



PATIENT & CAREGIVER EDUCATION

Low Dose Total Body Irradiation

This information will help you prepare for low dose total body irradiation (TBI) at MSK. It will help you know what to expect before, during, and after your treatment. It will also help you learn about side effects and how to care for yourself during your treatment.

Read through this resource before you start TBI.

About radiation therapy

Radiation therapy uses high-energy beams to treat cancer. You won't see or feel the beams.

Radiation therapy works by damaging the cancer cells and making it hard for them to reproduce. Your body is then naturally able to get rid of the damaged cancer cells. Radiation therapy also affects normal cells. However, your normal cells can repair themselves in a way that cancer cells can't.

About TBI

TBI is radiation therapy that's given to your whole body. Many people have TBI before their stem cell transplant.

Low-dose TBI may be given to decrease the response of your immune system. If you're having an allogeneic stem cell transplant (getting bone marrow or stem cells from a donor), your body may see the cells as foreign. If this happens, your immune system will try to destroy them. Having low-dose TBI before your transplant can help keep this from happening.

You will be admitted to the hospital for your TBI treatment.

Your role on your radiation therapy team

Your radiation therapy care team will work together to care for you. You're a part of that team, and your role includes:

- Getting to your appointments on time.
- Asking questions and talking about your concerns.
- Telling us when you have side effects.
- Telling us if you're in pain.
- Caring for yourself at home by:
 - Quitting smoking if you smoke. MSK has specialists who can help. To learn more about our [Tobacco Treatment Program](#), call 212-610-0507. You can also ask your nurse for more information.
 - Caring for your skin based on our instructions
 - Drinking liquids based on our instructions.
 - Eating or avoiding the foods we suggest.
 - Staying around the same weight.

Your simulation appointment

Before you start TBI, you will have a treatment planning procedure called a simulation. This is done to make sure that your treatment area is mapped out and you get the right dose of radiation. This includes measurements of your height and chest measurements.

When you arrive for your appointment, a member of your radiation therapy team will check you in. You will be asked to state and spell your full name and birth date many times. This is for your safety. People with the same or a similar name may be having care on the same day as you.

Your radiation therapist will greet you. They will take a photograph of your face. This picture will be used to identify you throughout your treatment.

Your radiation therapist will then explain what to expect during your

simulation. If you haven't already signed a consent form, your radiation oncologist will review everything with you and ask for your signature.

Appointment scheduling

Your radiation oncologist will plan your exact treatment schedule. A member of your radiation therapy team can give you more information. You can write notes in the space below.

You will have a total of 1 or 2 daily treatments.

Take devices off your skin

You may wear certain devices on your skin. Before your simulation or treatment, device makers recommend you take off your:

- Continuous glucose monitor (CGM)
- Insulin pump

If you use one of these, ask your radiation oncologist if you need to take it off. If you do, make sure to bring an extra device to put on after your simulation or treatment.

You may not be sure how to manage your glucose while your device is off. If so, before your appointment, talk with the healthcare provider who manages your diabetes care.

Your TBI treatments

A patient escort will bring you from your hospital room to your treatments.

- Wear your hospital gown or comfortable clothes. Don't wear clothes with metal.
- You may wear hospital socks, but you must take off your shoes or slippers.
- Don't wear jewelry or metal objects (such as rings or hairpins). These may increase the radiation dose to that area.

- Don't wear powders or lotions.

Positioning

It's important that you're in the right position during your TBI treatments. Your radiation therapists will help you.

- You will be positioned on a platform. You will stand over a seat that's like a bicycle seat and put your hands on handles next to your hips (see Figure 1).
- A large Plexiglass® screen will be placed in the front of your body. The Plexiglass will make sure that the radiation is evenly distributed.

You will face the machine for the first half of your treatment and will be turned away from it for the second half.

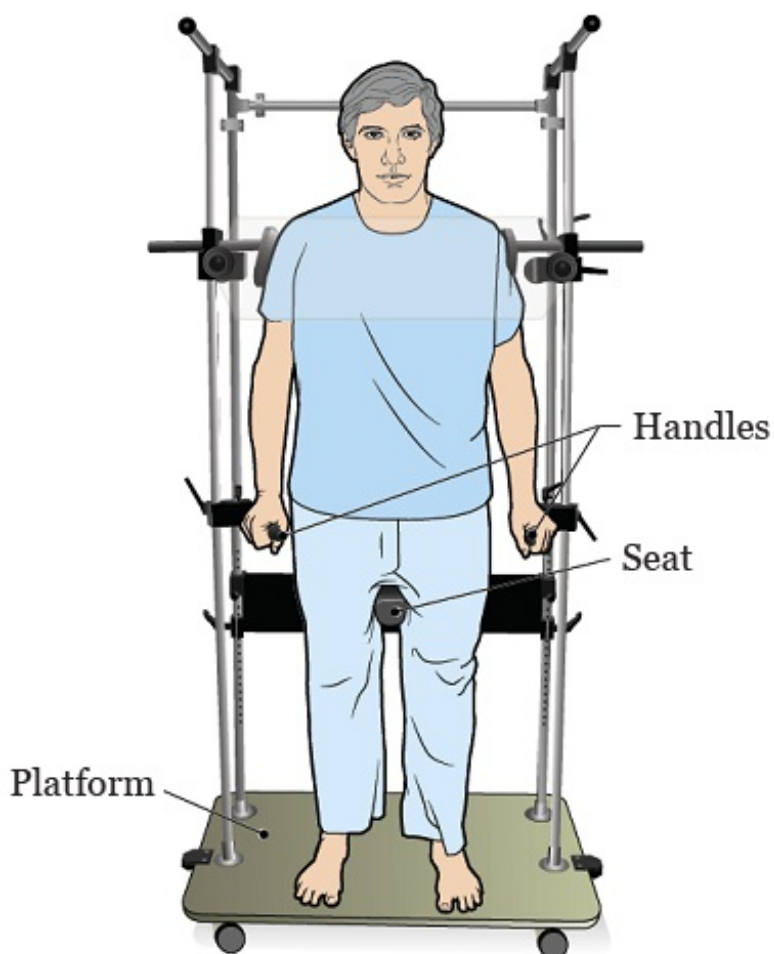


Figure 1. Treatment position

During your TBI treatments

Once you're in the correct position, your radiation therapists will leave the room, close the door, and start your treatment. You won't see or feel the radiation, but you may hear the machine as it moves around you and is turned on and off.

You will be alone in the room during your treatment, but your radiation therapists will see you on a monitor and hear you through an intercom at all times. They will make sure you're comfortable during your treatment.

Breathe normally during your treatment, but don't move. However, if you're uncomfortable or need help, tell your radiation therapists. They can turn off the machine and come in to see you at any time, if needed.

Neither you nor your clothes will become radioactive during or after treatment. It's safe for you to be around other people.

Boosts

A boost is an extra dose of radiation given to an area that's included in the TBI treatment area. You may have boosts as an outpatient before you're admitted to the hospital for your regular TBI treatments.

Your inpatient care team

Any concerns you have during treatment will be managed by your inpatient team. Your inpatient team will contact your radiation therapy team, if needed. Tell your inpatient team if you have chills or any new or unusual symptoms.

During treatment

Your radiation oncologist and radiation nurse will see you once during your treatment to ask you about any side effects you're having, talk with you about your concerns, and answer your questions. This visit will be before or after your treatment on _____.

If you need to speak with your radiation oncologist or radiation nurse, call your radiation oncologist's office. You can also ask the support staff or your

radiation therapists to contact them.

Vitamins and dietary supplements during radiation therapy

It's OK to take a multivitamin during your radiation therapy. Do not take more than the recommended daily allowance (RDA) of any vitamin or mineral.

Do not take any other dietary supplements without talking with a member of your care team. Vitamins, minerals, and herbal or botanical (plant-based) supplements are examples of dietary supplements.

Side effects of TBI

You may have side effects from TBI. The type and degree of side effects depends on many things. These include the dose of radiation, the number of treatments, and your overall health.

Short-term side effects

The most common side effects happen during or within 24 hours after your treatment and don't last very long. Common side effects include nausea (feeling like you're going to throw up) and vomiting (throwing up).

Some people also have swelling of their salivary glands. This causes pain in front of their ear and in their jaw. This is a less common side effect.

Long-term side effects

Some side effects can happen months or years after your treatment and last for a long time. One example is becoming sterile (not able to have a biological child). Your sexual function and pleasure won't be affected.

Other long-term side effects are rare but can happen. Examples include cataracts and new cancers.

Managing side effects

Nausea and vomiting

You will be given medication to keep this side effect from happening and lessen it if it does happen.

Tell your nurse if you have nausea or vomiting. They may give you more medication to help.

Sexual health

You may have concerns about how cancer and your treatment may affect your sexuality. You aren't radioactive. You can't pass radiation to anyone else, so it's safe to be in close contact with other people.

The American Cancer Society has excellent resources that discusses sexual health issues during treatment. The one for men is called *Sex and the Man with Cancer*. The one for women is called *Sex and the Woman with Cancer*. You can search for them at www.cancer.org or call 800-227-2345 for a copy.

MSK also has sexual health programs to help you address the impact of your disease and treatment on your sexual health. You can meet with a specialist before, during, or after your treatment.

- [Female Sexual Medicine & Women's Health Program](#): For more information or to make an appointment, call 646-888-5076.
- [Male Sexual & Reproductive Medicine Program](#): For more information or to make an appointment, call 646-888-6024.

Emotional health

Cancer diagnosis and treatment can be very stressful and overwhelming. You may feel:

- Anxious or nervous
- Depressed
- Numb
- Afraid
- Helpless
- Uncertain
- Alone
- Frustrated
- Worried
- Angry

You might also worry about telling your employer you have cancer or about paying your medical bills. You may worry about how your family relationships may change, or that the cancer will come back. You may worry about how cancer treatment will affect your body, or if you will still be sexually attractive.

It's normal and OK to worry about all these things. All these kinds of feelings are normal when you or someone you love has a serious illness. We're here to support you.

Ways to cope with your feelings

Talk with others. When people try to protect each other by hiding their feelings, they can feel very alone. Talking can help the people around you know what you're thinking. It might help to talk about your feelings with someone you trust. For example, you can talk with your spouse or partner, close friend, or family member. You can also talk with a chaplain (spiritual advisor), nurse, social worker, or psychologist.

Join a support group. Meeting other people with cancer will give you a chance to talk about your feelings and learn from others. You can learn how other people cope with their cancer and treatment and be reminded you are not alone.

We know that all cancer diagnoses and people with cancer are not the same. We offer support groups for people who share similar diagnoses or identities. For example, you can join a support group for people with breast cancer or for LGBTQ+ people with cancer. To learn about MSK's support groups, visit www.msk.org/vp. You can also talk with your radiation oncologist, nurse, or social worker.

Try relaxation and meditation. These kinds of activities can help you feel relaxed and calm. You might try thinking of yourself in a favorite place. While you do, breathe slowly. Pay attention to each breath or listen to soothing music or sounds. For some people, praying is another way of meditation. Visit www.msk.org/meditations to find guided meditations led by our Integrative Medicine providers.

Exercise. Many people find that light movement, such as walking, biking, yoga, or water aerobics, helps them feel better. Talk with your healthcare provider about types of exercise you can do.

We all have our own way of dealing with difficult situations. Often, we use whatever has worked for us in the past. But sometimes this is not enough. We encourage you to talk with your doctor, nurse, or social worker about your concerns.

Contact information

If you have questions or concerns, contact a member of your radiation therapy team. You can reach them Monday through Friday from 9 a.m. to 5 p.m. at these numbers.

Radiation oncologist: _____

Phone number: _____

Radiation nurse: _____

Phone number: _____

Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

Resources

MSK support services

Counseling Center

www.msk.org/counseling

646-888-0200

Many people find that counseling helps them. Our counseling center offers counseling for individuals, couples, families, and groups. We can also prescribe medications to help if you feel anxious or depressed. To make an

appointment, ask your healthcare provider for a referral or call the number above.

Female Sexual Medicine & Women's Health Program

646-888-5076

Cancer and cancer treatments can affect your sexual health, fertility, or both. Our [Female Sexual Medicine & Women's Health Program](#) can help with sexual health problems, such as premature menopause or fertility issues. We can help before, during, or after your treatment. Call for more information or to make an appointment.

Integrative Medicine Service

www.msk.org/integrativemedicine

Our Integrative Medicine Service offers many services to complement (go along with) traditional medical care, including music therapy, mind/body therapies, dance and movement therapy, yoga, and touch therapy. To schedule an appointment for these services, call 646-449-1010.

You can also schedule a consultation with a healthcare provider in the Integrative Medicine Service. They will work with you to come up with a plan for creating a healthy lifestyle and managing side effects. To make an appointment, call 646-608-8550.

Male Sexual and Reproductive Medicine Program

646-888-6024

Cancer and cancer treatments can affect your sexual health, fertility, or both. Our [Male Sexual and Reproductive Medicine Program](#) can help with sexual health problems, such as erectile dysfunction (ED). We can help before, during, or after your treatment. Call for more information or to make an appointment.

Nutrition Services

www.msk.org/nutrition

212-639-7312

Our Nutrition Service offers nutritional counseling with one of our clinical dietitian-nutritionists. Your clinical dietitian-nutritionist will talk with you

about your eating habits. They can also give advice on what to eat during and after treatment. To make an appointment, ask a member of your care team for a referral or call the number above.

Resources for Life After Cancer (RLAC) Program

646-888-8106

At MSK, care does not end after your treatment. The RLAC Program is for patients and their families who have finished treatment.

This program has many services. We offer seminars, workshops, support groups, and counseling on life after treatment. We can also help with insurance and employment issues.

Tobacco Treatment Program

www.msk.org/tobacco

212-610-0507

MSK has specialists who can help you quit smoking. For more information about our Tobacco Treatment Program, call 212-610-0507. You can also ask your nurse about the program.

External resources

American Cancer Society (ACS)

www.cancer.org

800-ACS-2345 (800-227-2345)

Offers a variety of information and services, including Hope Lodge, a free place for patients and caregivers to stay during cancer treatment.

American Society for Therapeutic Radiology and Oncology

www.rtanswers.org

800-962-7876

A group of radiation oncology professionals that specializes in treating patients with radiation therapy. Provides detailed information on treating cancer with radiation and contact information for radiation oncologists in your area.

CancerCare

www.cancercare.org

800-813-HOPE (800-813-4673)

275 7th Ave. (between West 25th & 26th streets)

New York, NY 10001

Provides counseling, support groups, educational workshops, publications, and financial assistance.

Cancer Support Community

www.cancersupportcommunity.org

Provides support and education to people affected by cancer.

National Cancer Institute (NCI) Cancer Information Service

www.cancer.gov

800-4-CANCER (800-422-6237)

Provides education and support to people with cancer and their families.

Publications are available online and in print.

Questions to ask your radiation oncologist

Before your appointment, it's helpful to write down questions you want to ask. Examples are listed below. Write down the answers during your appointment so you can review them later.

What kind of radiation therapy will I get?

How many radiation treatments will I get?

What side effects should I expect during my radiation therapy?

Will these side effects go away after I finish my radiation therapy?

What kind of late side effects should I expect after my radiation therapy?

For more resources, visit www.mskcc.org/pe to search our virtual library.

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