This information will help you prepare for radiation therapy to your breast or chest wall, including what to expect before, during, and after your treatment. You will also 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 that you can prepare as much as possible. Bring it with you for your simulation appointment and all future appointments with your radiation oncologist so that you and your healthcare team can refer to it.

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 these 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.
During treatment, a machine will aim beams of radiation directly to the tumor. The beam passes through your body and destroys cancer cells in its path. You won’t see or feel the radiation.

Radiation therapy takes time to work. It takes days or weeks of treatment before cancer cells start to die. They will keep dying for weeks or months after treatment ends.

You can have radiation therapy before, during, or after surgery or chemotherapy. You can have it to your breast or chest wall and to the lymph nodes near your collarbone or under your arm.

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 sessions.
- 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 are in pain.
- Caring for yourself at home:
  - Quitting smoking, if you smoke.
○ 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.

Simulation

Before you begin your treatment, you will have a treatment planning procedure called a simulation. This is done to make sure that:

- Your treatment site is mapped out.
- You get the correct dose of radiation.
- The radiation dose to nearby tissues is as small as possible.

During your simulation, you will have x-rays and your skin will be marked with little tattoo dots. These marks identify the area that will be treated.

Your simulation will take 60 to 90 minutes.

Preparing 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 may get anxious during
your procedure, speak with your doctor about whether medication may be helpful.

Wear comfortable clothes that are easy to take off because you may need to change into a hospital gown.

**Day of your simulation**

**What to expect**

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 similar name may be having care on the same day as you.

You will be greeted by your radiation therapist. 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 the simulation to you. 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**

For your simulation, you may need to get undressed from the waist up and change into a hospital gown. You should keep your shoes on. If you wear a head covering, such as a wig, turban, or cap, you may have to remove it.

Your radiation therapists will help you lie down on a table and
make every effort to ensure your comfort and privacy. Although the table will have a sheet on it, it’s hard and has no cushion. If you haven’t taken pain medication and think you may need it, tell your radiation therapists before your simulation begins. Also, the room is usually cool. If you feel uncomfortable at any time, let your radiation therapists know.

Throughout 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 therapists use these laser lights as a guide when they position you on the table. Don’t look directly into the red beam because it may damage your eyes.

Although your radiation therapists will walk in and out of the room during your simulation, there will always be someone who can see and hear you. You will hear your radiation therapists speaking to each other as they work, and they will explain to you what they are doing.

Don’t move once your simulation begins because it may change your position. However, if you’re uncomfortable or need help, tell your radiation therapists.

To help pass the time, your radiation therapists can play music for you. If you’d like, you can bring a CD of your own from home.

**Positioning**
You may be positioned on your back or on your belly. In either position, your arm will be raised above your head.

**Skin markings (tattoos)**
Your radiation therapists will draw on your skin in the area being treated with a felt marker. The felt marking can be washed off after your simulation.

You may also need permanent skin markings called tattoos. Your radiation therapists will use a sterile needle and a drop of ink to make the tattoo. The sensation of getting one feels like a pinprick. The tattoo marks are no bigger than the head of a pin. **The tattoos are permanent and won’t wash off.** If you’re concerned about receiving tattoos as part of your radiation treatment, talk with your radiation oncologist.

After the tattoos are made, your radiation therapists will take several photographs of you in your simulation position. The photographs and tattoo marks will be used to position you correctly on the table each day of your treatment.

**After Your Simulation**
At the end of your simulation, we will give you an appointment for your set-up procedure. This is the final appointment before your treatment begins. You will also be assigned to a machine for your daily treatment.

**Scheduling your treatment**
Radiation treatments are given daily, Monday through Friday, for about _______ weeks.

You must come in every day that you’re scheduled for your treatment. Treatment may not be as effective if you skip or miss appointments. If you can’t come in for treatment for any reason, you must call your radiation oncologist’s office to let your team know. If you need to change your schedule for any reason, speak with your radiation therapist.

**Treatment planning**

During the time between your simulation and the start of your treatment, your radiation oncologist will work with a team to plan your treatment. They will use your simulation x-rays and CT scan to plan the angles and shapes of your radiation beams. The details are carefully planned and checked. This takes between 5 days and 2 weeks.

**Vitamins and dietary supplements**

Many people ask about taking vitamins during treatment. You may take a daily multivitamin, if you wish. Don’t take more than the recommended daily allowance of any vitamin. Don’t take any other vitamins or any supplements without talking to your doctor. This includes both nutritional and herbal supplements.

**Set-up Procedure**

Before your first treatment, you will be scheduled for a set-up
procedure. This procedure usually takes about 1 hour. If pain medication was helpful during simulation, you may want to take it before this procedure.

When you come for your set-up procedure, you will be shown to the dressing room and asked to change into a hospital gown. Your therapists will bring you to the room where you will receive your treatment each day. They will position you on the treatment table. You will lie exactly as you were lying on the day of your simulation.

Special x-rays called beam films will be taken to make sure that your position and the area being treated are correct. The beam films will be repeated throughout your treatment. They aren’t used to see how your tumor responds to the treatment.

**During Your Treatment**

Each day that you have treatment, check in at the reception desk and have a seat in the waiting room. When your radiation therapists are ready for you, they will tell you to change into a hospital gown. You should keep your shoes on during the treatment.

Your radiation therapists will bring you into the treatment room and help you lie on the table. You will be positioned exactly how you were lying during your set-up procedure.

Once you’re positioned correctly, your radiation therapists will
leave the room, close the door, and begin your treatment. You will not 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 in the treatment room for 10 to 20 minutes, 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.

Although you will be alone during the treatment, your radiation therapists will see you on a monitor and hear you through an intercom at all times. They will make sure that you’re comfortable during the treatment. Breathe normally during the treatment, but don’t move. However, if you’re uncomfortable or need help, speak to 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 is safe for you to be around other people.

Boosts

If you’re having radiation after a lumpectomy, your initial radiation treatment will be directed to your whole affected breast for 3 ½ to 5 weeks. After that, you may receive an extra dose of radiation called a “boost.” The boost directs radiation to the area where the lump or cancer cells were located, instead of at your whole breast.
Before your boost, your radiation oncologist will make more skin markings with a felt-tipped marker to outline the boost field. Be sure to wear a shirt that you don’t mind getting stained because the dye from the marker may stain your clothes. These skin markings aren’t permanent. Don’t wash them off until your treatment is completed.

During your boost, you will receive the same amount of radiation that you got for your treatments. However, it will be aimed at a smaller area. There may be a break for a few days between the end of your radiation to your whole breast and the start of your boost. You may be treated on a different machine for your boost or change positions from lying on your stomach to lying on your back.

If you’re receiving radiation to your chest wall or the lymph nodes near your collarbone or under your arm, you will receive 5 to 5 ½ weeks of treatment. You may not need a boost. Your radiation oncologist will talk with you about your treatment schedule.

**Weekly visits during treatment**

Your radiation oncologist and radiation nurse will see you each week to talk with you about any concerns, ask about any side effects you may be having, 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 those days.

If you need to speak with your radiation oncologist or radiation nurse any time between your weekly visits, call your radiation oncologist’s office or ask the support staff or your radiation therapists to contact them when you come in for treatment.

**Side Effects**

Some people develop side effects from radiation therapy. The type and how severe they are depend on many factors. These include the dose of radiation, the number of treatments, and overall health.

Below are the most common side effects of radiation therapy to the breast or chest wall. You may have all, some, or none of these.

**Skin and hair reactions**

During radiation therapy, your skin and hair in the area being treated will change.

Your skin may turn pink, red, tanned, or look like it has sunburn. You may develop blisters and have your skin peel in the skin folds under your arm and breast, the skin over your collar bone, and other areas in the area of radiation therapy that had earlier sun exposure.

Your skin may also become very sensitive and itchy. You may have swelling and tenderness in the treated breast.
You may lose some or all of the hair under the arm on the treated side. It will usually grow back in 2 to 4 months.

You may also notice a rash, especially in any area where you have had previous sun exposure. Although this may be a side effect of treatment, a rash could also be a sign of infection. If you develop a rash at any time during your treatment, tell your doctor or nurse.

Your nurse may apply special dressings or creams and teach you how to care for your skin. Your doctor may stop your treatment until your skin heals. Skin reactions sometimes get worse during the week after treatment is done. If this happens, call your doctor or nurse.

The skin reaction from radiation therapy is usually the worst 1 or 2 weeks after radiation therapy ends, and begins to heal after that point. The healing often takes 3 to 4 weeks.

Below are guidelines to help you care for your skin during treatment. Follow these guidelines until your skin gets better. These guidelines refer only to the skin in the area being treated with radiation.

**Keep your skin clean**

- Bathe or shower daily using warm water and a mild unscented soap, such as Neutrogena®, Dove®, baby soap, Basis®, or Cetaphil®. Rinse your skin well and pat it dry with a soft
towel.

- When washing, be gentle with your skin in the area being treated. Don’t use a washcloth, a scrubbing cloth, or brush.

- The tattoo marks you received before your treatment are permanent and don’t wash off. You may get other markings during treatment such as an outline of your treatment area with a purple felt-tipped marker. You can remove these markings with mineral oil when your radiation therapists say it’s okay.

- **Don’t use alcohol or alcohol pads on your skin in the area being treated.**

**Moisturize your skin often**

- Start using a moisturizer when you begin treatment. This can help to minimize any skin reaction. You can use over-the-counter moisturizers. When choosing a moisturizer pick one that does not have any fragrances or lanolin. There are a number of products that are good to use, and your nurse may suggest one of these to you. Use only one at a time unless your nurse tells you to use more.

- If you’re using a moisturizer, apply it 2 times a day.

- You may also get a prescription for a medication either at the start or during your radiation therapy to treat itchy skin.

**Avoid irritating your skin in the area being treated**
• Wear loose-fitting cotton clothing and undergarments in the area being treated. Avoid tight clothing that will rub up against your skin, including underwire bras for women.

• Use only the moisturizers, creams, or lotions that you have discussed with your radiation oncologist or nurse.

• Don’t use makeup, perfumes, powders, or aftershave in the area being treated.

• Don’t put tape on your treated skin

• If your skin is itchy, don’t scratch it. Apply moisturizer. Ask your nurse for recommendations on how to relieve the itching.

• Don’t shave in the area that’s being treated. If you must shave, use only an electric razor. Stop if your skin becomes irritated.

• Don’t let your treated skin 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 during your treatment, you can swim in a chlorinated pool. However, be sure to rinse off the chlorine right after getting out of the pool.

• Avoid tanning or burning your skin during treatment and for the rest of your life. If you’re going to be in the sun, use a PABA-free sunblock with an SPF of 30 or higher. Also, wear loose-fitting clothing that covers you as much as possible.
Breast discomfort or swelling
You may have some tenderness in your breast, especially at your nipple. You may also develop extra fluid in your breast that may cause sharp, stabbing sensations. Your breast or chest may feel heavy or swollen. You may also have some shoulder stiffness on your affected side.

These sensations may begin within the first few days of treatment and go on for many months after your treatment is done. Below are suggestions to help you reduce this discomfort.

- If you’re a woman, you may want to wear soft, loose bras without an underwire. You may even find it more comfortable to not wear a bra at all.
- Take pain medications such as nonsteroidal anti-inflammatory drugs (NSAIDS) as needed. Some examples of NSAIDs are ibuprofen (Advil®) or naproxen (Aleve®). If you can’t take an NSAID, you may take acetaminophen (Tylenol®) instead.

Fatigue
Fatigue is a feeling of being tired or weak, not wanting to do things, not being able to concentrate, feeling slowed down, or lacking energy. You may develop fatigue after 2 to 3 weeks of treatment, and it can range from mild to severe. This will gradually go away after your treatment is done, but can last for several months.
There are a lot of reasons why you may develop fatigue during treatment, including:

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

You may find that your fatigue is worse at certain times of the day. Below are suggestions to help you manage your fatigue.

**Ways to manage fatigue**

- If you’re working and are feeling well, continue to do so. However, working less may help increase your energy.

- Plan your daily activities. Pick the things that are necessary and most important to you and do them when you have the most energy. For example, you may go to work but not do housework, or watch your children’s sports event but not go out to dinner.

- Plan time to rest or take short naps (10 to 15 minutes) during the day, especially when you feel more tired. If you do nap, try
to sleep for less than 1 hour at a time.

- Try to sleep at least 8 hours every night. This may be more sleep than you needed before you started radiation therapy. You may also find it helpful to go to sleep earlier at night and get up later in the morning. One way to sleep better at night is to be active during the day. For example, if you’re able to exercise, you could go for a walk, do yoga, or ride a bike. Another way to sleep better at night is to relax before going to bed. You might read a book, work on a jigsaw puzzle, listen to music, or do calming hobbies.

- 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.

- Some people have more energy when they 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. Your nurse will give you the resource *Eating Well During Your Cancer Treatment* ([www.mskcc.org/pe/eating_cancer_treatment](www.mskcc.org/pe/eating_cancer_treatment)).

- Other symptoms, such as pain, nausea, diarrhea, difficulty sleeping, or feeling depressed or anxious, can increase your fatigue. Ask your radiation oncologist or nurse for help with any other symptoms you may have.
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
Emotional health
The diagnosis and treatment of cancer can be a very stressful and overwhelming event. You may feel:

- Anxious
- Afraid
- Alone
- Ambivalent
- Angry
- Depressed
- Helpless
- Frustrated
- Nervous
- Numb
- Worried

If you or someone you love has a serious illness, all of these kinds of feelings are expected. You may also worry about telling your employer that you have cancer or about paying your medical bills. You may worry about how your family relationships may change, about the effect of cancer treatment on your body, or if you will continue to be sexually attractive. You may worry that the cancer will come back. 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. You may choose your spouse or partner, a close friend, family member, chaplain, nurse, social worker, or psychologist. You may 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-to-Patient Support Program, you have a chance to speak with former patients and caregivers. To learn more about this service, please 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**

Please be sure to keep your follow-up appointments with your radiation oncologist. They will evaluate your response to treatment. You may have blood tests, x-rays, and scans during these visits. Before coming, write down your questions and concerns. Bring this and a list of all your medications with you. You can also call your radiation oncologist or nurse at any time after your treatment is completed, or in between follow-up visits, if you have any questions or concerns.

At some point, your radiation oncologist may transfer your care to a survivorship nurse practitioner (SNP). The SNP is a member of the MSK Breast Cancer team and works closely with your radiation oncologist. As your needs decrease, your follow-up care may be transferred from MSK to your local doctor. The timing for this will depend on your particular cancer and your treatment plan.

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

- A temperature of 100.4 °F (38 °C) or higher
- Chills
- Painful, peeling, blistering, moist or weepy skin
- Discomfort in the treated area
- Increase in swelling of the breast, underarm, or arm
- Any new or unusual symptoms

**Contact Information**

If you have any questions or concerns, talk with a member of your healthcare 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 -
____________________ and ask for the radiation oncologist on call. If there’s no number listed, or you’re not sure, call 212-639-2000.

**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**
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
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 Seventh Avenue (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.
Questions to Ask Your Doctor or Nurse

We recommend that you write down the questions to ask during your visit with your doctor or nurse. Write down the answers during your appointment so that you can review them again later.

What kind of radiation therapy will I get?

How many treatments will I get?

What side effects should I expect during radiation therapy?

Will these side effects go away after radiation therapy is finished?
What kind of late side effects should I expect after radiation treatment?

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