

Myeloablative Total Body Irradiation

Possible side effects

This handout explains possible side effects you may have when being treated with myeloablative total body irradiation (TBI).

What is myeloablative total body irradiation?

Myeloablative total body irradiation is radiation therapy that kills cells in the bone marrow, including cancer cells. This treatment results in fewer red blood cells, white blood cells, and platelets.

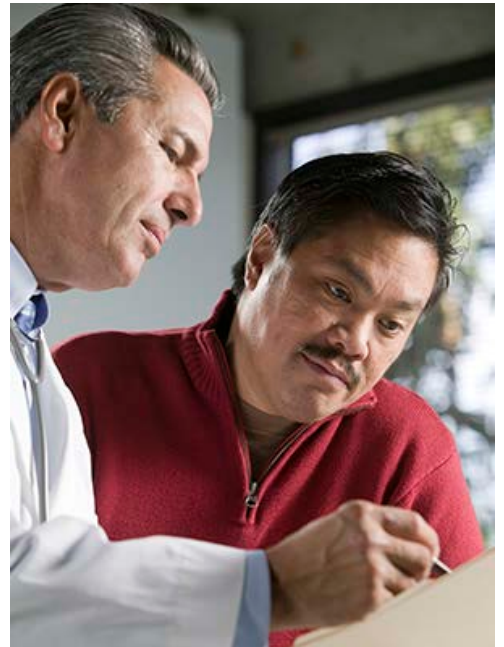
What can I expect?

Like chemotherapy, total body irradiation (TBI) may have side effects. They can occur during or after treatment. Your treatment team will help you manage any side effects that occur.

Short-term Side Effects

These short-term side effects may occur during treatment or in the first 4 to 6 weeks after treatment:

- Fatigue (feeling very tired)
- Nausea and low appetite
- Headache
- Jaw or cheek pain
- Loose bowel movements
- Red, dry, or irritated skin
- Dry mouth or eyes, or both
- Sore mouth or throat, or both
- Taste changes
- Low blood counts
- Hair loss



Talk with your doctor if you are concerned about side effects.

Long-term Side Effects

If they occur, these long-term side effects may last months to years, or for the rest of your life. Some are common, and some are rare.

Common:

- *Cataracts*: Clouding of the lens of the eye, causing problems seeing. You may need surgery to replace the lens.
- *Infertility*: Not being able to conceive children.
- *Hypogonadism* in females: Low or no estrogen hormone. This may affect puberty in girls or cause early menopause in women.
- *Osteoporosis*: Lower bone density.
- *Neurocognitive* problems: Slower thinking, short-term memory loss, problems with attention, less ability to do many tasks at a time, and other problems in how the brain works.

Rare:

- *Organ damage*: Harm to the heart, liver, or kidneys.
- *Pulmonary fibrosis*: Scars in the lungs.
- *Pneumonitis*: Lung inflammation. Call your care team if you have a harsh cough, a dry cough, a prolonged cough, pneumonia, or ongoing shortness of breath.
- *Diabetes* or a *metabolic syndrome* that causes abnormal obesity, high cholesterol, high blood pressure, or high blood sugar.
- *Hypothyroid*: Low thyroid hormone. You may need to take hormone replacement medicines for the rest of your life.
- *Hypogonadism* in males: Low or no testosterone. This may affect puberty in boys or erectile function in men.
- *Hypopituitarism*: Problems with a gland in the brain that controls hormones in the body. You may need to take hormone replacement medicines for the rest of your life. For females, this may affect fertility. In pre-teens, this may cause decreased bone growth.
- Higher risk of *graft-versus-host disease*, as compared to patients who have only chemotherapy.
- Higher risk of stroke.
- *Secondary cancer*. New tumors can be caused by radiation. The younger you are when you receive radiation, the higher your risk of new tumors in the future.

- Birth defects in future children:
 - If you are an adult female, your baby may have birth defects if you are pregnant when you receive treatment.
 - If you are an adult male, there may be birth defects in any children you conceive in the 6 months after treatment.

What can I do to lower my risk of these side effects?

You can do certain things to help lower your risk of secondary cancer, heart disease, and other problems that can happen after having myeloablative TBI. To reduce your risk of these side effects:

- Do **not** smoke.
- Protect your skin from the sun and avoid sunburns.
- Keep your heart healthy by exercising, eating a heart-healthy diet, and getting treatment for high blood pressure, high cholesterol, and diabetes.

Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

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