

# Radiation Therapy Before A Stem Cell Transplant

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You have agreed to receive radiation therapy prior to your stem cell transplant. Certain blood cancers and blood disorders are treated with a stem cell transplant. Radiation therapy is given to get your body ready for the stem cells. Radiation therapy can reach cancer cells in the body that systemic therapy may not reach. This is why radiation therapy and systemic therapy are given together.

## **What will happen on the day I come for my simulation markings appointment?**

Your first visit to the radiation therapy department is called your simulation markings appointment. This will take about 2 hours.

During your simulation markings appointment, a mask and a special cushion will be made for you. The mask covers your head and shoulders while the cushion goes under your legs and hips. The mask and cushion will help you stay in the same position every time you come for treatment.

A CT scan will be done with you in the cushion and cast. The CT scan does not hurt, and you do not have to hold your breath. It is important that you lie still. Your Radiation Therapists will make every effort to make you comfortable during the CT scan. They will explain every step of what they are doing. This CT scan will be used to plan your treatments.

As the last step, your Radiation Therapists will give you small tattoo markings on your pelvis/abdomen. After your simulation markings appointment, you may have some extra ink on your skin. It can be washed off when you get home.

At your simulation markings appointment, your Radiation Therapy Team members will answer any questions you may have. Many people find it helpful to bring someone along to this appointment.

## **How long will it be until I start my radiation treatments?**

After your simulation marking appointment, you will wait a few weeks before your treatments start as it takes time to create your individual treatment plan. You will be notified of your appointments.

## **How long will my treatments take?**

A day or two before your treatments start you will need to come for a “mock” appointment. This appointment takes up to 2 hours and is done to make sure all your measurements are correct and that all your positioning is good for treatment. Once your treatments start, you should expect to have between 1 and 6 radiation treatments. If you are having more than 1 treatment, the treatments will be given twice a day, one in the morning and one at least 6 hours later that day. Each treatment will take about 2 hours.

## What are the possible side effects from these radiation treatments?

Radiation therapy for stem cell transplant may have many possible side effects.

Short-term side effects:

- Fatigue (Tiredness)
  - › Levels of fatigue can vary from patient to patient. You may be more tired than normal after usual activity and may need a nap or rest after each treatment.
  - › For more information on how to manage this side effect, please read the Nova Scotia Health patient education pamphlet, Managing Cancer-Related Fatigue:  
<https://www.nshealth.ca/patient-education-resources/nshccp4030>
- Skin Reaction
  - › Skin reactions are uncommon but possible. Your skin in the treatment area may become dry and itchy or pink. Some patients may have increased darkening of the skin (hyperpigmentation). Skin reactions may happen on any part of your body.
  - › For more information on how to manage this side effect, please read the Nova Scotia Health patient education pamphlet, Skin Care During Radiation Therapy:  
<https://www.nshealth.ca/patient-education-resources/NSCCP1237>
- Nausea and Vomiting
  - › Some patients have nausea (the feeling of wanting to throw up) and possibly even vomiting (throwing-up) as a result of their radiation treatments. If this happens, you should tell a member of your Radiation Treatment Team. Medications can be used to help with the nausea.
  - › You will also be given a patient education pamphlet with suggestions for managing any nausea, Nausea and Vomiting:  
<https://www.nshealth.ca/patient-education-resources/NSCCP0014>
- Headache
  - › The radiation treatments may cause inflammation in your brain which can cause headaches.
  - › Your healthcare team will provide you with information on how to manage your headaches.
- Hair loss
  - › The hair on your head or body may fall out because of your radiation therapy treatment. Some patients may only notice a little thinning of their hair. This hair loss is temporary and your hair will grow back.
  - › See our patient education pamphlet on hair loss:  
<https://www.nshealth.ca/sites/default/files/documents/NSHCCP4082.pdf>

- Eye irritation
  - › Your eyes may get dry and itchy. You will be given eye drops to help with this.
- Dry and sore mouth or throat
  - › Your salivary glands may make less saliva than usual, and your mouth may be dry. For a couple of weeks after treatment, you may feel pain or discomfort in your mouth and on your lips. You may notice changes in your mouth including swelling of gums or mouth tissue, bleeding of gums and can be at risk of a possible mouth infection. Some people have trouble swallowing for a few days. Even if it is painful, it is important to brush your teeth to lower your risk of infection.
  - › The transplant team will teach you how to take care of your mouth and lips and help you manage discomfort and pain.
  - › For more information on how to manage this side effect, please read the Nova Scotia Health patient education pamphlet, Mouth Care During Cancer Treatment: <https://www.nshealth.ca/patient-education-resources/NSHCCP4094>
- Swollen glands (parotitis)
  - › You may experience swelling or tenderness of one or both of your parotid glands, the major salivary glands that are on either side of your face just in front of your ears.
- Myelosuppression
  - › Myelosuppression is a decrease in how blood cells are made. Normal blood has a large numbers of cells, including red blood cells to carry oxygen, white blood cells to fight infections, and platelets that help with blood clotting. In myelosuppression, the bone marrow makes too few of these cells. You will be less able to fight infection, you may be tired (anemic, have low iron), and you may have small bruises or a greater chance of bleeding.
- Fertility
  - › The systemic therapy and radiation therapy you get as part of your transplant process usually makes you unable to produce viable sperm or become pregnant. If you are interested in learning about options for storing your eggs or sperm for the future, talk to the transplant team before you start your treatment.

- Sexual health changes
  - › Most people with cancer (and their partners) experience a number of physical, emotional, and practical changes. These changes can happen during treatment and recovery and may affect your sexual health. There may be changes in how you feel that may affect how you respond sexually. Reactions of a partner can also add to how you see yourself as a sexual being. You may notice periods of time during treatment and recovery when you have little interest in sex.
  - › This may be upsetting to you and your partner. You may have worries (about your cancer, treatments, and how the illness is affecting your life) and these can affect both your own and your partner's interest in and enjoyment of sex.
  - › If you are single, you may have different worries and challenges, such as how to talk about sexuality and cancer with a new partner.
- Veno-occlusive disease of the liver (VOD)
  - › Although VOD is not common, it can cause weight gain, an enlarged and tender liver, fluid in your abdomen, and increased bilirubin. Bilirubin is found in bile and is made when the liver breaks down old red blood cells. Increased bilirubin may cause jaundice, which means yellow skin and eyes.

### **Long-term side effects**

Radiation therapy treatment for stem cell transplant may cause long-term side effects. These do not happen very often but may be very serious. Your radiation oncologist should talk to you about your risk of long-term side effects and what to expect.

Throughout this resource there are links to other helpful documents that will give you more information about specific topics. Please visit <https://nscancercare.ca> to visit our patient education library.

If you have any questions or concerns regarding the information in this educational pamphlet, please discuss them with your radiation treatment team at your next appointment.

### Looking for more health information?

Find this brochure and all our patient resources here: <http://library.nshealth.ca/cancer>

Contact your local public library for books, videos, magazines, and other resources.

For more information, go to <http://library.novascotia.ca>

**Patient and family feedback is very important to us.**

**We would like to invite you to send any comments or suggestions on how to improve this booklet to [education.cancercare@nshealth.ca](mailto:education.cancercare@nshealth.ca) or feel free to call us at 1-866-599-2267.**

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*It is not intended to replace the advice or professional judgment of a health care provider.*

*If you have any questions, please ask your health care provider.*