

Non-Myeloablative Total Body Irradiation

Possible side effects

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

What is non-myeloablative total body irradiation?

Myeloablative total body irradiation (TBI) 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.

Non-myeloablative TBI uses a lower dose of radiation. This treatment kills some, but not all, of the cells in your bone marrow. This means you should have fewer side effects than with myeloablative TBI.

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



Talk with your doctor if you have concerns about side effects.

Long-term Side Effects

If they occur, these long-term may last months to years, or for the rest of your life:

- *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.
- *Pneumonitis*: Lung inflammation. There is only a small risk of pneumonitis for patients who are treated with non-myeloablative TBI. Call your care team if you have a harsh cough, a dry cough, a prolonged cough, pneumonia, or ongoing shortness of breath.
- *Pulmonary fibrosis*: Scars in the lungs. There is only a small risk of pulmonary fibrosis for patients who are treated with non-myeloablative TBI.
- Higher risk of *graft-versus-host disease*, as compared to patients who have only chemotherapy.
- *Hypothyroid*: Low thyroid hormone. You may need to take hormone replacement medicines for the rest of your life.
- Heart disease.
- *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.
- If you are an adult female:
 - Early menopause (rarely).
 - Birth defects or miscarriage 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 non-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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