

Total Body Irradiation (TBI)

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Your doctor has recommended total body irradiation (er-ray-dee-AY-shun) (TBI) for you.

TBI is sometimes given to patients before a blood or bone marrow transplant (BMT). It is used along with chemotherapy to destroy diseased cells in your body, blood, and bone marrow. It may also be used to suppress or lower your immune system to allow the new bone marrow to engraft (grow).

Your doctor will discuss the treatment with you, and BMT team members will be available to answer any questions you may have.

How is TBI Performed?

TBI therapy is delivered by a machine called a linear accelerator (LIN-ee-ur ak-CELL-uh-ray-tur). This machine produces a high-energy radiation beam, which is directed at specific parts of your body during treatment. This energy is invisible, tasteless, odorless, and silent. The radiation does not stay in your body, so you will not be radioactive after your treatments.

Before you start your treatment, you will meet with a radiation oncologist and a nurse from the Radiation Oncology Department to discuss your treatment plan.

The Initial Planning Process

To prepare for the planning session, you will be taken to the treatment room and asked to lie on your side on a couch. Extensive measurements will be taken as you lie on each side, before you receive a treatment. The therapist will use a marker to draw lines on your skin. These marks are very important. The therapist uses them as a guide each day during your treatment. **Do not use soap or lotion on the marks.** You may rinse this area of your skin with water and pat it dry. Be careful not to erase the marks.

A photograph will be taken for identification purposes and will remain with your chart. Other photographs of the marks may be taken.

The TBI Treatment

TBI is done while you are a patient in the hospital. TBI therapy is usually given once or twice each day for three to four days. Each treatment takes about one hour. This hour includes setting up the treatment machine and delivering your treatment. The actual treatment will last about 20 minutes on each side. Small children may be treated while lying on their back and stomach.

While you are receiving your treatment, you will be alone in the room. Staff members will monitor you using a television camera and will be able to speak to you through an intercom.

Possible Side Effects

As with chemotherapy, TBI may have certain short-term side effects that can be treated or managed with medication. You may experience one or more of the following temporary side effects:

- Nausea

- Vomiting
- Diarrhea
- Mouth sores
- Hair loss
- Taste changes

Side effects that may occur later include:

- Interstitial (in-ter-STISH-ul) pneumonitis (nu-mo-NY-tis) (inflammation of the lungs)
- Decreased bone and soft tissue growth (mostly affecting the long bones in children)
- Intellectual development may be affected (in children who receive TBI)
- Cataracts
- Permanent sterility
- Secondary malignancies

The nurse in the inpatient unit and the radiation oncology nurse are available to answer any questions you may have about managing these side effects.

In an Emergency, Call:
