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PATIENT & CAREGIVER EDUCATION

# About Your Radiation Therapy After Prostate Surgery

This information will help you get ready for radiation therapy to your prostate after your prostate surgery. It'll help you know what to expect and how to care for yourself before, during, and after your radiation therapy.

Read through this resource at least once before you start radiation therapy. After that, use it as a reference in the days leading up to your treatments to help you get ready. Bring this resource to all your appointments with your radiation therapy team. You and your radiation therapy team will refer to it throughout your care.

## About Radiation Therapy

Radiation therapy uses high-energy radiation to treat cancer. It works by damaging cancer cells and making it hard for them to multiply. Your body can then naturally get rid of the damaged cancer cells. Radiation therapy also affects normal cells, but your normal cells can repair themselves in a way that cancer cells can't.

Before your first radiation treatment, you'll have a treatment planning procedure called a simulation. During your simulation, your radiation therapists will take imaging scans, make a mold of your lower body, and mark your skin with little tattoo dots. These things are done to:

- Map your treatment site.
- Make sure you get the right dose (amount) of radiation.
- Limit the amount of radiation that gets to your nearby tissues.

## **Radiation Therapy With Hormone Therapy**

You may have radiation therapy alone or along with hormone therapy. The goal of hormonal therapy is to kill prostate cancer cells. It's often done along with radiation therapy.

For more information about hormone therapy, read *Hormonal Therapy During Radiation Therapy to Your Prostate*

([www.mskcc.org/pe/hormonal\\_therapy\\_prostate\\_cancer](http://www.mskcc.org/pe/hormonal_therapy_prostate_cancer)).

## 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 someone on your care team when you have symptoms related to your treatment.
- Telling someone on your care team if you're in pain.
- Caring for yourself at home by:
  - Quitting smoking if you smoke. 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.
  - Caring for your skin based on your care team's instructions.
  - Drinking liquids based on your care team's instructions.
  - Taking your bowel preparation medications based on your care team's instructions.
  - Avoiding certain foods and drinks based on your care team's instructions.

# Before Your Radiation Therapy

## Sperm Banking

During your radiation treatments, your testes will be exposed to radiation. This can affect your sperm production and ability to have biological children in the future.

If you think you may want to have biological children after radiation therapy, we recommend banking your sperm before you start treatment. For more information, read *Sperm Banking*

([www.mskcc.org/pe/sperm\\_banking](http://www.mskcc.org/pe/sperm_banking)) and *Building Your Family After Cancer Treatment: For People Born With Testicles*

([www.mskcc.org/pe/building\\_family\\_born\\_testicles](http://www.mskcc.org/pe/building_family_born_testicles)).

## Bowel Preparation

You'll need to clear extra stool (poop) from your body for your simulation and radiation treatments. This is called bowel preparation. Bowel preparation helps lower your risk of side effects by limiting the amount of radiation that gets to nearby healthy tissues.

## Supplies

You'll need the following supplies:

- Methylcellulose dissolvable fiber supplement (such as

Citrucel® powder).

- Simethicone 125 milligram (mg) tablets (such as Gas-X® Extra Strength).
- A saline enema (such as a Fleet® saline enema).

You can buy these at your local pharmacy without a prescription.

## **Instructions**

For your bowel preparation:

- Starting 3 days before your simulation, take 1 tablespoon of methylcellulose powder every morning. Dissolve the powder in liquid following the instructions on the package. Continue through the end of radiation treatment
- Starting the night before your simulation, take 2 (125 mg) tablets of simethicone every night. Take 2 more tablets about 2 hours before your simulation appointment and each of your treatment appointments.
- Use a saline enema at home 2 to 3 hours before your simulation appointment.

**Keep taking the methylcellulose powder and simethicone tablets every day until you finish your radiation therapy.**

## **Diet guidelines to minimize bloating**

During your radiation therapy, gas or fluid can build up in your bowels and cause bloating. When your bowels are bloated, they can expand into the treatment area and be exposed to radiation. This can cause side effects or make your side effects worse.

Follow the guidelines below to lower your risk of bloating during radiation therapy. It's best to start 2 to 3 days before your simulation and continue until you have finished your radiation therapy.

- Chew your food well.
- Limit or avoid foods that release gas when they're digested, such as:
  - Asparagus
  - Beer
  - Broccoli
  - Brussels sprouts
  - Cabbage
  - Cauliflower
  - Corn
  - Dried beans, peas, and other legumes
  - Garlic
  - Leeks
  - Milk and other dairy products with lactose (if you're lactose-intolerant)
  - Onions
  - Prunes

- Avoid carbonated (fizzy) drinks, such as sodas and sparkling waters.
- Limit or avoid sugar alcohols, such as xylitol, sorbitol, and mannitol. Sugar-free foods often have sugar alcohols. If you're not sure, check the ingredients list on the food's Nutrition Facts label.
- Choose cooked vegetables instead of raw vegetables.
- Depending on your symptoms, your healthcare provider may tell you to eat more or less fiber. Follow their instructions.

If you're bloated, keeping a food journal can help you see which foods may be causing it. Write down your foods and drinks, the time you have them, and the time you start feeling bloated. Bring your food journal to your appointments. Your healthcare provider will use it to help you manage the bloating.

A clinical dietitian nutritionist can talk with you about your diet and help you design an eating plan that meets your needs. If you'd like to meet with a clinical dietitian nutritionist, ask your radiation oncologist or nurse for a referral.

## **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.

## **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.



## **Simulation Appointment**

The morning of your simulation appointment:

- Take 1 tablespoon of methylcellulose powder as usual.
- Take 2 (125 mg) tablets of simethicone about 2 hours before your appointment. These are in addition to the tablets you usually take at night.
- Use a saline enema 2 to 3 hours before your appointment.

During your simulation, you'll stay in one position for at least 1 hour. If you think this will be hard for you, you should also take acetaminophen (Tylenol®) or your usual pain medication 1 hour before your appointment.

## **When You Arrive**

When you arrive for your simulation, a member of your radiation therapy team will check you in. Your radiation therapists will also greet you and communicate with you throughout your appointment.

You'll be asked to say and spell your full name and date of birth 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.

When it's time for your simulation, you'll change into a hospital gown. Keep your shoes on.

Your radiation therapists may also ask you to drink 8 to 12 ounces of water before your simulation starts. This is to fill your bladder. Having a comfortably full bladder and empty bowel during your treatments will help limit the amount of radiation that gets to your healthy tissue. This helps lower your risk of side effects.

## **During Your Simulation**

Once you're ready, your radiation therapists will help you lie on your back on the treatment table (see Figure 1). The table will have a sheet on it, but it's hard and doesn't have a cushion. If you haven't taken pain medication and think you might need it, tell your radiation therapists before your simulation starts. Also, the room is usually cool. If you feel uncomfortable at any time, tell your radiation therapists. They'll do everything they can to make sure you're comfortable and have privacy.

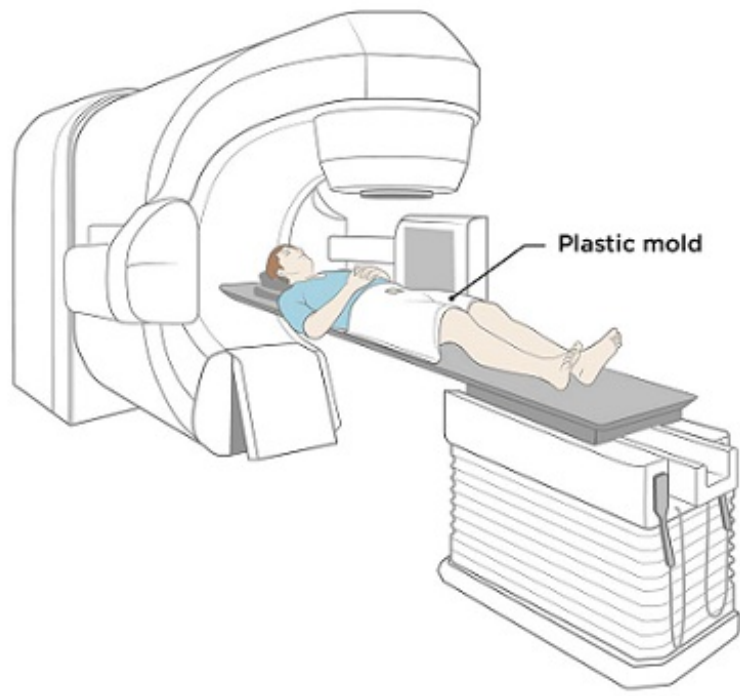


Figure 1. Simulation and treatment machine

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Throughout your simulation, you'll feel the table move into different positions. The lights in the room will be turned on and off and you'll see red or green laser lights on each wall. Your radiation therapists use these laser lights as a guide when they position you on the table.

**Don't look directly into the laser. If you do, it may damage your eyes.**

Don't move once your simulation starts. It's important that you stay in the same position. If you're uncomfortable or need help, tell your radiation therapists.

Your simulation will take about 2 hours but can be

shorter or longer depending on your specific treatment. 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'll hear your radiation therapists talking to each other as they work. They'll also talk with you about what they're doing. Your therapists can play music for you to help pass the time.

## **Imaging Scans**

Your radiation therapists will use a computed tomography (CT) scanner to make sure you're in the right place and position on the table. They may also use a magnetic resonance imaging (MRI) scanner.

## **Positioning (Mold)**

Once you're in the right position on the table, your radiation therapists will make a mold of your lower body.

To make the mold, your radiation therapists will put a warm, flexible plastic sheet over your lower body and shape it to fit around you. The plastic will form a hard mold as it cools. This procedure takes about 15 minutes.

Your radiation therapists will put the mold over you and attach it to the table for your simulation and all your treatments. This will help make sure you're in the exact same position every time.

## **Skin Markings (Tattoos)**

Your radiation therapists will also use a felt marker to draw on your skin in the treatment site. Then, they'll make about 4 to 6 tattoos using a sterile needle and a drop of ink. Each tattoo will feel like a pinprick. The tattoos won't be bigger than the head of a pin.

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

You can wash off the felt markings after your simulation. **The tattoos are permanent and won't wash off.** If you're concerned about having tattoos as part of your radiation treatment, talk with your radiation oncologist.

## **Scheduling Your Radiation Treatments**

You'll schedule your radiation treatment appointments before you leave your simulation appointment. Radiation treatments can be given Monday through Friday for about 8 weeks. Each radiation treatment appointment will take about 1 to 2 hours.

**You must come to every one of your radiation treatment appointments.** Your radiation therapy may not work as well if you skip or miss treatments. If you

can't come in for a treatment for any reason, call your radiation oncologist's office to tell your radiation therapy team. If you need to change your schedule for any reason, speak with your radiation therapists.

## **During Your Radiation Therapy**

Remember to keep taking methylcellulose powder and simethicone tablets every day until you finish your radiation therapy.

### **Radiation Treatment Appointments**

The morning of your radiation treatment appointment:

- Take 1 tablespoon of methylcellulose powder as usual.
- Take 2 (125 mg) tablets of simethicone about 2 hours before your appointment. These are in addition to the tablets you usually take at night.

During your treatment, you'll stay in one position for about 20 minutes. If you think this will be hard for you, you should also take acetaminophen (Tylenol) or your usual pain medication 1 hour before your appointment.

When you arrive for your radiation treatment appointments, a member of your radiation therapy team will:

- Check you in.

- Ask you to visit the restroom and try to have a bowel movement (poop) so there's no stool (poop) or gas in your rectum during your treatment.
- Ask you to empty your bladder.
- Give you 8 to 12 ounces of water to drink about 45 minutes before your treatment, if needed. This helps make sure your bladder is comfortably full during your treatment.

You'll also change into a hospital gown. You can keep your shoes on.

## **During Your Radiation Treatments**

When it's time for your treatment, your radiation therapists will bring you to the treatment room and help you onto the treatment table. You'll be positioned exactly how you were during your simulation. Your radiation therapists will do everything they can to make sure you're comfortable during your treatment. Then, they'll leave the room and start your treatment.

**Breathe normally during your treatment, but don't move.** Your radiation therapists will be able to see you on a monitor and hear you through an intercom during your whole treatment. Tell them if you're uncomfortable or need help.

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

## **Status Check Visits**

Your radiation oncologist and radiation nurse will see you once each week to check how your treatment is going, ask about any side effects you're having, and answer your questions. This is called a status check visit. This visit may be scheduled before or after your treatment.

## **Side Effects of Radiation Therapy to Your Prostate**

Some people have side effects from radiation therapy. The type and severity of side effects varies from person to person. Your healthcare provider will talk with you about what to expect based on your medical history and specific treatment plan.

This section explains the most common side effects of radiation therapy to the prostate. You may have all, some, or none of these. Most of these side effects will go away several weeks to months after you finish radiation therapy. If you have any of these side effects, your healthcare provider will give you more information and help you manage them.



## Urinary Changes

About 2 weeks after your first radiation treatment, you may:

- Have trouble starting to urinate (pee).
- Need to urinate more often than usual.
- Need to urinate at night more often than usual.
- Have sudden urges to urinate.
- Leak urine.
- Feel a burning sensation when you urinate.

Tell your doctor or nurse if you have any urinary changes. They can recommend a change in your diet or prescribe medication that can help. You can also follow the guidelines below.

- Drink 6 to 8 glasses of water throughout the day.
- Avoid drinking after 8 p.m.
- Avoid foods and drinks that may irritate your bladder, such as:
  - Caffeine (such as tea, coffee, soda)
  - Alcohol
  - Spicy foods (especially if you feel burning when you urinate)

- Acidic fruit juices and fruit products (such as tomatoes and tomato juice)
- Do pelvic floor muscle (Kegel) exercises.

Read *Pelvic Floor Muscle (Kegel) Exercises for Males* ([www.mskcc.org/pe/kegels\\_males](http://www.mskcc.org/pe/kegels_males)) to learn how to do Kegel exercises. A member of your radiation therapy team will tell you how many to do and how often to do them.

## **Bowel Changes**

About 2 weeks after your first radiation treatment, you may:

- Have bowel movements (poop) more often than usual.
- Have softer stool than usual.
- Feel discomfort in your rectum (the area where stool is stored before bowel movements).
- Have mucous discharge from your anus.
- Pass more gas than usual.
- Feel like you need to have bowel movements more urgently than usual.

If you have hemorrhoids, radiation therapy can make your hemorrhoid symptoms worse.

These side effects are usually mild.

When you start radiation therapy, you can follow your usual diet. If you develop any of these side effects, talk with your nurse about how to change your diet to manage them. If you're still uncomfortable, tell your doctor or nurse. They can prescribe medication to help.

Read *Diarrhea* ([www.mskcc.org/pe/diarrhea](http://www.mskcc.org/pe/diarrhea)) for more information.

## **Sexual and Reproductive Health**

You can be sexually active during your radiation therapy, unless your radiation oncologist gives you other instructions. You won't be radioactive or pass radiation to anyone else.

If you're sexually active with someone who's able to get pregnant, it's important to use birth control (contraception) during and for 1 year after your radiation therapy. During your radiation therapy, your sperm may be damaged by the radiation. If you conceive a baby with this sperm, the baby might have birth defects. Using birth control helps prevent this.

For more information about your sexual health during cancer treatment, read *Sex and Your Cancer Treatment* ([www.mskcc.org/pe/sex\\_cancer\\_treatment](http://www.mskcc.org/pe/sex_cancer_treatment)). The American Cancer Society also has resources about

sexual health issues during cancer treatment. The one for men is called *Sex and the Adult Male with Cancer*. You can search for it at [www.cancer.org](http://www.cancer.org) or call 800-227-2345 for a copy.

## **Male Sexual and Reproductive Medicine Program**

MSK's Male Sexual and Reproductive Medicine Program helps people address the impact of their disease and treatment on sexual health. You can meet with a specialist before, during, or after your treatment. We can give you a referral, or you can call 646-888-6024 for an appointment.

## **Fatigue**

Fatigue is a feeling of being tired or weak, not wanting to do things, not being able to concentrate, or feeling slowed down. You may develop fatigue after 2 to 3 weeks of radiation therapy, and it can range from mild to severe. Fatigue may last 6 weeks to 12 months after your last radiation treatment.

There are many reasons why you may develop fatigue during treatment, including:

- The radiation's effect 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.
- Certain medications.

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

## **Managing fatigue**

If you have pain, diarrhea (loose or watery bowel movements), trouble sleeping, or feel depressed or anxious, tell a member of your radiation therapy team. They may prescribe you medication or refer you to one of the following support services. You can also request an appointment by calling the numbers below.

### **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.

### **Integrative Medicine Service**

[www.mskcc.org/integrativemedicine](http://www.mskcc.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.

Below are other suggestions to help you manage your fatigue.

- If you're working and are feeling well, it's OK to keep working. But working less may help you have more energy.
- Plan your daily activities. Pick the things you need or really want to do and do them when you have the most energy. For example, you may go to work but not do housework or watch your child's sports event but not go out to dinner.
- Plan time to rest or take short (10- to 15-minute) naps during the day, especially when you feel more tired.
- 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.
- Be active during the day. For example, if you're able to exercise, you can go for a walk, do yoga, or visit the gym.
- Relax before going to bed. For example, you can 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. Read *Managing Cancer-Related Fatigue with Exercise* ([www.mskcc.org/pe/fatigue\\_exercise](http://www.mskcc.org/pe/fatigue_exercise)) for more information.
  - Avoid riding a bicycle during your radiation therapy. Riding a bike can put pressure on your prostate area. It's OK to use an inclined bike.
- Eat regular meals. Your doctor may recommend

following a low-fat, low-fiber diet and avoid gas-producing foods.

## **After Your Radiation Therapy**

### **Follow-up Appointments**

After you finish your radiation therapy, a member of your radiation therapy team will tell you how often to see your doctor or nurse practitioner for follow-up appointments. You may have follow-up blood tests (such as PSA tests) during these appointments. Keeping your follow-up appointments will also help your healthcare provider identify and treat any late side effects (side effects that happen 4 or more months after treatment).

### **Vitamins and dietary supplements after radiation therapy**

- You might be getting other cancer treatments along with your radiation therapy. If you are, ask the doctor managing that treatment when it's safe to start taking dietary supplements again. Some dietary supplements are not safe to take before surgery or during chemotherapy.
- If you are not getting other cancer treatments, you can start taking dietary supplements again 1 month after your last radiation treatment.



If you want to talk with a clinical dietitian nutritionist about your diet or supplements, tell your radiation nurse.

## **Urinary and Bowel Changes**

Radiation therapy can cause permanent urinary and bowel changes. Many people don't notice any changes or have any symptoms. However, some people have late side effects.

Late side effects may be similar to the ones you had during treatment. There's a very small chance you may develop other side effects. For example:

- The opening of your bladder may become narrower.
- You may lose your ability to control your bladder.
- You may have blood in your urine.
- You may have bleeding from your rectum.
- Your rectum may be injured.

These side effects are rare. They may come and go over time or be persistent and chronic. Your healthcare team will help you manage them.

Even if you don't develop any late side effects, remember that the tissues in your bladder and rectum were affected by your radiation therapy. Call your

radiation oncologist if you:

- Have any new urinary, bladder, or bowel symptoms.
- Need to have a colonoscopy. Avoid having a colonoscopy for the first year after radiation therapy.
- Need any type of urological or rectal procedure.

## **Sexual Changes**

Some people develop sexual changes after radiation therapy. For example:

- It may be more difficult or not possible to get or keep an erection. This is called erectile dysfunction (ED).
- Your orgasms may feel different.
- When you ejaculate, the amount or thickness of your semen may be different.
- You may not ejaculate when you orgasm.

These changes may happen many months or years after radiation therapy. They may be permanent. If you notice any of them, tell your healthcare provider. They can give you a referral to a doctor who treats these problems.

## **Contact information**

If you have questions or concerns, talk with 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: \_\_\_\_\_

After 5 p.m., during the weekend, and on holidays, call 212-639-2000. Ask for the radiation oncologist on call.

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

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