent and loose stools: often, but usually not too serious.
- ✗ Urgency to pass stools: 20%, but usually not too serious.
- ✗ More mucus in the stools: < 10%.
- ✗ Blood in the stools: < 5%.
- ✗ Diarrhoea: < 10%.
- ✗ Bowel cramps: < 5%.

Effect of radiation on the bladder

Part of the bladder, and particularly the urethra, can also be in the target area for radiation, which means that you may suffer from any of the following:

- ✗ More frequent urination: often, temporary medication may be required.
- ✗ Having to get up more often during the night to urinate: often, temporary medication may be required.
- ✗ Difficulty urinating and weaker urine flow: often, temporary medication may be required.
- ✗ Urgency when urinating: often, mainly when not drinking enough fluids, temporary medication may be required.
- ✗ Burning sensation when urinating: mainly when insufficient fluids are ingested.
- ✗ Blood in urine: < 5%, often points to a urinary tract infection and mainly occurs when insufficient fluids are ingested.

Fatigue

You may suffer from fatigue, although this tends to be due to the hormone treatment you may be receiving. When you feel tired you should listen to your body but ensure that you keep moving around and get enough exercise.

Delayed impact

Whereas most side effects occur during the radiation treatment or a few weeks after, some may not manifest themselves until months or even years later.

These kinds of side effects occur in a minority of patients, mainly resulting in problems with urination, which is often due to insufficient fluid intake. Obviously, symptoms that were present before the radiation treatment will in some cases persist thereafter. Other diseases such as diabetes, obesity, Crohn's disease or the use of certain medications, e.g. anticoagulants, may increase the risk of delayed side effects. Again it is important to always notify the doctor of any side effects to enable them to investigate whether it is caused by the radiation treatment or by something else.

HORMONE THERAPY

Hormone therapy is a treatment based on medication that (temporarily) suppresses the impact of the male sex hormone testosterone, which stimulates the growth of prostate cancer cells. Moreover, this medication increases the sensitivity of prostate cancer cells to radiation.

IMPACT OF HORMONE THERAPY

Hormone therapy is administered to stop the tumour growing and even more so to make prostate cancer cells more sensitive to radiation. This is achieved by suppressing the impact of testosterone. Testosterone is an androgen (male sex hormone) which is produced in the testicles (95%) and adrenal glands (5%).

Suppressing the impact of testosterone with hormone therapy can be achieved in two ways:

1. **Chemical castration or androgen deprivation therapy (ADT).** This therapy is based on injections which are administered for 6 or 24 months depending on the severity of the disease. Depending on which product is used, the injections are administered once a month or every three or six months (usually into the abdominal fat). Chemical castration is a highly effective therapy that works in 95% of patients. When administered in combination with radiotherapy the likelihood of a cure or long term disease management increases considerably.

   Castration does have a physical and emotional impact though. The most common symptoms include:

   - hot flushes.
   - reduced libido.
   - erectile dysfunction.
   - osteoporosis (hence prevention with vitamin D in powder form).
   - metabolic syndrome (raised sugar and fat levels, weight gain).
   - increased risk of heart and cardiovascular disease (when used long term).
   - joint and muscle pains.
   - mood swings.
   - tiredness.

2. **Blocking testosterone receptors.** This therapy is based on tablets which are taken daily for 6 or 24 months depending on the severity of the disease. This treatment is also effective but in theory less potent than chemical castration.

   The following side effects may occur:

   - breast swelling or tenderness.
   - reduced libido (lower risk than with castration).
   - erectile dysfunction (lower risk than with castration).
   - fatigue.
   - liver dysfunction, although this is rare. This is why a blood sample will be taken about ten days after the start of the treatment.

Certificate

Any kind of hormone treatment is refunded in full by health insurance funds. We will provide you with the necessary certificates, which you have to submit to your health insurance fund's medical adviser. Approval can take several weeks but you can buy the medication from your pharmacy in the meantime and it will be refunded once approved. Certificates need to be renewed annually.

PSYCHOSOCIAL SUPPORT

Illness can be very worrying for you and for your family.
The social workers at the radiation department can help you tackle any difficulties you encounter in your personal and family life. They will also act as a link between you and the doctors.

You can contact them if you have questions concerning:

- ✔ problems relating to your ability to cope, partner relationships and family life.
- ✔ social contacts, time management and work situation.
- ✔ practical arrangements concerning the treatment (e.g. transport).
- ✔ financial matters, social provisions, insurance.
- ✔ home help.
- ✔ residential care (e.g. a convalescent home, short stay, etc.).
- ✔ referrals to fellow patient groups and patient organisations.

Social workers can also provide information, advice, support and referrals to external and/or specialist care providers. You can request an appointment via the social workers, or the nursing staff in charge of the radiation equipment or your radiation oncologist.

END OF THE RADIATION TREATMENT

On the day of the last radiation treatment, remember to call in at the departmental secretariat after the final session to return the parking badge you were issued with at the start of the radiotherapy. You will also be provided with the necessary documentation for follow-up appointments and a form to claim compensation for transport costs incurred whilst travelling to and from the radiation department.

PRACTICAL INFORMATION

INFORMATION AREA, BROCHURES AND INTERNET FACILITIES

A special information area near the reception desk provides brochures published by UZ Leuven, additional information concerning your illness, prevention, healthy living, social provisions, self-help groups and other topics.
Or you can just have a drink and perhaps sit and talk to other patients.

All this information is also available on the UZ Leuven website: www.uzleuven.be/en/radiation-oncology.

KOM OP TEGEN KANKER (STAND UP TO CANCER)

'Kom op tegen Kanker' aims to provide cancer patients and their families with information and support during the period of treatment and convalescence. They have built up an extensive range of services for this purpose. 'Kom op tegen Kanker' organises information sessions on various aspects of the disease.

Regional Care Coordinator Vlaams-Brabant
Tel. 02 225 83 14
zorgregio.vlaamsbrabant@komoptegenkanker.be
www.allesoverkanker.be
www.allesoverkanker.be/lotgenotengroepen

STICHTING TEGEN KANKER (CANCER FOUNDATION)

The 'Stichting tegen Kanker' foundation also provides various services to facilitate the lives of cancer patients and their families.

Stichting tegen Kanker
Leuvensesteenweg 479, 1030 Brussels
Tel. 02 733 68 68
www.kanker.be

QUESTIONS?

If you have specific questions or don't understand some of the information, feel free to contact a member of staff at the reception desk, one of the nurses or your doctor.

COMPLAINTS OR PROBLEMS?

If you have complaints about the treatment or rate of progress, we hope you will discuss this with us so that we can try and find a solution. Perhaps you have suggestions for improvements? Feel free to discuss them with your doctor, the nursing staff in charge of your radiation equipment, the social worker or staff at the reception desk. You can also ask for an appointment with the head of department or senior nurse.
Prefer to submit complaints or comments in writing? If so, post them in the letterbox at the reception desk or contact the hospital ombudsman via ombudsdienst@uzleuven.be or call +32 16 34 48 18.

WHAT IF YOU ENCOUNTER PROBLEMS AFTER YOUR RADIATION TREATMENT?

If you have problems or questions you should first speak to your GP, as they will have been made aware of your medical situation, your treatment and any to be expected side effects. In most cases they will be able to help. If necessary, they will arrange an early appointment at the hospital.

ARE THERE ANY ADDITIONAL COSTS INVOLVED IN THE TREATMENT?

The cost of radiation treatment is covered by health insurance funds. You will be expected to pay the standard share of the cost for maximum two consultations, irrespective of whether you have two or more consultations with the doctor. If you decide to go private and consult a specific doctor, an additional fee may be incurred.
The doctor in charge of your treatment will be able to provide further information regarding this matter.

RADIOTHERAPY

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