About Your Low Dose Rate (LDR) Brachytherapy for Prostate Cancer

This information will help you get ready for your LDR brachytherapy (BRAY-kee-THAYR-uh-pee) treatment to your prostate at MSK.

Read through this resource at least once before your brachytherapy. Use it as a reference in the days leading up to your treatments.

About your prostate

Your prostate is a small, firm gland about the size of a walnut. It works with other glands in your body to make semen.

Your prostate is in front of your rectum, below your bladder (see Figure 1). It surrounds your urethra, the tube that drains urine (pee) from your
About brachytherapy

Brachytherapy is a type of radiation therapy used to treat prostate cancer.

Radiation therapy uses high-energy radiation to treat cancer. It works by damaging the 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 they can repair themselves in a way that cancer cells can’t.

With brachytherapy, your healthcare provider will place tiny radioactive implants (also called seeds) inside your prostate. Each one is about the size of a sesame seed. The seeds will give off radiation for a period of time and then stop. They’ll stay in your prostate for the rest of your life.

About the radioactive seeds

The radioactive seeds will be made of radioactive iodine (I-125) or palladium (Pd-103) and covered with titanium. Your radiation oncologist will tell you which is the best choice for you. Your healthcare provider will place 50 to 125 seeds in your prostate. How many they place depends on how big your prostate is.

A radiation safety officer will give you a card to keep with you after your procedure. The card says you’re getting radiation therapy and has the date when the radiation will be done. If you need to go to a hospital for any reason before the date on the card, tell the healthcare provider you’ve had radioactive seeds implanted.

Your role on your radiation therapy team

You’ll have a team of healthcare providers working together to care for you. You’re part of the team, and your role includes:

- Getting to your appointments on time.
- Asking questions and talking about your concerns.
• Telling someone on your radiation therapy team when you have side
effects.

• Telling someone on your radiation therapy 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.
  ○ Drinking liquids following your radiation therapy team’s instructions.
  ○ Eating the foods your radiation therapy team suggests.
  ○ Staying around the same weight.

**Getting ready for your procedure**

You and your care team will work together to get ready for your procedure.

Help us keep you safe during your procedure by telling us if any of the
following statements apply to you, even if you’re not sure.

• I take a blood thinner, such as:
  ○ Aspirin
  ○ Heparin
  ○ Warfarin (Jantoven® or Coumadin®)
  ○ Clopidogrel (Plavix®)
  ○ Enoxaparin (Lovenox®)
  ○ Dabigatran (Pradaxa®)
  ○ Apixaban (Eliquis®)
  ○ Rivaroxaban (Xarelto®)

There are others, so be sure your healthcare provider knows all the
medications you’re taking.
I take prescription medications (medications my healthcare provider prescribes), including patches and creams.

I take over-the-counter medications (medications I buy without a prescription), including patches and creams.

I take dietary supplements, such as herbs, vitamins, minerals, or natural or home remedies.

I have a pacemaker, automatic implantable cardioverter-defibrillator (AICD), or other heart device.

I have sleep apnea.

I’ve had a problem with anesthesia (medication to make me sleep during surgery) in the past.

I’m allergic to certain medication(s) or materials, including latex.

I’m not willing to receive a blood transfusion.

I drink alcohol.

I smoke or use an electronic smoking device (such as a vape pen, e-cigarette, or Juul®).

I use recreational drugs.

**Presurgical Testing (PST)**

You’ll have a PST appointment before your procedure. The date, time, and location will be printed on the appointment reminder from your healthcare provider’s office. You can eat and take your usual medications the day of your appointment.

It’s helpful to bring these things to your appointment:

- A list of all the medications you’re taking, including prescription and over-the-counter medications, patches, and creams.
- Results of any tests done outside of MSK, such as a cardiac stress test, echocardiogram, or carotid doppler study.
- The names and telephone numbers of your healthcare providers.
During your PST appointment, you’ll meet with a nurse practitioner (NP). They work closely with anesthesiology staff (specialized healthcare providers who will give you anesthesia during your procedure). Your NP will review your medical and surgical history with you. You may have tests to plan your care. Examples are:

- An electrocardiogram (EKG) to check your heart rhythm.
- A chest X-ray.
- Blood tests.

Your NP may recommend you see other healthcare providers. They’ll also talk with you about which medications to take the morning of your procedure.

**About drinking alcohol**

The amount of alcohol you drink can affect you during and after your procedure. It’s important to talk with your healthcare providers about how much alcohol you drink. This will help us plan your care.

- If you stop drinking alcohol suddenly, it can cause seizures, delirium, and death. If we know you’re at risk for these problems, we can prescribe medications to help keep them from happening.
- If you drink alcohol regularly, you may be at risk for other problems during and after your procedure. These include bleeding, infections, heart problems, and a longer hospital stay.

Here are things you can do before your procedure to keep from having problems:

- Be honest with your healthcare providers about how much alcohol you drink.
- Try to stop drinking alcohol once your procedure is planned. Tell your healthcare provider right away if you:
  - Get a headache.
● Feel nauseous (like you’re going to throw up).
● Feel more anxious (nervous or worried) than usual.
● Cannot sleep.

These are early signs of alcohol withdrawal and can be treated.

● Tell your healthcare provider if you cannot stop drinking.
● Ask your healthcare provider questions about drinking and your procedure. As always, all your medical information will be kept private.

**About smoking**

If you smoke, you can have breathing problems when you have a procedure. Stopping for even a few days before your procedure can help.

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.

**About sleep apnea**

Sleep apnea is a common breathing problem. It causes you to stop breathing for short lengths of time while you’re asleep. The most common type is obstructive sleep apnea (OSA). With OSA, your airway becomes fully blocked during sleep.

OSA can cause serious problems during and after a procedure. Please tell us if you have or think you might have sleep apnea. If you use a breathing device (such as a CPAP machine), bring it on the day of your procedure.

**Arrange for someone to take you home**

You must have a responsible care partner take you home after your procedure. A responsible care partner is someone who can help you get home safely. They should be able to contact your care team if they have any concerns. Make sure to plan this before the day of your procedure.

If you don’t have a responsible care partner to take you home, call one of the agencies below. They’ll send someone to go home with you. There’s a
charge for this service, and you’ll need to provide transportation. It’s OK to use a taxi or car service, but you still need a responsible care partner with you.

**Agencies in New York**
VNS Health: 888-735-8913
Caring People: 877-227-4649

**Agencies in New Jersey**
Caring People: 877-227-4649

### Fill out a Health Care Proxy form

If you have not already filled out a Health Care Proxy form, we recommend you do now. If you already filled one out or have any other advance directives, bring them to your next appointment.

A health care proxy is a legal document. It says who will speak for you if you cannot communicate for yourself. This person is called your health care agent.

- To learn more about health care proxies and other advance directives, read *Advance Care Planning* ([www.mskcc.org/pe/advance_care_planning](www.mskcc.org/pe/advance_care_planning)).
- To learn more about being a health care agent, read *How to Be a Health Care Agent* ([www.mskcc.org/pe/health_care_agent](www.mskcc.org/pe/health_care_agent)).
- If you have more questions about filling out a Health Care Proxy form, talk with your healthcare provider.

### Exercise

Exercising will help your body get into its best condition for your procedure and make your recovery faster and easier.

Try to do aerobic exercise every day. Aerobic exercise is any exercise that makes your heart beat faster, such as walking, swimming, or biking. If it’s cold outside, use stairs in your home or go to a mall or shopping center.
Follow a healthy diet

Follow a well-balanced, healthy diet before your procedure. If you need help with your diet, talk with your healthcare provider about meeting with a clinical dietitian-nutritionist.

Buy your supplies

You’ll need to buy the following supplies:

- Bisacodyl (Dulcolax®) 5 milligram (mg) tablets. You can buy them at your local pharmacy without a prescription. They’re usually sold as a box of 10 tablets, but you’ll only need to take 1 tablet.

- NuLYTELY® solution and flavor packs (cherry, lemon-lime, orange, and pineapple). Your healthcare provider will give you a prescription for this. It comes in a 1-gallon (128-ounce) bottle, but you’ll only need to drink ½ gallon (64 ounces).

- Clear liquids to drink while you’re following a clear liquid diet. Examples are listed in the “Clear Liquid Diet” table.

7 days before your procedure

Follow your healthcare provider’s instructions for taking aspirin

If you take aspirin or a medication that contains aspirin, you may need to change your dose or stop taking it 7 days before your procedure. Aspirin can cause bleeding.

Follow your healthcare provider’s instructions. **Do not stop taking aspirin unless they tell you to.**

For more information, read *Common Medications Containing Aspirin, Other Nonsteroidal Anti-inflammatory Drugs (NSAIDs), or Vitamin E* (www.mskcc.org/pe/common_meds).
Stop taking vitamin E, multivitamins, herbal remedies, and other dietary supplements

Stop taking vitamin E, multivitamins, herbal remedies, and other dietary supplements 7 days before your procedure. These things can cause bleeding.

If your healthcare provider gives you other instructions, follow those instead.

For more information, read *Herbal Remedies and Cancer Treatment* (www.mskcc.org/pe/herbal_remedies).

2 days before your procedure

Stop taking nonsteroidal anti-inflammatory drugs (NSAIDs)

Stop taking NSAIDs, such as ibuprofen (Advil® and Motrin®) and naproxen (Aleve®), 2 days before your procedure. NSAIDs can cause bleeding.

If your healthcare provider gives you other instructions, follow those instead.

For more information, read *Common Medications Containing Aspirin, Other Nonsteroidal Anti-inflammatory Drugs (NSAIDs), or Vitamin E* (www.mskcc.org/pe/common_meds).

1 day before your procedure

Get the NuLYTELY mixture ready

On the morning of the day before your procedure:

1. Add lukewarm water to the NuLYTELY bottle. Fill it to the top of the line on the bottle.

2. Add a flavor pack if you want to. Only use a flavor pack that came with the NuLYTELY.
3. Put the cap on the NuLYTELY bottle. Shake the bottle until the powder dissolves. The mixture will be clear, even if you used a flavor pack.

4. Put the bottle in the refrigerator to chill it if you want to. Many people have told us that NuLYTELY tastes better cold.

Don’t mix the NuLYTELY earlier than the morning of the day before your procedure.

**Follow a clear liquid diet**

You can have solid food for breakfast and lunch. Finish your lunch by 12:00 p.m. (noon).

**After lunch on the day before your procedure**, start following a clear liquid diet. A clear liquid diet includes only liquids you can see through. Examples are listed in the “Clear Liquid Diet” table. While you’re following this diet:

- Don’t eat any solid foods.
- Try to drink at least 1 (8-ounce) glass of clear liquid every hour while you’re awake.
- Drink different types of clear liquids. Don’t just drink water, coffee, and tea.
- Don’t drink more than 2 cups (16 ounces) of liquids with caffeine.
- Don’t drink diet liquids, even if you have diabetes. If you do, you may feel weak or dizzy.

<table>
<thead>
<tr>
<th>Clear liquid diet</th>
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<tbody>
<tr>
<td><strong>OK to drink</strong></td>
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<tr>
<td><strong>Soups</strong></td>
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<td><strong>Sweets</strong></td>
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<td>Drinks</td>
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<td>-----------------------------------------------------------------------</td>
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<tr>
<td>• Clear fruit juices, such as lemonade, apple, cranberry, and grape juices.</td>
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<tr>
<td>• Soda, such as ginger ale, 7UP®, Sprite®, and seltzer.</td>
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<td>• Sports drinks, such as Gatorade® and Powerade®.</td>
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<td>• Black coffee.</td>
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<tr>
<td>• Tea.</td>
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<tr>
<td>• Water, including carbonated (fizzy) and flavored water.</td>
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<tr>
<td>• Nutritional drinks, such as Boost®, Breeze, Ensure Clear™, Pedialyte®, and Diabetishield®.</td>
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**Take a bisacodyl tablet**

**At 1 p.m. on the day before your procedure**, swallow 1 (5 mg) bisacodyl tablet with a glass of water.

**Drink the NuLYTELY mixture**

**At 3 p.m. on the day before your procedure**, start drinking the NuLYTELY mixture.

- Drink 1 (8-ounce) glass of the mixture every 15 minutes.
- Only drink half of the bottle (64 ounces). You can use the markings on the bottle to help you keep track.
- Once you’ve finished half of the NuLYTELY mixture, dump out the other half. Then, keep drinking clear liquids.

The NuLYTELY will cause frequent bowel movements, so be sure to be near a bathroom when you start drinking it. To help prevent irritation, you can apply petroleum jelly (Vaseline®) or A&D® ointment to the skin around to your anus after every bowel movement.
Note the time of your procedure
A staff member from the Admitting Office will call you after 2 p.m. the day before your procedure. If your procedure is scheduled for a Monday, they’ll call you on the Friday before. If you don’t get a call by 7 p.m., call 212-639-5014.

The staff member will tell you what time to arrive at the hospital for your procedure. They’ll also remind you where to go. This will be the following location:

Memorial Hospital  
1275 York Avenue (between East 67th and East 68th Streets)  
New York, NY 10065  
Take the B elevator to the 6th floor.

If you have any changes in your health or need to cancel your procedure for any reason, call your radiation oncologist.

Take your medications as instructed
Take the medications your healthcare provider told you to take the night before your procedure. Take them with a small sip of water.

Shower
Shower using soap and water the night before or the morning of your procedure.

Instructions for eating before your procedure  
Do not eat anything after midnight the night before your procedure. This includes hard candy and gum.
The day of your procedure

Instructions for drinking before your procedure

You can drink a total of 12 ounces of water between midnight and 2 hours before your scheduled arrival time. **Do not drink anything else.**

Do not drink anything starting 2 hours before your scheduled arrival time. This includes water.

Things to remember

- Take the medications your healthcare provider told you to take the morning of your procedure. Take them with a small sip of water.
- Don’t wear any lotion, cream, deodorant, powder, or cologne.
- Don’t wear any metal objects. Remove all jewelry, including body piercings. The tools used during your procedure can cause burns if they touch metal.
- Leave valuable items at home.
- If you wear contact lenses, wear your glasses instead. If you don’t have glasses, bring a case for your contacts.

What to bring

- A pair of loose-fitting pants, such as sweatpants.
- Brief-style underwear that’s 1 to 2 sizes larger than you normally wear.
- Sneakers that lace up. You may have some swelling in your feet. Lace-up sneakers can accommodate this swelling.

Where to park

MSK’s parking garage is on East 66th Street between York and 1st avenues. If you have questions about prices, call 212-639-2338.
To reach the garage, turn onto East 66th Street from York Avenue. The garage is about a quarter of a block in from York Avenue. It’s on the right (north) side of the street. There’s a tunnel you can walk through that connects the garage to the hospital.

There are other parking garages located on:

- East 69th Street between 1st and 2nd avenues.
- East 67th Street between York and 1st avenues.
- East 65th Street between 1st and 2nd avenues.

**Where to go**

When you get to the hospital, take the B elevator to the 6th floor to get to the Presurgical Center. Check in at the desk in the waiting room.

**What to expect**

Many staff members will ask you to say and spell your name and birth date. This is for your safety. People with the same or a similar name may be having a procedure on the same day.

When it’s time to change for your procedure, you’ll get a hospital gown, robe, and nonskid socks to wear.

**Meet with a nurse**

You’ll meet with a nurse before your procedure. Tell them the dose of any medications you took after midnight and the time you took them. Make sure to include prescription and over-the-counter medications, patches, and creams.

Your nurse may place an intravenous (IV) line in one of your veins, usually in your arm or hand. If your nurse does not place the IV, your anesthesiologist will do it in the procedure room.
Get ready for your procedure
When it’s time for your procedure, you’ll need to remove your hearing aids, dentures, prosthetic device(s), wig, and religious articles, if you have them. You’ll either walk into the operating room or a staff member will bring you there on a stretcher.

A member of the operating room team will help you onto the operating bed. They’ll also place compression boots on your lower legs. These gently inflate and deflate to help blood flow in your legs. Once you’re comfortable, your anesthesiologist will give you anesthesia through your IV line and you’ll fall asleep. You’ll also get fluids through your IV line during and after your procedure.

During your procedure
After you’re fully asleep, your care team will place a breathing tube through your mouth into your windpipe to help you breathe. They’ll also place a urinary (Foley) catheter in your bladder to drain your urine during your procedure.

After the Foley catheter is in place, your healthcare provider will use rectal ultrasound to see your prostate. They’ll put tiny needles through your perineum into your prostate. Your perineum is the area of skin between your scrotum and anus (see Figure 1). Your healthcare provider will use a computer to determine the best place to place the seeds. Then, they’ll place the seeds in your prostate through the needles.

You’ll have a computed tomography (CT) scan to make sure all the seeds are in the right place. Then, your healthcare provider will remove the needles and Foley catheter.
After your procedure

In the hospital
You’ll wake up in the Post-Anesthesia Care Unit (PACU). A nurse will be keeping track of your body temperature, pulse, blood pressure, and oxygen levels. They’ll also make sure you can urinate (pee) on your own.

You may have some pain after your procedure. Your healthcare providers will ask you about your pain often. They’ll give you medication to treat your pain as needed. If your pain isn’t relieved, tell one of your healthcare providers.

Your nurse will discuss your discharge instructions with you and your caregiver.

Meet with your radiation safety officer
You’ll meet with a radiation safety officer from the Radiation Safety Service. They’ll check the level of radiation in your body. They’ll also give you a wallet card to keep with you for 6 months after your procedure. The card explains the radiation and will have the date when the radiation will be done. If you need to go to a hospital for any reason before the date on the card, tell the healthcare provider you’ve had radioactive seeds implanted.

The radiation safety officer may also give you instructions about any radiation precautions you need to take around your family and friends.

At home
Straining your urine
Although it’s very rare, you may pass a seed with your urine. This won’t affect your treatment. Your nurse will give you a strainer before you’re discharged from the hospital. Use it to strain your urine for the first 4 days after your procedure. If you pass a seed during the first 4 days, keep straining your urine for 4 more days.

If you pass a seed, don’t touch it with your hands or fingers. Pick it up with a spoon or a pair of tweezers. Place it in a small covered container, such as an
empty jar. Store it away from people. Call your radiation oncologist or the Radiation Safety Service at 212-639-7391 for more instructions.

Other instructions

- If you have any bleeding on your perineum, apply steady pressure with a clean, dry washcloth or gauze for 5 minutes. If the bleeding becomes heavy or doesn’t stop, call your healthcare provider.

- It’s OK to follow your usual diet. You may want avoid things that may irritate your bladder. These include caffeine (such as coffee and tea), alcohol, citrus juices, and spicy foods.

- You can shower 24 hours after you’re discharged from the hospital.

- Don’t lift anything over 20 pounds (9.1 kilograms) for 1 week after your procedure.

- Most people can go back to work 2 days after their procedure. If heavy lifting is part of your job, ask your healthcare provider when you can go back to work.

Follow-up care

You’ll have regular appointments with your healthcare provider after your LDR brachytherapy. At each of these visits, your radiation therapy team will check how your body and the cancer are responding to your treatment. You’ll have a physical exam and blood tests, including a prostate-specific antigen test (PSA). Your healthcare provider will also help you manage any symptoms you have. Use these visits to ask questions and discuss your concerns.

Side effects

Urinary symptoms

Urinary symptoms are the most common side effects of brachytherapy. After your procedure, you may have some of the following symptoms.

- Some people can’t urinate after the procedure or may only be able to urinate a few drops at a time. **This is an emergency.** Call your
healthcare provider right away if you can’t urinate.

- You may need to urinate more often than usual, as many as 1 or more times an hour. This usually starts 2 to 4 weeks after the seeds are placed and can last several months or longer.

- You may feel burning when you urinate. This usually starts 2 to 4 weeks after the seeds are placed and can last for about 4 months to 1 year.

- You may notice blood in your urine, which will make it look pink. This is common and usually goes away 3 to 7 days after the seeds are placed. Call your healthcare provider if your urine is still pink after 7 days or if you pass blood clots in your urine.

- You may have bruising around your scrotum and penis. This should go away 1 to 2 weeks after your procedure. Call your healthcare provider if you still have bruising after 2 weeks.

Talk with your healthcare provider if you have any of these symptoms. If you have a procedure to look at your bladder (such as a cystoscopy) planned, wait to have it until after you’ve talked with your healthcare provider.

**Bowel symptoms**

- Your bowel movements may happen more often or be softer than usual. This happens when your rectum is irritated. It may start 1 week after the seeds are placed and can last several months or longer.

- You may have rectal discomfort or mucus discharge.

- If you have hemorrhoids, they may get worse.

Talk with your healthcare provider if you have any bowel symptoms. If you have a procedure to look into your rectum or colon planned (such as a colonoscopy), wait to have it until after you’ve talked with your healthcare provider.
Erectile dysfunction (ED)

Erectile dysfunction, sometimes called impotence, means having trouble or not being able to get an erection. You may notice a change in the strength of your erection. You may have less semen or the consistency of your semen may be different.

Out of every 10 people who have LDR brachytherapy to their prostate, around 3 people develop ED within 5 years of their procedure and around 7 don’t. It’s difficult to predict who will develop ED.

If you develop ED, it may be permanent. Tell your healthcare provider if it happens. There are many treatments for ED available.

Radiation safety instructions

The radioactive seeds in your prostate are made of palladium (Pd-103) or Iodine (I-125). If you’re not sure which type you have, ask your healthcare provider.

If you had palladium implants, you don’t need to follow any safety precautions. If you had iodine (I-125) implants, follow these instructions.

The seeds give off a very small amount of radiation. The amount of radiation gets smaller the further it gets from your body. There’s no measurable radiation 3 feet (1 meter) away.

You can’t make something radioactive by touching it. You don’t have to do anything special with linens, clothing, dishes, or in the bathroom. The seeds won’t disturb pacemakers or microwave ovens.

Make sure to follow all the instructions on the card that your radiation safety officer gave you, including avoiding holding children on your lap and sleeping with your partner in a spoon shaped position.
Safe sex precautions
You can start having sexual activity again 1 week after your procedure.

Rarely, a seed can pass from your prostate when you ejaculate. Use a condom or ejaculate outside your partner at least the first 5 times you ejaculate after your procedure. If your partner is pregnant, use a condom until the baby is born. This lets you check for a seed. It may also lessen any worry you have about being able to ejaculate after your procedure.

Call your radiation oncologist or radiation safety officer if you lose a seed when you ejaculate. Pick up and store the seed following the instructions in the “Straining your urine” section.

Traveling
You can travel, including on airplanes. Bring the wallet card your radiation safety officer gave you. Some security equipment may detect radioactivity or metal.

Bodily fluids
The radiation from the seeds won’t get into your blood, urine, or other body fluids. You don’t need to follow any special steps.

Support services
Admitting Office
212-639-7606
Call if you have questions about your hospital admission, such as asking for a private room.

Anesthesia
212-639-6840
Call if you have questions about anesthesia.

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.

**Patient Representative Office**
212-639-7202
Call if you have questions about the Health Care Proxy form or concerns about your care.

**Social Work**
[www.msk.org/socialwork](http://www.msk.org/socialwork)
212-639-7020
Social workers help patients, families, and friends deal with common issues for people who have cancer. They provide individual counseling and support groups throughout your treatment. They can help you communicate with children and other family members.

Our social workers can also help refer you to community agencies and programs. They also have information about financial resources, if you’re having trouble paying your bills.

**When to call your healthcare provider**

Call your healthcare provider if you have:

- A fever of 101 °F (38.3 °C) or higher.
- Pain that doesn’t get better with your medications.
- Any new symptom(s) or physical change(s).
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 to search our virtual library.