

# Total Body Irradiation for a Bone Marrow Transplant

This information explains what you can expect during your radiation treatment. Ask your doctor or nurse any questions you may have.

## How Does Radiation Work?

Radiation therapy uses high-energy radiation (X-rays) to destroy any diseased cells in your blood and bone marrow that have not yet been or will be destroyed by chemotherapy.

## What are the Risks Involved?

Possible temporary short-term side effects include:

- nausea (feel like throwing up) and vomiting (throwing up)
- diarrhea (loose stools)
- loss of hair
- loss of taste
- mouth sores
- increased and thickened saliva
- mild reddening of your skin
- low-grade fever
- mild jaw pain or inflammation of the salivary glands.

Possible long-term side effects include:

- inflammation of your lungs (interstitial pneumonitis)
- decreased growth of long bones (arms and legs) in children less than 6 years old

- changes in skin coloring
- cataracts
- second malignancies (cancer)
- sterility
- decreased hormone production
- learning difficulties (in young children).

## What Is Your Treatment Plan?

The radiation oncologist prescribes the type and amount of treatment for your needs. They will direct a team of highly trained cancer care professionals including:

- the radiation physicist or dosimetrist, who helps compute the dosage of radiation needed and makes sure the treatment machine (called a linear accelerator) delivers each dose properly
- the radiation therapist, who delivers the prescribed treatment.

## How is the Radiation Therapy Treatment Given?

For each treatment, you will sit on a cart in a semi-fetal (half curled) position. Straps are placed across your chest as a safety precaution. You will receive treatment to both sides of your body. (You stay in the same position while the therapist turns the cart around.)

Treatments are given two times a day, usually 6 hours apart.

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## How Long Does the Planning and Actual Treatment Take?

Before your treatment begins, you will be scheduled for a measuring and planning session. At this session, the therapists and physicists place you in the position you will need for treatment. They will take and record different measurements to calculate your treatment dose.

The planning session lasts about 30 minutes. A treatment lasts about 12 minutes for each side of your body. Please allow 45 minutes for your total treatment appointment.

## Testicular Treatment for Acute Lymphoblastic Leukemia Patients

If you are a male patient, you *may* receive a treatment to your testicles on the first day of treatment. You will receive a type of radiation called electrons.

You will lie down on a treatment couch for the treatment, which lasts about one to two minutes. You may have a lightweight rubber (or wax) material on your testicles called “bolus” during the treatment.

## What Happens During a Treatment Visit?

You can expect the following during a treatment:

- You will be taken to the Radiation Oncology Department by hospital staff.
- You will be wearing a mask to protect you from outside germs.
- You may have a “life pack” monitor on.
- It is important that you wear clothing that has no metal on it. Please do not wear any clothing that has snaps or zippers. You will be asked to remove any clothing that has zippers.

- You will need to remove any shoes or heavy slippers you are wearing. You may wear a pair of warm socks.
- You will need to remove all jewelry.
- The therapist will position you according to the measurements that were taken during the planning session.
- The physicist may place some monitoring devices on different parts of your body during the first treatment. This is to make sure you are in the right position.
- Once you are in the right position, the therapist will leave the room to start the radiation machine.
- You will be alone in the room for the treatments. The therapist will watch you on a TV screen in the control room. You will also be able to talk with the therapist through an intercom system.
- While you are being treated, it is important for you to hold as still as possible. During the treatment, if you need help or if the therapist thinks you may have moved, the radiation will be shut off and the therapist will re-enter the room. Once your position is re-checked, the treatment will continue.
- When the treatment is done, the therapist will call for someone to take you back to your room.

Please ask the therapist or radiation oncology nurses any questions or concerns you have. Your comfort is important.