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PATIENT & CAREGIVER EDUCATION

# Electron Beam Radiation Therapy for Skin Lymphoma

This information will help you get ready for electron beam radiation therapy to your skin at Memorial Sloan Kettering (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 radiation therapy. Use it as a reference in the days leading up to your treatments so you can prepare as much as possible. Bring this resource to all future appointments with your radiation oncologist. You and your radiation therapy team will refer to it throughout your treatment.

## About Radiation Therapy

Radiation therapy uses high-energy beams to treat cancer. It 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 are able to repair themselves in a way

that cancer cells can't

## About electron beam radiation therapy

Electron beam radiation therapy is used to treat lymphoma in your skin (cutaneous lymphoma). Electrons don't go deep in your body. The dose of radiation to deeper tissues is minimal.

There are 2 ways electron beam radiation therapy can be given:

- **Spot treatment.** This is when 1 or more spots on your body are treated. If you're having spot treatment, you might have a treatment planning procedure called a simulation before you start treatment. For more information, read the "Simulation" section.
- **Total skin electron beam (TSEB) therapy.** This is when the entire surface of your skin is treated. If you're having TSEB therapy, you won't have a treatment planning procedure. This is because the entire surface of your skin will be treated. You might have extra treatments called compensation treatments. These are done to make sure that every area of your skin gets treatment. For more information, read the "Compensation treatments" section.

## Your Role on Your Radiation Therapy Team

You will have a team of healthcare providers working together to provide the right care for you. You're a part of that team, and your role includes:

- Arriving on time for all of your radiation therapy appointments.
- Asking questions and talking about your concerns. We have included a list of possible questions at the end of this resource.
- Telling someone on your radiation therapy team when you have side effects.
- Telling your doctor or nurse if you're in pain.
- Caring for yourself at home, including:
  - Quitting smoking, if you smoke. If you want to quit, call our Tobacco Treatment Program at 212-610-0507.
  - Following your healthcare team's instructions to care for your skin.
  - Drinking liquids as instructed by your healthcare team.
  - Eating the foods suggested by your healthcare team.
  - Maintaining your weight.

## Before Your Treatment

### Simulation

Before you start your electron beam therapy spot treatments, you will have a treatment planning procedure called a simulation.

**If you're having TSEB therapy, you won't have a simulation. You can skip to the "Treatment schedule" section.**

Simulation is done to make sure that:

- Your treatment area is mapped out.
- You get the right dose of radiation.
- The radiation dose to nearby tissue is as small as possible.

Your simulation appointment will take about 2 to 3 hours.

### **Remove devices from your skin**

If you wear any of the following devices on your skin, the manufacturer recommends you remove it before your simulation or treatment:

- Continuous glucose monitor (CGM)
- Insulin pump

Talk with your radiation oncologist about whether you may need to remove your device before your simulation or treatment.

Make sure you have an extra device with you to put on after your simulation or treatment.

If you're not sure how to manage your glucose while your device is off, talk with the healthcare provider who manages your diabetes care before your appointment.

## Getting ready for your simulation

- **During your simulation, you will be lying in one position for a long time.** If you think you will be uncomfortable lying still, you can take acetaminophen (Tylenol®) or your usual pain medication before your simulation.
- If you think you might get anxious during your procedure, ask your doctor if medication might be helpful.
- Wear comfortable clothes that are easy to take off. You will need to change into a hospital gown.
- Don't wear jewelry, powders, or lotions.

To help the time pass during your simulation, your radiation therapists can play music for you.

## Day of your simulation

### Once you arrive

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 can 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.

### **During your simulation**

You will need to change into a hospital gown for your simulation. You should keep your shoes on. If you wear a head covering (such as a wig, turban, or cap), you might need to remove it.

After you change, your radiation therapists will bring you to the simulation room and help you lie down on the table. They will do everything they can to make sure you're comfortable and have privacy.

The table will have a sheet on it, but it's hard and has no cushion. Also, the room is usually cool. If you feel uncomfortable at any time, tell your radiation therapists. If you haven't taken pain medication and think you might need it, tell your radiation therapists before your simulation starts.

Once your simulation starts, don't speak or move. Speaking or moving can change your position. However, if you're uncomfortable or need help, tell your radiation therapists.

During your simulation, you will feel the table move into different positions. The lights in the room will be turned on and off and you will see red laser lights on each wall. Your radiation

therapists will use these laser lights as a guide to help position you on the table. Don't look directly into the laser lights, because they can damage your eyes.

There will be an intercom (microphone and speaker) and a camera inside the simulation room. Your radiation therapists will walk in and out of the room during your simulation, but there will always be someone who can see and hear you. You will hear your radiation therapists talking to each other as they work, and they will talk to you to explain what they're doing.

## **Positioning**

Depending on the area of your body that's being treated, you might lie on your stomach or on your back. Your arms might be raised above your head or at your sides. The position that you are in during your simulation will be the same position you will be in for your spot treatments. If you need an immobilization device, your nurse and radiation therapist will explain it to you.

## **After your simulation**

At the end of your simulation appointment, we will schedule an appointment for your set-up procedure and first treatment.

## **Treatment schedule**

- Spot treatment is given \_\_\_\_\_ times a week over \_\_\_\_\_ weeks. You should plan to be in the department for 60 to 90 minutes for each treatment.

- TSEB therapy is given 2 times a week over \_\_\_\_\_ weeks. You should plan to be in the department for 60 to 90 minutes for each treatment.

If you're having compensation treatments, they will be given for an extra 2 to 4 weeks after your regular treatments are finished.

## **During Your Treatment**

### **What to expect**

For each of your treatments, check in at the reception desk and have a seat in the waiting room. When your radiation therapists are ready for you, you will be shown to the dressing room and asked to change into a hospital gown. Keep your shoes on during your treatment.

Your radiation therapists will bring you into the treatment room. They will help you get into position for your treatment.

- If you're having spot treatment, you will be lying in the same position that you were in during your simulation.
- If you're having TSEB therapy, you will be standing on a platform that rotates. This is so the entire surface of your skin can be treated from different angles.

Once you're positioned correctly, your radiation therapists will leave the room, close the door, and start your treatment. You won't see or feel the radiation, but you might hear the machine



as it moves around you and is turned on and off. You will be in the treatment room for \_\_\_\_\_, depending on your treatment plan. Most of this time will be spent putting you in the correct position. The actual treatment only takes a few minutes.

You will be alone in the room during your treatment, but your radiation therapists will be able to 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.**

#### **Compensation treatments**

After your regular treatments are done, your radiation oncologist might want you to have compensation treatments to areas of your skin not covered during TSEB. These areas include the soles of your feet, your perineum (area between your vagina and anus or scrotum and anus), your scalp, and the skin folds under your breasts and on your stomach area.

You will have \_\_\_\_\_ to \_\_\_\_\_ compensation treatments

over 2 to 4 weeks. You should plan to be in the department for 60 to 90 minutes for each treatment.

### **Weekly visits during treatment**

Your radiation oncologist and nurse will see you each week 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 treatments each \_\_\_\_\_. You should plan to be at your appointment for about 1 extra hour on these days.

If you need to speak with your radiation oncologist or radiation nurse between these weekly visits, call your radiation oncologist's office. You can also ask the support staff or your radiation therapists to contact your radiation oncologist when you come in for treatment.

### **Vitamins and dietary supplements**

Many people ask about taking vitamins during treatment. If you want to take a daily multivitamin, you can. Don't take more than the recommended daily allowance of any vitamin. Don't take any other vitamins or any supplements without talking with your radiation oncologist. This includes both nutritional and herbal supplements.

# Side Effects of Treatment

You might have side effects from radiation therapy. The type and how severe they are depends on many things. These include the dose of radiation, the number of treatments, and your overall health.

You might start to notice side effects after you start treatment. They can get worse during treatment, but they will slowly get better after you finish treatment. Some side effects might take longer to go away. Follow the guidelines in this section to help manage your side effects during and after treatment.

Below are the most common side effects of electron beam radiation therapy. You might have all, some, or none of these. Your nurse will talk with you about the side effects you're most likely to have. They will also check the boxes next to that section.

## Changes to your skin, hair, and nails

You might have side effects that involve the skin, hair, and nails in the area being treated. Your skin can become:

- Red
- Dark
- Dry
- Irritated
- Itchy

You might lose hair on your whole body (including your scalp, eyebrows, under your arms, and pubic area). The hair loss is usually temporary. Hair should start to grow back 3 to 6 months after your treatment is done. You might want to buy a wig before your treatment begins.

Your nails might fall off in the areas being treated. As your old nails fall out, new ones will be growing in underneath. Keep your nails neatly trimmed during this time.

Your nurse will teach you how to care for your skin. They will apply special dressings (bandages) or creams, if needed. Your doctor might stop your treatment until your skin heals.

Follow the guidelines below to care for your skin. Keep following them until your skin gets better. These guidelines refer only to the skin in the treatment area.

### **Keep your skin clean**

- Bathe or shower every day. Use warm water and a mild, unscented soap (such as Neutrogena<sup>®</sup>, Dove<sup>®</sup>, baby soap, Basis<sup>®</sup>, or Cetaphil<sup>®</sup>). Rinse your skin well and pat it dry with a soft towel.
- When washing, be gentle with the skin in the treatment area. Don't use a washcloth, scrubbing cloth, or brush.
- Don't use alcohol or alcohol pads on the skin in the treatment area.

## **Moisturize your skin often**

Start using a moisturizer when you start treatment. This can help minimize skin reactions. You can use an over-the-counter (not prescription) moisturizer.

- Use a moisturizer that doesn't have any fragrances or lanolin. Your nurse can suggest a moisturizer for you to use.
- Don't use more than 1 moisturizer at a time, unless your nurse tells you to use more.

Apply the moisturizer 2 times each day. The best time to do it is right after bathing, while your skin is still a little damp. Rub the moisturizer in your hands to soften it. Apply it to your entire body. Pay special attention to your hands and feet. Ask a family member or friend to help rub the moisturizer into your back.

Don't wash off the moisturizer before your treatments. Your skin could become irritated.

## **Avoid irritating your skin**

- If your skin is itchy, don't scratch it. Apply moisturizer. Ask your nurse for recommendations on how to relieve the itching. They can give you a prescription for medication to treat itchy skin.
- Wear loose-fitting cotton clothing and undergarments in the area being treated. Avoid underwire bras or tight clothing

that will rub against your skin.

- Use only the moisturizers, creams, or lotions that you have discussed with your radiation oncologist or nurse.
- Don't use makeup, perfume, powder, or aftershave on the skin in the treatment area.
- Don't use deodorant if your skin is open, cracked, or irritated. You can use deodorant on intact skin in the treatment area. Stop using it if your skin becomes irritated.
- Don't shave in the treatment area. If you must shave, use only an electric razor. Stop if your skin becomes irritated.
- Don't put tape on the treatment area.
- Don't let the skin in the treatment area come into contact with extreme hot or cold temperatures. This includes hot tubs, water bottles, heating pads, and ice packs.
- If you don't have any skin reactions, you can swim in a chlorinated pool. Shower right after you get out of the pool to rinse off the chlorine.
- Avoid tanning or burning your skin. If you're going to be in the sun:
  - Use a PABA-free sunblock with an SPF of 30 or higher.
  - Wear loose-fitting clothing that covers as much of the skin in the treatment area as possible.

## **Fatigue**

Fatigue is feeling tired or weak, not wanting to do things, not being able to concentrate, or feeling slowed down. You might develop fatigue after 2 to 3 weeks of treatment, and it can range from mild to severe. Fatigue will gradually go away after your treatment is done, but it can last for several months.

There are many reasons you might develop fatigue, including:

- The effects of radiation on your body.
- Traveling to and from your treatments.
- Not having enough restful sleep at night.
- Not eating enough protein and calories.
- Having pain or other symptoms.
- Feeling anxious or depressed.
- Side effects of certain medications.

You might find that your fatigue is worse at certain times of the day.

## **Ways to manage fatigue**

- If you're working and are feeling well, keep doing so. However, working less can help you have more energy.
- Plan your daily activities. Think about the things you need to do or that are most important to you. Do these activities

when you have the most energy.

- Plan time to rest or take short (10 to 15 minute) naps during the day, especially when you feel more tired. When you nap, try to sleep for less than 1 hour at a time.
- Try to sleep for 8 or more hours every night. This might be more sleep than you needed before you started radiation therapy.
  - Being active during the day can help you sleep better at night. For example, if you're able to exercise, you can go for a walk, do yoga, or ride a bike.
  - Relaxing before you go to bed can also help you sleep better at night. For example, you can read a book, work on a jigsaw puzzle, listen to music, or do calming hobbies.
  - You might also find it helpful to go to sleep earlier at night and get up later in the morning.
- Ask family and friends to help you with things like shopping, cooking, and cleaning. Check with your insurance company to see if they cover home care services.
- You might have more energy if you exercise. Ask your doctor if you can do light exercise, such as walking, stretching, or yoga.
- Eat foods and drink liquids that are high in protein and calories. For information about eating during your treatment, read the resource *Eating Well During Your Cancer Treatment* ([www.mskcc.org/pe/eating\\_cancer\\_treatment](http://www.mskcc.org/pe/eating_cancer_treatment)).



- Ask your radiation oncologist or nurse for help managing any other side effects you have. Pain, nausea, diarrhea, trouble sleeping, or feeling depressed or anxious can increase your fatigue.

#### □ **Changes to your sweat glands**

After your treatment, your sweat glands might not work as well as before. This means that you might not sweat enough and you might be more at risk for heat exhaustion.

Do the following to prevent this:

- When the weather is very hot, stay indoors with the air conditioning turned on.
- Ask your radiation oncologist about doing activities such as housework or gardening. Also, ask about what kinds of exercises are safe.
- Don't use saunas, steam rooms, or hot tubs.
- Drink plenty of liquids during warm weather.

#### □ **Swelling and stiffness**

During your treatment, you might have swelling in your hands, legs, ankles, and feet. Sometimes, this swelling can be very uncomfortable. Tell your radiation oncologist or radiation nurse if this happens to you. You may need to limit your activities or take medication to help with these symptoms. Your nurse or a

clinical dietitian nutritionist may also recommend changes to your diet, such as cutting down on salt.

You might still have swelling and stiffness after your treatment is over. Try to keep doing your usual activities as best as you can. Your radiation oncologist can recommend physical therapy to prevent further stiffness.

### □ **Appetite loss**

Your appetite might decrease while you're receiving treatment. However, your body needs protein and calories. They help repair the normal cells injured from radiation. Also, if you use a mold during your treatments, it might not fit correctly if your weight changes. Try not to lose weight during your treatment.

- Be selective about what you eat to be sure you increase your calories and protein. We will give you the resource *Eating Well During Your Cancer Treatment* ([www.mskcc.org/pe/eating\\_cancer\\_treatment](http://www.mskcc.org/pe/eating_cancer_treatment)). It contains many suggestions. Try the foods that are recommended.
- Try to eat small meals often throughout the day.
- If you never seem to feel hungry, set up a schedule to make sure you eat regularly. For example, set a schedule to eat every 2 hours.
- Eat your meals in a calm place. Take your time eating. Eat with family or friends whenever you can.

- Choose foods with different colors and textures to make your meals more appealing.
- Bring snacks and drinks to your treatment appointments. You can have while you're waiting or while you're coming to and from your appointments.
- Drink liquid nutritional supplements if you're not eating enough food. There are many products available, and they come in many flavors. Ask your doctor or nurse which product is best for you.

#### □ **Changes to your blood cell counts**

It's very rare that electron beam radiation therapy affects blood cell counts. However, call your radiation oncologist or nurse immediately if you develop:

- A temperature of 100.4 °F (38 °C) or higher
- Shaking chills
- Flu-like symptoms
- Bleeding

These things can mean that you have an infection. If you have an infection, you might need antibiotics. You might also have another problem related to a drop in your blood cell counts.

## Sexual health

You might have concerns about how cancer and your treatment can 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.

You can be sexually active during radiation treatment, unless your radiation oncologist gives you other instructions. However, if you or your partner are able to have children, you must use birth control (contraception) to prevent pregnancy during your treatment.

The American Cancer Society has resources about sexual health issues during cancer 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](http://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 might feel:

<ul style="list-style-type: none"><li>• Anxious</li><li>• Afraid</li><li>• Alone</li><li>• Ambivalent</li></ul>	<ul style="list-style-type: none"><li>• Angry</li><li>• Depressed</li><li>• Helpless</li><li>• Frustrated</li></ul>	<ul style="list-style-type: none"><li>• Nervous</li><li>• Numb</li><li>• Worried</li></ul>
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All of these types of feelings are normal if you or someone you love has a serious illness.

You might also worry about telling your employer that you have cancer or about paying your medical bills. You might worry about how your family relationships might change, about the effect of cancer treatment on your body, or if you will continue to be sexually attractive. You might worry that the cancer will come back. We're here to support you.

## Ways to cope with your feelings

- Talk with other people. 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 can help to talk about your feelings with someone you trust. You can talk with your spouse or partner, a close friend, family member, chaplain, nurse, social worker, or psychologist. You

might also find it helpful to talk to someone who's going through radiation therapy, or a cancer survivor or caregiver who has been through a similar treatment. Through our Patient and Caregiver Support Program, you have a chance to speak with former patients and caregivers. To learn more about this service, call 212-639-5007.

- Join a support group. Meeting other people with cancer will give you a chance to talk about your feelings and listen to other people who have the same concerns. You will learn how others cope with their cancer and treatment. Your doctor, nurse, or social worker can tell you about the support groups you might be interested in.
- Try relaxation and meditation. You might try thinking of yourself in a favorite place while breathing slowly, paying attention to each breath, or listening to a soothing music or sound. For some people, praying is another form of meditation. These kinds of activities can help you feel relaxed and calm.
- Exercise. Many people find that light activity like walking, biking, yoga, or water aerobics helps them feel better. Talk with your doctor or nurse about types of exercise you can do.

We all have our own way of dealing with difficult situations. Generally, we use whatever has worked for us in the past. However, sometimes this isn't enough. We encourage you to

Speak with your doctor, nurse, or social worker about your concerns.

## **After Your Treatment**

Be sure to keep your follow-up appointments with your radiation oncologist. During these appointments, your radiation oncologist will evaluate your response to treatment. You might have blood tests, x-rays, and scans during these visits.

Before each follow-up appointment, write down your questions and concerns. Bring this and a list of all your medications to your appointment. If you're running low on any medication you need, tell your radiation oncologist before you run out. You can also call your radiation oncologist or nurse at any time if you have any questions or concerns.

## **Contact Your Radiation Oncologist or Radiation Nurse if You Have:**

- A fever of 100.4 °F (38 °C) or higher
- Chills
- Painful, peeling, blistering, moist, or weepy skin
- Discomfort in the treated area
- Pain not relieved by medication
- Any new or unusual symptoms

# Resources

Many of the resources listed in this guide can be found on the Internet. If you don't have a computer or if you don't know how to use the Internet, check with your local public library or community center.

## **MSK support services**

### **Counseling Center**

646-888-0200

Many people find that counseling helps them. We provide counseling for individuals, couples, families, and groups, as well as medications to help if you feel anxious or depressed.

### **Female Sexual Medicine & Women's Health Program**

646-888-5076

This program helps female patients who are dealing with cancer-related sexual health challenges, including premature menopause and fertility issues.

### **Integrative Medicine Service**

646-888-0800

MSK's Integrative Medicine Service offers patients many services to complement traditional medical care. These include music therapy, mind/body therapies, dance and movement therapy, yoga, and touch therapy.

### **Male Sexual & Reproductive Medicine Program**



646-888-6024

This program helps male patients who are dealing with cancer-related sexual health challenges, including erectile dysfunction.

## **Nutrition Services**

212-639-7312

MSK's Nutrition Service offers nutritional counseling with one of our certified dietitians. Your dietitian will review your current eating habits and give advice on what to eat during and after treatment.

## **Patient and Caregiver Support Program**

212-639-5007

You might find it comforting to talk with a cancer survivor or caregiver who has been through a similar treatment. Through our Patient and Caregiver Support Program, we're able to offer you a chance to talk with former patients and caregivers.

## **Resources for Life After Cancer (RLAC) Program**

646-888-8106

At MSK, care doesn't end after active treatment. The RLAC Program is for patients and their families who have finished treatment. This program has many services, including seminars, workshops, support groups, counseling on life after treatment, and help with insurance and employment issues.

## **Tobacco Treatment Program**

212-610-0507

If you want to quit smoking, MSK has specialists who can help. Call for more information.

## **External resources**

### **American Cancer Society (ACS)**

[www.cancer.org](http://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](http://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.cancer.org](http://www.cancer.org)

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

275 Seventh Avenue (Between West 25<sup>th</sup> & 26<sup>th</sup> Streets)

New York, NY 10001

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

## **Cancer Support Community**

[www.cancersupportcommunity.org](http://www.cancersupportcommunity.org)

Provides support and education to people affected by cancer.

## **National Cancer Institute (NCI) Cancer Information Service**

[www.cancer.gov](http://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.

## **Contact Information**

If you have any questions or concerns, talk with a member of your radiation therapy team. You can reach them Monday through Friday from 9:00 AM to 5:00 PM at the numbers listed below.

Radiation oncologist: \_\_\_\_\_

Phone number: \_\_\_\_\_

Radiation nurse: \_\_\_\_\_

Phone number: \_\_\_\_\_

After 5:00 PM, during the weekend, and on holidays, call 212-639-2000. Ask for the radiation oncologist on call.

## Questions to Ask Your Healthcare Provider

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

What kind of radiation therapy will I get?

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How many radiation treatments will I get?

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What side effects should I expect during my radiation therapy?

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

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

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For more resources, visit [www.mskcc.org/pe](http://www.mskcc.org/pe) to search our virtual library.

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Electron Beam Radiation Therapy for Skin Lymphoma - Last updated on December 12, 2018

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