



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive



Understanding Radiation Therapy

A guide for patients and their families

What is Radiation Therapy?

Radiation therapy, commonly known as radiotherapy, is a means of treating cancer using high energy x-rays. It feels no different from having a normal x-ray picture taken and is painless. The x-rays work by destroying any cancer cells in the problem area. Normal cells in this area are also altered. However they have the ability to repair themselves quicker than the cancer cells. The damage to these cells is what causes side effects during and after treatment. Most of these side effects resolve with time after treatment is completed. The degree to which one experiences side effects differs for each individual.

Firstly you will meet a radiation oncologist (doctor) who will decide on the best course of radiation therapy treatment to give. A team of radiation therapists who you will see on a daily basis delivers this treatment. During the course of your treatment, you will also meet radiation therapy nurses. They are available to give advice on many aspects of your care while you are undergoing radiation therapy. They will also change dressings and flush Hickman lines if required.

The number of treatments varies between individuals depending on your age, general health, the disease site and the type of cancer. Treatment is planned differently for each individual, so patients with the same type of cancer may have different treatments.

General side effects may include the following, which will be discussed with you before starting treatment.

Tiredness - You may feel tired near the end of your treatment and after you have finished your course of treatment. This is often made worse for those travelling long distances to the hospital everyday. When possible allow yourself time to relax and rest when needed. Gentle exercise is also important to help reduce tiredness.

Skin Care - Some people may develop a reddening on the skin in the treated area two to three weeks into their treatment. This will vary depending on peoples skin types. Some people do not have any skin reactions. The radiation therapists working on the treatment machine will give you cream, if required.

Clothing - During treatment it is best to wear loose fitting clothing around the treatment area as it allows the skin to breathe and may be less irritating on the skin. If you are having treatment to the head and neck area it is best to avoid tight collars and ties. If you are having treatment to the pelvis it is best to avoid tights and tight jeans. Cotton underwear will feel most comfortable to wear. If the breast area is being treated, you may feel more comfortable wearing an old loose bra or crop top as the elastic at the bottom may rub the treated area. Where possible it is best to avoid wearing a bra.

Eating and Drinking - During treatment it is advised to increase your fluids, especially water to prevent dehydration. Approximately 1½ litres of fluids is recommended. It is best to keep alcohol to a minimum during your treatment. You may not feel like eating much but it is important to eat a healthy diet and avoid losing weight. If you are having trouble eating you should change your eating habits to eating little and often rather than sitting down to a big meal. A dietician is available in the department to meet you, if required.

Smoking - While having treatment, it is best, if possible to stop smoking. If you are finding it hard to stop, reducing the number of cigarettes smoked is also beneficial. A smoking cessation officer is available in the hospital to help you quit.

The radiation oncologist and radiation therapist will discuss other specific side effects related to your treatment area in more detail prior to commencing treatment.

Getting ready for treatment

Having seen the radiation oncologist, we will now begin planning your course of radiation therapy. The radiation oncologist will decide on the best course of treatment to give. Treatment is planned differently for each individual but most people will follow one or all of the planning procedures below before starting their radiotherapy treatment.

Mould Room

This room provides an area for making a clear shell, Perspex (mask) that is fitted over the face/treatment area during treatment. A shell is used when treating the head and neck area only. No marks are placed on the skin's surface. You can breathe as normal at all times in the shell and keep your eyes open.

All dental work should be completed prior to this planning procedure

otherwise it should be left until the treatment is complete. No dental work should take place during treatment.

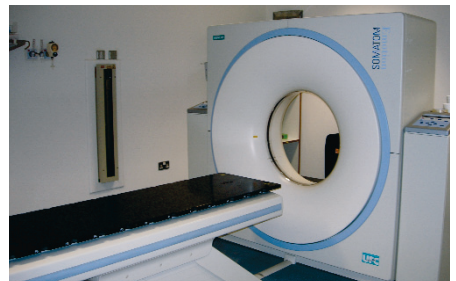
CT Scan

A CT scan takes an x-ray picture of a "slice" of the body to view the tissues and organs. The machine looks like a doughnut. The images taken are transferred to a computer to individually plan your radiation therapy treatment. At this stage tattoos (small permanent ink marks, similar to a freckle) are placed on the skin. They allow the radiation therapists to position you correctly for the treatment.

This process takes approximately 15 minutes. After having a planning CT scan you will be given an appointment to return to the department to check the plan or start treatment. You may have had a previous CT scan to identify the



Mould Room



CT Scanner machine

tumour site, which differs to the planning CT scan.

Simulator

A special x-ray machine used to plan and check the planned treatment area. It is not used for giving radiation therapy treatment. However, the simulator machine looks similar to the treatment machine.

This process takes approximately 30 minutes. Following on from this planning x-ray you will be given an appointment to start your radiation therapy treatment.

Radiation Therapy Treatment

Once your treatment has been individually planned to suit your needs, you will have treatment on one of the following machines.

Linear Accelerator

A Linear Accelerator is a treatment machine that uses high-energy radiation to treat cancer with a high level of accuracy. The machine looks similar to the simulator machine used to plan the treatment.

You will be positioned on the couch (table), and the machine is positioned exactly at the treatment area by moving the machine around the body without touching you. The whole process takes approximately 15-20 minutes and is painless.



Simulator machine

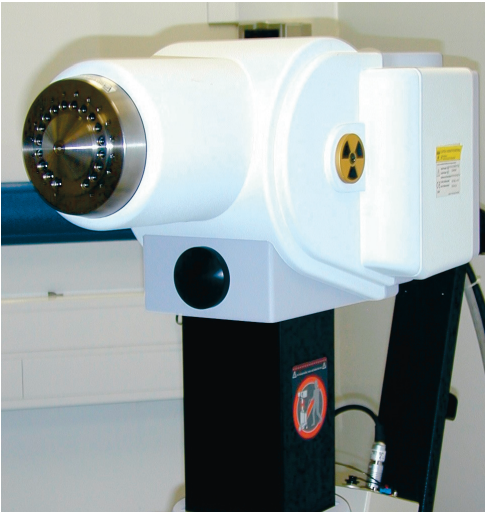


Linear Accelerator machine

Brachytherapy

Radioactive material is inserted into the tumour area to give treatment. This is only given to certain areas of the body. If the doctor decides to give you brachytherapy he/she will discuss it in further detail with you during your treatment.

When having this procedure you may have to stay in hospital overnight.



Brachytherapy Unit

Superficial Unit

A treatment machine which uses radiation to treat small areas of the body with a high level of accuracy. This treatment is mainly used to treat skin lesions on the skin surface.

You will be positioned on the couch and the machine is positioned exactly at the treatment area by placing the machine applicator on the area. The whole process takes approximately ten minutes and is painless. Patients undergoing this treatment do not require a planning phase.



Superficial Unit

Frequently asked Questions about Radiation Therapy

Q1. Will I lose my hair?

Hair will only be lost in the area that is being treated. Depending on the amount of radiation given, the hair may or may not grow back. Your radiation oncologist will discuss this with you before your treatment starts.

Q2. Will I feel sick?

This will depend on the area being treated but most patients will not feel sick. If the treatment is likely to cause sickness the radiation oncologist will prescribe anti-sickness tablets before starting treatment.

Q3. Will the radiation treatment hurt?

No, the treatment will not hurt. It is like an x-ray, you feel nothing while having the treatment. The treatment may or may not cause side effects which will be discussed with you before starting your treatment.

Q4. How long will the treatment take?

The treatment only takes a few minutes. Each patient will be in the treatment room for approximately 15 minutes. Once a week, you may see a doctor,

nurse, specialist radiation therapist or dietician after your treatment so you will be at the hospital a little longer on these days.

Q5. How many times do I need to come to the hospital?

This will depend on the amount of treatment you are having. Most patients will attend a CT scan for planning the treatment. This is different to a CT scan you may have had previously. Approximately, three weeks later you will attend for a Simulator appointment, which checks the plan. A week later you will start your treatment. A course of treatment can last from one to six weeks depending on your diagnosis.

Q6. Can I stay in the hospital during my treatment?

The doctor will decide what is best for you. There are some beds available for people who are too ill to travel long distances. There is also a hostel on the hospital site with rooms where patients can stay during the course of their treatment. There may be a waiting list for the beds in the hospital and the hostel.

Q7. Will my treatment appointment time be at the same time every day?

We aim to keep your appointment time approximately the same every day. Sometimes this may change depending if you need to visit the doctor or dietician or to accommodate patients travelling longer distances.

If you are staying in the hospital or hostel during your treatment, the time may vary. Generally we try to give early appointments on Fridays and late ones on Mondays but this may not always be the case depending on the workload.

Q8. Where can I park?

The main car park is located at the main hospital entrance.

There is also a radiation therapy car park. To locate this car park, turn right once inside the hospital gates, the car park is the second left turn. On your first day of treatment you will be given a disc to display on your car when using this car park. Parking is free but spaces are limited. This disc cannot be used in the main car park. There is a drop off point at the entrance to the Radiation Therapy and Chemotherapy units for patients. This is a drop off area only and parking

must be found elsewhere.

Q9. Can I get any financial assistance while having treatment?

Medical Card - As a cancer patient you may be entitled to a medical card. There is a means test involved. An application form can be obtained from Radiation Therapy or Chemotherapy departments.

Travel Expenses - If you are travelling long distances to the hospital for your treatment you may be entitled to travel expenses. Again this is means tested. An application form can be obtained from the Community Welfare Officer, please ask at the Radiation Therapy reception for information.

Carer's Benefit - If you are forced to leave work to care for a person(s) in need of full-time care and attention, you may be entitled to a Carer's Benefit. Please ask your doctor for further information.

Carer's Allowance - If you are on a low income, live with and look after certain people with an illness you may be entitled to a Carer's Allowance. Again this is means tested. Please ask your G.P. for further information.

Many other benefits are available apart from those mentioned. Please ask for further information on these during your visits to the Radiation Therapy Department.

Q10. Can I wash?

Yes, you can wash as normal except in the treatment area. It is important to keep the treatment area clean. The radiation therapists will give you a leaflet and discuss washing in this area with you on the first day of treatment.

Q11. Will I be tired?

Most patients feel tired during and at the end of their treatment. This tiredness affects everyone differently and may continue for a few weeks or months. If you have to travel a long distance to and from the hospital this will also make you feel tired. Gentle exercise and rest will help alleviate tiredness.

Q12. Should I continue taking all my medication?

Yes, continue unless a doctor advises you otherwise. If you are unsure what medication you are taking, bring a list of them with you when you see the doctor.

Q13. Should I stop eating some foods?

No, continue eating a normal healthy diet unless you are told otherwise. Depending on what area of the body you are having treated, information on a diet change and a dietician appointment may be given to you during treatment

Q14. Can I drive myself to the hospital?

Yes, you can. Unless the doctor tells you otherwise depending on what part of the body you are having treated there will be no effect on your driving. However, you may feel tired near the end of your treatment and may not wish to drive.

Q15. Will I be radioactive?

No, the radiation is only passing through your body when the machine is switched on. You can continue your normal life outside the hospital.

Q16. Will the radiation burn my skin?

With new technology people experience fewer side effects than in past years. However the area being treated may sometimes become red and tender. The radiation therapist will discuss this with you on your first day of treatment.

Medical jargon made easy

During your course of radiation therapy, you may hear a lot of medical words that you do not understand. Some of the most commonly used terms are listed below and we hope they will be of use and help you through your treatment.

If you hear other words not mentioned in this booklet, nor explained below, please do not hesitate to ask your radiation therapist to explain them to you.

Before your Radiation Therapy

| | |
|-----------------------------|--|
| Radiation Oncologist | A specialist doctor who decides on the best treatment for you |
| Radiation Therapist | A specialist radiographer who delivers your treatment on a daily basis |
| Oncology Nurse | A specialist nurse looking after you during treatment |
| CT Scan | A scanning machine which is shaped like a doughnut |
| MRI Scan | A scanning machine in which the patient is enclosed |
| PET Scan | A scanning machine in which the patient is partially enclosed |
| Bone Scan | Radioactive material is injected into the patient who is then scanned using a large camera |
| PSA Test | A blood test to determine the presence of prostate cancer |
| MSU Test | A test for a urine infection |
| Full Blood Count | A blood test to ascertain the levels of different substances in the blood |
| Lymphoedema | A build up of lymph fluid in the body. |

Planning your Radiation Therapy

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|-------------------|---|
| Simulator | A special x-ray machine used to plan and check the planned treatment area |
| Shell/Mask | A clear plastic shell which is made to fit on to the skin. It prevents marking the skin and prevents movement |
| Mould Room | Area where a mask/shell is made |

| | |
|---------------------------|--|
| Tattoo | A small black permanent dot placed on the skin to accurately identify the treatment area |
| Linear Accelerator | A machine that gives the treatment using high energy x-rays |
| Brachtherapy | Radioactive material is inserted into the tumour area to give treatment |
| Superficial Unit | A treatment machine which uses radiation to treat small areas of the body with a high level of accuracy. |

Describing your Radiation Therapy

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|--------------------------|--|
| Radical Course | Treatment is given to try and cure cancer |
| Palliative Course | Treatment given to try and relieve pain and other symptoms |
| Fractions | Total amount of radiation therapy treatments/appointments |
| Dose | The total amount of high energy x-rays given |
| Field | The area of the body where treatment is given |
| Gray | A measurement of radiation that describes the dose |
| Phase | Different stages of a treatment course. |

During your treatment

These phrases are used daily in the treatment room when the body is being positioned using the tattoos and lasers.

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|--------------|--|
| Laser | A red or green fine laser light is projected from the walls and ceiling on to the patient. It lines up with the tattoos to help the radiation therapists straighten the body |
| MLC | A device in the machine to block x-rays to certain body parts |
| Ant | Anterior. The front part of the body |
| Post | Posterior. Towards the back of the body |
| Inf | Inferior. Towards the feet of the body |
| Sup | Superior. Towards the head of the body |
| Med | Medially. Towards the middle of the body |
| Lat | Laterally. Towards the side of the body. |

Useful telephone numbers

Radiation Therapy/Oncology Department

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|---|--------------|
| Department Reception | 021 49 22492 |
| Information & Support Radiation Therapist | 021 49 22492 |
| Oncology Nurses | 021 49 21905 |
| Chemotherapy Reception | 021 49 21305 |

Support Services

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|------------------------|--------------|
| Action Breast Cancer | 1800 309 040 |
| Arc House, Cork | 021 427 6688 |
| Hodgkin's United Group | 1800 200 700 |
| Irish Cancer Society | 1800 200 700 |

Radiation Oncology Department
Cork University Hospital
Health Service Executive South
Cork
Ireland
021 492 2492