Total Body Irradiation (TBI)  
Patient Education

Radiation therapy is given to destroy cancer cells. Immediate side effects include nausea, vomiting, decreased appetite, diarrhea and fatigue. The skin exposed to the radiation can become slightly red and warm, like a mild sunburn. Other side effects that occur about a week later include sores in your mouth and throat and decreased blood cell counts. Late side effects of radiation include sterility, possible cataract formation, hypothyroidism, scarring of the lungs, and second malignancies.

Before you start treatment, X-rays will be taken to verify the position of the lung blocks. You will be given a gown to wear during the procedure. You will be positioned just as you will be for treatment. You will be standing on a platform across the room from the radiation machine. There is a canvas sling that will help support you during therapy. The therapist positions the lung blocks and they are held against your chest by straps. Adjustments are made as necessary and an outline of the position of the blocks is marked on the front and back of your chest with a pen marker. Please be careful not to wash these marks off until after you have completed the radiation therapy.

The usual treatment schedule is to start on a Tuesday and finish on Friday. Treatments are given 2 or 3 times a day, generally at 8:00 am, noon and 4:00 pm. The radiation is given alternately with you facing the machine and then with your back to the machine. On some days, you may receive an extra treatment to the chest wall (ribs), which are normally shielded by the lung blocks. This is a different type of radiation called an electron boost.

Before your radiation therapy, the nurse will give you medication to minimize nausea and vomiting. A technician will escort you to radiation therapy. You may walk or go by wheelchair. Each radiation treatment takes about 7 - 8 minutes.

Although you are alone in the room, the radiation therapy technician can hear and see you at all times. If you need help, they are immediately available. The department supplies a tape machine so you can listen to music while you are receiving your treatment.

Outpatient Total Body Irradiation

If total body irradiation (TBI) is part of your treatment plan, you may receive this as an outpatient. One day prior to the start of your radiation, you will have an appointment in the Infusion Treatment Area for lab work, and to start a continuous infusion of intravenous fluid through your catheter. This is given via a portable infusion pump. The home pharmacy nurses will give you instructions about the pump so you can “trouble shoot” if a problem develops away from the hospital.
The nurse will review the routine for your outpatient radiation and prepare you for what to expect. Although TBI is performed as an outpatient, it is important to remember that this is the start of your transplant and you will need to begin infection control practices at this time. The nurse will review these infection control practices with you.

On the morning of each day of radiation treatment you should arrive in the Infusion Treatment Area about 30 minutes before your first dose of radiation. The nurse will check to be sure that you have taken your anti-nausea medications. You will stay in the Infusion Treatment Area until you complete all your radiation doses for the day, usually till about 6:00 pm each evening.

BMT Inpatient Unit (E1), Hospital: (650) 725-7121
Infusion Treatment Area (ITA), Stanford Cancer Center: (650) 725-1860
BMT Clinic, Clinic E, Stanford Cancer Center: (650) 723-9729

This document is intended for use by staff of Stanford Hospital and Clinics. No representations or warranties are made for outside use. Not for reproduction or publication without permission. Direct inquiries to Stanford Hospital and Clinics, E1 7/05.