

Radiation Therapy to the Pelvis with the ViewRay MRIdian Treatment Machine

You will be receiving radiation to the pelvis (the area between your hips). This hand out will help you know what to expect. You will also learn how to care for yourself during this period.

What is ViewRay MRIdian?

The MRIdian Linac (ViewRay, Inc) is a radiation treatment machine. An MRI (Magnetic Resonance Imaging) scanner shows us the inside of your body. It uses a magnet to give detailed pictures of your soft tissue. This machine allows us to take pictures during your entire treatment. This helps us to give radiation to just the tumor area. Your healthy tissue can then stay healthy. ViewRay's MRIdian is an exciting, state of the art technology.

Preparing for Your Treatment

You will get a phone call from the radiation therapists. They will schedule your first radiation treatment. You will be given special instructions related to your treatment.

Your treatment will be on a machine that is also an MRI scanner. You may wear your own clothing during treatment. Your clothing must not have metal on it. Examples are: glasses, hearing aids, cell and cell phones. In the treatment room, the therapists will remind you to check your pockets. We can give you a hospital gown or scrub pants to change into as well.

Positioning for Your Treatment

The radiation therapists will put you into the best position for treatment. They line up marks that have been put on your skin. It is best to not soak in a tub or swim to help maintain these marks. If you feel it is important that you can swim or take tub baths, let the therapist know. Once you are set up for treatment, you will be given headphones and an alert cord. A foam pad called a "coil" will be placed under and over your pelvis. The coil helps make clear MRI pictures. Once you are in position and the top coil is placed, we will send you into the scanner. The first step for a radiation treatment is taking MRI pictures. These pictures will be taken every day before your treatment. This helps the therapists see the area that we need to treat. By using the pictures, small changes are made to your position. The radiation beams aim at the exact spot. The scan can take 30 seconds to 2 minutes. After the first scan, the therapists take a few minutes to look it over and line or match up the treatment area. Your doctor may also be looking at the scan at that time.

During the Treatment

MRI pictures are taken through treatment. This allows the therapists to watch for movement or changes. Then adjustments can be made.

Side Effects

Radiation Skin Reaction

Most radiation goes through the skin into body tissues. The skin in treatment sites can become red and sore. It can also become dry and itchy. Sometimes, the skin will peel and become moist. This happens most often in skin folds and curves.

The radiation therapists will help you watch for changes in your skin. Use skin care products as directed. If you develop a skin reaction, we will also watch it closely. We may tell you to change the way you care for your skin. Some skin reactions can hurt. Tylenol or ibuprofen can be helpful. If you need something stronger or help with skin care, let us know.

Skin Care during Treatment

To protect your skin during treatment, you should follow the hints listed below.

- Bathe or shower using lukewarm water. If you need soap, use one for dry or sensitive skin. Rinse skin well and gently **pat** it dry.
- Do not rub or scrub the skin exposed to treatment.
- Do not use heat--heating pads, very hot water in the bath or shower, and hot water bottles.
- Avoid cold. Do not allow the skin to become chilled from exposure to ice or very cold water or air.
- Avoid sunlight or sunlamps on the skin in the treatment site. When you are outside, keep the area covered with clothing. Use a sunscreen with SPF of 20 or higher.
- Wear comfortable, loose, cotton-based clothing that will allow good air flow. Avoid clothing made of nylon or synthetics. That type of clothing holds moisture next to the skin. Clothes that bind can cause further irritation to the radiated skin.
- Avoid the use of tape on skin in the treated area.
- In most cases, nothing should be put on the treated skin unless approved by your doctor or nurse. This includes bath oils, powders, and lotions.

- If a skin reaction is expected, we will suggest a skin moisturizer. Use it each day as instructed. Lotions and creams can be applied 2 – 4 times per day to make your skin feel better. Remember: **Your skin needs to be clean and dry before each treatment.** If your treatment is late in the day, you can still use the lotion. Time when you put it on so that the lotion will be fully absorbed by the time your treatment is given.
- Follow the above guidelines until your skin has fully healed:

Care of Skin after Treatment

- Treated skin may continue to be dry. It may also darken in color or become firm and tough. It may help to apply skin moisturizer or Vitamin E oil.
- The skin in treatment areas may always be extra sensitive to sunlight. When outdoors, use a sunscreen of SPF 20 or higher on treated skin exposed to the sun. This is because treated skin is at higher risk for a certain type of skin cancer.

Feeling Tired

Feeling tired during radiation treatment is common. How tired you may feel is different from person to person. Fatigue does not mean that your tumor is getting worse. Fatigue can begin right away, or it can occur after 1 – 2 weeks of treatment. It can go on for weeks to months after treatment has ended. Low blood counts may cause you to feel tired. Your doctor may order a blood test from time to time to check your blood cell counts.

Here are a few tips that may help with feeling tired:

- Listen to your body and rest when you need to. A short nap during the day or sleeping a little longer may help.
- Make time for things you enjoy. Take a walk in the fresh air, visit with a friend, or pursue a hobby.
- Stop smoking and do not drink too much alcohol. If you need help with this, talk with our doctor or nurse. There are ways we can help.
- If you work, you may want to keep working. Some people can still work at a full-time job. Others find it helpful to work less hours. We can plan your treatment times to fit in with your work hours.
- Plan regular active exercise – daily walks, riding an exercise bike, or any mild exercise. Go at your own pace. Never exercise to the point of fatigue. You should feel less tired after the exercise than you did before the exercise.
- It is healthy to talk about your thoughts, fears or worries. Talk with family or friends. Having a good cry or laugh can be helpful.
- Eat well. Keep foods around that do not need to be prepared – cheese, yogurt, or slices of meat. When you feel well, make and freeze meals to eat later when you are tired. Extra calories and protein are needed for energy while getting treatments. Speak with a nurse if you have problems eating.
- Drink lots of fluid – 8 to 12 glasses per day. The water will flush out your system.
- If you find you need help with your basic daily needs let your nurse or social worker know. They are aware of help in the community.

You may be able to get help with meals, cleaning, personal care, transportation, support groups, and respite care.

- Accept help from family and friends. If friends ask if they can help, take it! Often people want to help but don't know what things you need the most help doing. Visits from family and friends can be nice, but also tiring. You do not need to be the perfect host or hostess. Let your friends and family fix dinner and get the drinks and snacks for you!
- Some people may have pain from cancer or other causes. Pain can be very tiring. Your doctor and nurse can work with you to achieve good pain control. Let them know about any pain you have during treatment.

Diarrhea

Diarrhea, or loose bowel movements, can occur with radiation to the abdomen. Diarrhea most often begins during the 3rd or 4th week of treatment. It may continue for two weeks after treatment. The lining of the bowel is sensitive to radiation. How severe diarrhea becomes depends on the amount of bowel in the radiation field. **If you do not have diarrhea, you may continue to eat your normal diet.** Try to eat foods high in protein such as meat, fish, milk, cheese, eggs, and peanut butter. If you do get diarrhea, be sure to let us know. You may be instructed to take some medicine, such as Imodium. You may also need to change your diet.

These are some guidelines to follow

1. Decrease the amount of fiber and fat in your diet.
2. Avoid foods that cause gas or cramps such as beans or cabbage.
3. Drink at least 8 – 12 glasses of liquids per day to replace fluids.

4. Eat foods rich in potassium such as bananas, cantaloupe, tomato juice, and orange juice (pulp-free).
5. Eat foods rich in protein such as meat, fish, cheese, peanut butter, and milk products.

Eating Hints for Diarrhea

Below is a list of some foods to choose from and some to avoid.

	Choose these foods	Avoid these foods
Proteins	Two or more servings per day of lean meat, fish, eggs, or cottage cheese.	Fatty or fried meats
Vegetables	Two or more servings per day of cooked or juiced vegetables.	Raw vegetables peas or beans gassy vegetables (such as cabbage, cauliflower, broccoli, and onions)
Fruits	Two or more servings per day of banana, melon, cooked or canned fruits (no skin or seeds), juices, and nectars	Most fresh fruits, dried fruits and prune juice
Grains	Four or more servings per day of enriched white and refined breads, pancakes, most cereals (except high fiber, whole grain varieties), enriched rice, macaroni, noodles, and spaghetti	Breads or cereals made of whole grain, bran, granola, wheat germ, oatmeal, wheat cereals, or other high fiber grains
Fats	Small amounts of margarine, oil, butter, and cream	Fried or fatty foods rich sauces
Desserts	Small amounts of sweets, ice cream, puddings, Jell-O, and sherbet	Heavy or rich desserts
Dairy	At least two servings per day of milk, cheese, or yogurt	
Other		Nuts or seeds, "sugar free" products made with sorbitol, spicy foods, large amounts of carbonated beverages

Rectal Irritation

You may develop a sore rectum. This is a short-term side effect. Rectal soreness happens because the lining of the rectum is very sensitive to radiation. Diarrhea may also make rectal soreness worse. If you have had hemorrhoids, they may worsen during radiation. You may feel rectal burning and itching. You may see small amounts of bleeding. These symptoms can occur both inside and outside of the rectum. Symptoms may not be that bad, or they may be severe and require treatment. Hemorrhoid medicines with hydrocortisone (Preparation H, Anusol HC, or generic) may help. Discuss symptoms with your doctor or nurse.

Bladder Irritation

Bladder irritation (cystitis) is a swelling or soreness of the bladder lining. It is a short-term side effect. Symptoms of bladder irritation include feeling as if you need to urinate suddenly, or often. You may experience burning or pain when urinating. Tell your doctor or nurse if you notice any of this. Be sure to drink plenty of liquids. Bladder symptoms may also be a sign of an infection. You may be asked to provide a urine sample. Sometimes, medicine is prescribed for bladder irritation.

Effects on Fertility

If your treatment field includes the pelvis, these side effects will also apply. Radiation to the pelvis (the area between your hips) can affect sexual and reproductive functions.

Women: Women having radiation in the pelvic area may stop menstruating. They may also have symptoms of menopause. Vaginal itching, burning, and dryness may also occur. Tell your nurse or doctor if you have these. A woman who may become pregnant needs to talk about birth control measures with her doctor. You should not become pregnant during treatments. If you

are pregnant before starting radiation treatments or suspect you may be, please tell your nurse or doctor right away.

Men: Radiation to an area that includes the testes can reduce both the number of sperm and their ability to fertilize. This does not mean that conception cannot occur. You will need to follow birth control practices. Discuss your concerns with your doctor or nurse.

Effects on Sexuality

Sometimes, when you are going through treatment for cancer your sexual drive will decrease. Not being interested in sex will most likely go away when the treatment ends. It helps to tell your partner your needs and feelings. If you have questions or concerns, feel free to discuss them with your doctor or nurse.

Women: You may continue to have intercourse during treatment unless your doctor tells you not to. Intercourse may become uncomfortable due to the shrinking and the drying of vaginal tissues. Vaginal lubricants and changes in position during intercourse can help with the discomfort. Your doctor may suggest using a vaginal dilator during and after treatment to prevent vaginal tightness. Your nurse will instruct you on its use. Radiation to the pelvis causes ovarian function to stop. If you have not gone through menopause, you will do so at this time. You may or may not have symptoms of menopause. Symptoms of menopause may include: hot flashes, mood changes, vaginal dryness, tingling, and problems sleeping. Your doctor will talk with you about ways to manage these symptoms. This may or may not include hormone replacement therapy.

Men: Radiation to the pelvis may affect your ability to obtain or maintain an erection.

Most of the time, this is a short-term side effect. Rarely, it can be a permanent side effect caused by a toughening of the nerves and blood vessels in the penis. If you have any questions or concerns, please discuss them with your doctor or nurse.

Both men and women: Radiation can cause a thinning of pubic hair. It begins about 2-3 weeks after treatment has started. It can be a short term or permanent side effect. How long this side effect lasts depends on the total dose of radiation given.

Other Concerns

A diagnosis of cancer can bring up worries and concerns. Patients feel effects on their emotions, marriage, family, jobs, finances, feelings about the future, and many other important areas of life. The nurses and social workers can help you cope with these issues. They can suggest support services and resources. Feel free to speak them at any time.

Cancer Resource Services

There are many resources for cancer patients and their families. Cancer Connect is a toll-free telephone service of the University of Wisconsin Hospitals and Clinics. The staff of Cancer Connect can answer your questions about treatments available at UWHC. Cancer Connect has knowledge of community resources and support services.

The phone number is **(608) 262-5223**

Cancer Information Service is a nationwide telephone service of the National Cancer Institute. It has information about local cancer care as well as around the country.

The toll-free number is **1-800-422-6237**

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call **911**.

If you have questions or concerns after your treatments end, call:

**Radiation Oncology Clinic 8am–5pm
(608) 263-8500** ask to speak to a nurse.

If the clinic is closed, your call will be transferred to the answering service. Give the operator your name and phone number with the area code. The doctor will call you back.

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 6/2019 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#8085.