Electron Beam Radiation Therapy

Electron beam therapy is a type of radiation that is used to treat very shallow (superficial) tumors. It is different than other types of radiation that treat deeper in the body using photons or protons. Electron beam therapy is given using a linear accelerator and can be found at most radiation treatment centers. The electron beam is shaped for treatment using a custom block made of a metal-like material.

How is electron beam radiation therapy different than standard radiation therapy?

Electrons tend to release their energy close to the skin's surface and are often used to treat tumors close to the surface of the skin. Some examples are:

- Skin tumors.
- Keloids.
- Some lymph nodes.
- Lumpectomy scars after breast surgery.

Since electrons release most of their energy near the skin, the dose of radiation to deeper tissues is minimal.

How is electron beam radiation therapy given?

There are two ways electron beam radiation therapy can be given:

- **Spot treatment.** It can be used to treat tumors on the surface of the skin or keloids. It can be used when a single or multiple spots on your body are treated instead of the entire surface of your skin.
- **Total skin electron beam therapy (TSEBT).** TSEBT is when the entire surface of your skin is treated. It is used to treat cutaneous T-cell lymphoma (CTCL) and/or mycosis fungoides (MF), a type of lymphoma that affects the skin.

What are the side effects?

Some of the most common side effects are:

- **Skin irritation:** Your skin can become red, irritated, dry, and darker in color. It may look or feel like a sunburn. This begins toward the end of treatment and often gets better a few weeks after treatment is done. Your skin may stay redder, darker, and drier than it was before treatment. Do not use perfumed lotions or soaps or band-aids. Try to avoid shaving, scratching your skin, and going out in the sun. Be sure to always use sunscreen and seek shade when you are outdoors. Wearing soft or loose-fitting clothing may be more comfortable.
- **Fatigue:** Fatigue is feeling very tired or exhausted. This is very common and tends to begin toward the end of treatment. Fatigue often gets better slowly over the weeks and months after treatment.
- **Delayed wound healing:** Wound healing could take longer than normal after radiation treatment. It depends on the amount of radiation that was delivered.
- **Edema (Swelling):** Edema is the buildup of fluid within the body tissues and causes swelling or stiffness in the hands, legs/feet, and other joints.
- **Alopecia (Hair Loss):** You will lose all the hair on your body. This includes your head, eyebrows, pubic hair, hair on
legs/arms, etc. Your hair will often grow back several months after treatment ends. Wearing a hat and sunglasses can protect your scalp and eyes.

**Is electron beam radiation therapy right for me?**

There are many types of radiation therapy. Your radiation care team will talk to you when deciding which type of radiation is best for you. Electron beam therapy is a good option for cancers of the skin or cancers near the skin surface. Talk with your radiation care team about any questions or concerns you might have.

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