

Radiation Therapy to the Pelvis for Gynecologic Cancers

Introduction

You will be getting external beam radiation to treat your cancer. A beam of radiation will be directed to the tumor site from a treatment machine. The beam passes through the body and destroys cancer cells in its path. This booklet describes the treatment. It also tells you about the side effects you might have and how to manage them.

Simulation

Before you begin treatment you will go through simulation and treatment planning. These are done to ensure that:

- The treatment site is mapped out,
- You get the right dose of radiation, and
- The dose to nearby tissue is minimized.

Simulation takes two to four hours.

You will be called with the appointment date, location, and time.

Preparation for Simulation

You may eat and drink before simulation. However, for four hours before do not eat a heavy meal. You may take your usual medicines. Wear comfortable clothes. If you feel that lying still for a long time will be uncomfortable, take Tylenol® (acetaminophen) or your usual pain medicine one hour before your appointment. If you think you may get anxious during the procedure, speak with your doctor about medicine that may be helpful.

Simulation Day

When you arrive for your appointment, the radiation therapist will greet you and take a photograph of your face. This picture will be used to identify you throughout your treatment. It is a standard safety measure. The therapist will explain the simulation procedure to you. You will get undressed from the waist down and change into a gown. Keep your shoes on. The therapist will walk you to the machine and help you lie on the table. Although the table will have a sheet, it is hard and has no cushion. If you have not taken pain medicine and think you may need it, tell the therapist before the simulation begins. The room is usually cool. If you become uncomfortable at any time, let the therapists know.

If your doctor would like to use contrast, you will need to drink about one cup of a liquid. This helps us see your small intestines on the scan that will be taken later. You may also need to use contrast to locate the bladder and rectum. This is done by inserting a soft rubber catheter into the bladder and rectum and then contrast is inserted into these catheters. This can be a little messy, but there will be an absorbent cloth underneath you. Contrast may also be used through a vein if necessary and if you are not allergic.

Throughout simulation, you will feel the table move to different positions. The lights in the room will be turned on and off and you will see red laser lights on each wall. Do not look directly into the red beam as this may hurt your eyes. The therapists use these laser lights as a guide when they position you on the table.

Although the therapists will walk in and out of the room, there will always be someone who can see you and hear you. You will hear the therapists speaking to each other as they work and they will explain what they are doing. Please do not speak once they begin unless you are uncomfortable or need help, as speaking may cause you to move on the table. If you wish, you can listen to music to help pass the time. We have both tapes and CDs, or you can bring one from home.

Positioning and the Mold

Your doctor will decide if you need to lay on your stomach or your back. A mold may be made of your lower body. The therapist will place a warm, wet sheet of plastic over you and will shape it to fit around your body. As the mold cools, it will harden. You will feel some pressure as the therapist fits the mold to you. During the simulation, and every day of your treatment, this mold will be placed over you and attached to the table on which you are lying. It helps ensure that you are in the correct position each time you receive your treatment. This all takes about 30 minutes.

X-ray Images

While lying on the table, a CT scan will be taken of the area to be treated. These CT scans are used only to map your treatment plan. They are not used for diagnosis or to find tumors.

You will hear the machines as they are turned on and off. Even if the noise seems loud, the therapists will be able to hear you if you need to speak with them. This takes about 45 minutes.

Skin Markings (Tattoos)

The therapists will draw on your skin with a felt marker. Then they will make permanent skin markings, called tattoos, with a sterile needle and a drop of ink. The sensation of getting one feels like a pinprick. The tattoo marks are no bigger than the head of a pin. You will receive five to seven tattoos across your lower body. After the tattoos are made, the therapists will take several photographs of you in the simulation position. The photographs and tattoo marks will be used to position you correctly on the table each day for treatment. The felt marking can be washed off after simulation. The tattoos are permanent and will not wash off.

After Simulation

Take three tablespoons of Milk of Magnesia® when you return home. This will help you pass the contrast you were given to drink during the simulation.

Scheduling

At some time during the simulation, the therapist(s) will ask you what time of day you would like to have treatments. We will try to give you the time you like, but we need a two-hour window because the time you prefer may not be open. If a patient who started treatment before you has the time you want, you will move to that time slot once that patient completes treatment. Please know that we will do our best to give you the appointment time you want as soon as we can.

If you would like more information about simulation, go to the MSKCC web site. Type in the following URL: <http://www.mskcc.org/PatientEd/Procedures/simulation>. Select Pelvis, and in the section on positioning, read GYN.

At the end of simulation, you will be told the date and time for your initial setup. This is the last appointment before your treatment begins.

Some patients get chemotherapy during their radiation. It can be given before or after your radiation treatment; the timing does not matter.

Treatment Planning

During the time between your simulation and initial setup, your radiation oncologist will work with an entire team to plan your treatment. They will use your simulation CT scan to plan the angles and shapes of the radiation beams. They will also calculate the dose that your body will receive. The details are carefully planned and checked. This takes between five to seven business days.

Setup or Beam Films

Before your first treatment, you will be scheduled for a setup. This generally takes about one and a half hours. If pain medicine was helpful during simulation, you may want to take it before this visit.

When you come for the setup, you will be shown the dressing room and asked to change into a gown. The therapists will bring you to the room where you will receive your treatment each day. They will position you on the table. You will lie exactly as you were the day of your simulation. X-rays of each of the radiation beams (beam films) will be taken to make sure that your position is correct and that the area being treated is exactly what your radiation oncologist wants. The beam films will be repeated periodically throughout your treatment. They are used to make sure you are in the right position and are getting treated in the right place. They are **not** used to see how your tumor responds to the treatment. You will be scheduled to begin treatment usually the day after your setup.

Treatment Administration

Radiation treatments are given daily, Monday through Friday, for about _____ weeks. You must come in every day for your treatment. Treatment may not be as effective if you skip or miss treatment days. However, you may have one or two scheduled days off during the course of your treatment to allow for machine maintenance. If you need to change your schedule for any reason, please speak with your radiation therapist.

After you check in at the reception desk, have a seat in the waiting room. When they are almost ready for you, the therapists will tell you to change. When they bring you into the treatment room, the therapists will help you lie on the table. Once you are properly positioned, the therapists will leave the room, close the door, and begin your treatment.

You will not see or feel the radiation, although you may hear the machine as it moves around you and is turned on and off. You will be in the treatment room 10 to 30 minutes, depending on the complexity of your treatment. Most of this time will be spent positioning you correctly. The actual treatment only takes a few minutes.

Although you are alone during the treatment, the therapists can see you on a monitor and hear you through an intercom at all times. Breathe normally during the treatment, but do not move. If you are uncomfortable and need help, speak to the therapists. They can turn off the machine and come in to see you at any time.

Weekly Visits During Treatment (“Status Checks”)

Your radiation oncologist oversees your entire treatment. He or she will see you each week with your nurse to evaluate your response to treatment. This visit will be before or after your treatment each _____. Expect to be here about one extra hour that day. This visit is a good time to ask questions and discuss any concerns you have. If you need to speak with your doctor or nurse at any time between these weekly visits, ask the support staff or therapists to contact them when you come for treatment. These are unscheduled visits done during clinic hours.

Many patients ask about taking vitamins during treatment. You may take a daily multivitamin. It should not have more than the recommended daily amounts of any vitamin. Do not take more vitamins or nutritional or herbal supplements unless your doctor approves them. Do not take vitamins A, C, E.

Side Effects

Some people develop side effects from treatment. The type and severity vary and depend on many factors, including the dose of radiation, the number of treatments, and your general state of health. Side effects may be worse if you are also having chemotherapy. Below are the most common side effects of radiation therapy to the pelvis. You may have all, some, or none of these.

Diarrhea

Many people develop diarrhea (increased watery stools) within the first few weeks after treatment begins. It is common to have cramping and rectal pressure and discomfort. You may also strain to have a bowel movement with no results. Below are some ways to help you manage these problems. Start following these if and when you begin to have symptoms. Continue them until your bowel movements return to your usual pattern. This may take two to four weeks after your treatment is completed.

- Follow a diet that is low in fiber, fat, and lactose. Your nurse will give you a booklet describing this diet in detail. Continue the diet until your bowel movements return to your usual pattern. This may take several months after your treatment is completed. You can then slowly reintroduce foods from your usual diet.
- Drink more fluids to replace some of the water and salts you lose in the stool. Try to drink two to three quarts of fluids throughout the day. Choose fluids such as diluted Gatorade®, juices and nectars, non-fat soup broth, and Pedialyte®. Limit fluids with caffeine (e.g., coffee, tea, colas) as they can further dehydrate you.
- Eat bananas and potatoes without the skin. They can help replace important salts you may lose with diarrhea.
- Avoid any food or fluid that makes your symptoms worse.
- Take Imodium® if you have diarrhea. Please follow the directions below and not what is printed on the package.
 - Take 4 mg by mouth followed by 2 mg after each loose stool. **You may take up to 16 mg in a 24 hour period.**
 - Use with caution if you have a history of liver or kidney disease.
 - Call your doctor or nurse if you have:
 - A fever of 100.4°F (38°C) or more.
 - Black or bloody stool.
 - Dizziness.
 - Symptoms that last more than two days.
- Take pain medicine if you have cramping or rectal discomfort. Your doctor will tell you what to take and how to take it.
- Take your pain medicine if you have abdominal cramping. Follow the doctor's instructions.

Urinary Changes

The lining of your bladder may become irritated. About two weeks after starting treatment you may need to urinate frequently and may have a burning sensation when you urinate. You may also feel an urgent need to urinate. Below are guidelines to help you manage these problems.

- Drink two to three quarts of fluids throughout the day. If you do not have diabetes, cranberry juice may be helpful in relieving the symptoms.
- Avoid caffeine, alcohol, pepper, and spicy foods. These may irritate your bladder.

- Let your doctor or nurse know if you have any urinary changes. Medicine can be prescribed.

Sexual Issues

- There is nothing radioactive inside your body. You cannot pass radiation to anyone else, so there is no need to avoid close contact with other people.
- You may have concerns about the effects of cancer and your treatment on your sexuality. An excellent resource is the booklet *Sexuality and Cancer*. There are two versions, one for men and another for women. You can get a copy from the American Cancer Society. Call 1-800-ACS-2345 and tell them which one you want.
- If you need or would like more support and information about issues of vaginal and sexual health please talk to your nurse or doctor about The Sexual Health Program. For more information or an appointment, please call 646-888-5076. The Sexual Health Program provides services at:
 - 160 East 53rd Street – Rockefeller Outpatient Pavilion
 - 300 East 66th Street Evelyn H. Lauder Breast Center and MSKCC Imaging Center

Vaginal Changes

Your vagina may become irritated. About two weeks after starting treatment you may notice a vaginal discharge. This may last two to four weeks after your treatment is completed. Below are suggestions to manage any discomfort.

- Sitz baths or tub baths are often helpful. Use warm water and stay in the water no longer than 15 minutes at a time. You may take these baths as often as you like for comfort.
- Use panty liners for increased discharge; do not use tampons.
- For itching and irritation of the labia, apply the moisturizer your nurse gave you.
- Check with your doctor or nurse before douching, as this may cause increased irritation.
- Check with your doctor or nurse about having sexual intercourse. You may need to wait for the vaginal tissues to heal. If you are having intercourse, use a vaginal lubricant (such as Astroglide® or KY® Jelly) to increase your comfort. Use a condom to help prevent a vaginal infection.

Hormonal Changes

If your ovaries are in the area being treated, their function will be affected. If you are premenopausal, your periods will stop and menopause will begin. You may develop symptoms such as hot flashes, insomnia, and mood swings. Let your doctor or nurse know if these bother you. You can be referred to a gynecologist to discuss options to lessen these symptoms.

Fertility

If you are fertile, you must use birth control during treatment. Do not conceive a child until two years after your treatment is completed. If you plan to conceive a child after your treatment, please discuss this with your doctor **before you begin your treatment.**

Skin Reaction

You will notice changes in the skin and hair in the area being treated. These are expected, although each person reacts differently. After two or three weeks, your skin may become pink or tanned. As treatment continues, it may become bright red or very dark. It may also feel dry and itchy, and it may look flaky. Sometimes the skin in sensitive areas, for example around the vagina or in the groin, may blister, open, and peel. If this occurs, tell your doctor or nurse. If you develop a severe reaction, your nurse will apply special dressings or creams and teach you

how to care for your skin. The skin reaction sometimes becomes more severe during the week after treatment is completed. If this happens, call your doctor or nurse. It will gradually heal, but it may take three or four weeks after treatment is completed.

You may also lose some or all of the hair on your pubic area. The hair will usually grow back two to four months after treatment is completed.

Below are guidelines to care for your skin. Continue these until the skin reaction resolves. These refer to the skin **only in the area being treated.**

Keep Your Skin Clean

- Bathe or shower daily using warm water and a mild unscented soap. Examples of soaps you may use include Dove®, Basis®, and Cetaphil®. Rinse the skin well, and pat dry with a soft towel.
- When washing, be gentle with your skin in the area being treated. Do not use a washcloth or a scrubbing cloth or brush.
- The tattoo marks are permanent and will not wash off. You may get other markings during treatment, for example an outline of your treatment area with a purple felt-tipped marker. Use mineral oil to remove these lines when the therapists tell you they can be washed off. Do not use alcohol or alcohol pads on the skin in the area being treated.

Moisturize Your Skin

- Begin using a moisturizer the first day of treatment. There are many moisturizers you may use. However, unless your nurse gives you different instructions, use only one moisturizer at a time. You might try Aquaphor®, Eucerin®, or a pure aloe vera gel. If you use a moisturizer, apply it two times a day, unless your nurse tells you to do it more or less often. Do not apply the moisturizer four hours before treatment. Do not wash it off before your treatment because that might irritate your skin.
 - If you are treated in the morning, apply it after your treatment and before you go to bed.
 - If you are treated in the afternoon, apply it in the morning, at least four hours before your treatment and before you go to bed.
 - On days you are not being treated, apply it in the morning and before you go to bed.

Avoid Irritating the Skin in the Area Being Treated

- Wear loose-fitting cotton clothing in the area being treated. Avoid tight clothing that will cause friction against the skin.
- Do not use any other skin products in the area being treated unless your doctor or nurse recommends them. Do not use make-up, perfumes, or powders in the area being treated.
- If your skin is itchy, don't scratch it. Tell your nurse so he or she can recommend how to relieve the itching.
- It is better not to shave the treated skin. If you must shave, use only an electric razor. Stop it if it irritates your skin.
- Do not use any tape on treated skin.
- Avoid applying extreme heat or cold to the treated skin as long as you are being treated or until the skin heals.
- Ask your doctor if you may swim in a chlorinated pool during treatment. If your doctor tells you this is alright, be sure to rinse off the chlorine immediately after leaving the pool.

- Avoid tanning or burning your skin during treatment and for the rest of your life. If you are going to be in the sun, use a PABA-free sunblock with an SPF of 30 or higher. Wear clothing that covers you as much as possible.

Fatigue

Most people develop fatigue after two or three weeks of treatment. People say they feel tired, weary, or weak. They also say they have less energy and are not able to concentrate. This gradually goes away, but it may last for several months.

Below are suggestions to help you manage your fatigue.

- If you are working and are feeling well, we encourage you to continue if your schedule allows it. You may find that working shorter hours will help you feel less tired.
- Plan your daily activities. Pick those things that are necessary and most important to you and do them when you have the most energy.
- Plan time to rest or nap for short periods during the day, especially when you feel more tired. You may 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 shop, cook, and clean.
- Some people find exercise improves their energy level. Ask your doctor about light exercise, such as walking.
- Eat foods high in protein and calories. You may take a daily multivitamin of ordinary strength. Do not take additional vitamins unless your doctor tells you it is safe.
- Ask your doctor or nurse for help with other symptoms you may have. Some people have pain or nausea, feel depressed or anxious, or cannot sleep well.

Bone Marrow Suppression

Bone marrow is the substance inside bone that produces blood cells. White blood cells fight off infection, platelets help your blood to clot, and red blood cells carry oxygen needed for energy. The production of blood cells may be affected if large areas of bone marrow are in the area being treated and when you are getting chemotherapy. This lowers your blood cell counts. If this is a risk for you, we will monitor you throughout your treatment with a blood test called a CBC (complete blood count). If your counts drop, we may stop your treatment until they return to higher levels. We will tell you what safety measures to take.

Call your doctor or nurse immediately if you develop:

- A fever of 100.4° F (38° C) or greater.
- Shaking chills.
- Flu-like symptoms.
- Bleeding.

You may need to be seen to make sure you do not have an infection or any other problem related to a drop in your blood counts.

Loss of Appetite

Some people find that their appetite decreases. Your body needs protein and calories to repair the normal cells injured from radiation. Try not to lose weight during your treatment. Below are suggestions to help you maintain your weight.

- Increase your calories and protein. We will give you the booklet *Eating Well During and After Cancer Treatment*. It has many suggestions for you to try.
- Try to eat small meals often throughout the day. If you never seem to feel hungry, make a schedule to ensure you eat regularly, for example every two hours.
- Eat your meals in a calm place and take your time. Eat with family or friends whenever possible.
- Vary the color and texture of foods to make them more appealing.
- Bring snacks and drinks with you when you come for treatment. You can have these while you are waiting or while you are coming to and from the department each day.
- You can take liquid nutritional supplements if you are 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.

Emotional Concerns

Having cancer is likely to cause you, and the people who care about you, to react in many ways. You may feel anxious, depressed, worried, afraid, alone, numb, unsure, and even angry. All these feelings are expected if you or someone you love has a serious illness. 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 or treatment on your body, and if you will continue to be sexually attractive. You may worry that the cancer will come back. When people try to protect each other by hiding their feelings, they can feel very alone. It might help to talk about your feelings. Talking can help the people around you know what you are thinking. It can bring you closer at a time when support is so needed. We also encourage you to speak with your doctor, nurse, and social worker about your concerns.

Each of us has our own way of responding to difficult situations. Generally we use whatever has worked for us in the past. However, sometimes this is not enough. If you would like help in dealing with your cancer or treatment, ask your doctor or nurse to make a referral for you.

After You Complete Treatment

After your treatment is done, you must keep your follow-up appointments with your radiation oncologist. This lets us evaluate your response to treatment. You may have blood tests, x-rays, and scans. Write down your questions and concerns before your appointment. Bring this list and a list of all your medicines. If you are running low on any medicine you need, let your doctor know before you run out. Call your doctor or nurse at any time after your treatment is completed or between follow-up visits if you have any questions or develop any problems.

Conclusion

We hope this booklet has helped you learn more about your treatment and what to expect. Refer to it as you go through treatment. If you have any questions, please speak with your radiation oncologist or nurse. Below are important telephone numbers.

Monday to Friday 9AM to 5PM

Radiation Oncologist _____

Telephone _____

Radiation Nurse _____

Telephone _____

Secretary (to schedule appointments and obtain copies of records)

Telephone _____

If you have any problems that must be addressed in the evenings or over the weekend, please call 212-639-2000 and ask for the radiation oncologist on call.