Radiation Therapy
To the Spine

You will be receiving two or more weeks of radiation therapy to your spine. Radiation may be given to the cervical, thoracic, or lumbar spine.

One of the major concerns that patients have is how to manage the side effects of the treatments. Common side effects from radiation to the spine are skin irritation and fatigue.

In addition to skin irritation and fatigue, patients receiving radiation to the cervical spine may also have a sore throat and problems swallowing.

Patients receiving radiation to the thoracic spine may have a sore throat, problems swallowing, and nausea.

Patients receiving radiation to the lumbar spine may have nausea or diarrhea.

Most side effects begin about 10 days to two weeks after treatments start. They can persist for two to four weeks after treatments end. You may have some or all of these side effects. They may occur all at once or at different times. This booklet will provide you with the information to care for yourself. You should discuss these symptoms with your doctor or nurse as they occur.

Positioning for Your Treatment

Each day, right before your treatment, you will be asked to get into position on a treatment table. The radiation therapists will help you get into the correct position. Some patients are put into “molds”. These molds are made during the treatment planning period.

Tiny dots or marks may also have been put on your skin. These marks relate to your treatment field. They look like tiny freckles.
and will not be easy to see. Oil based skin markers or a dye may be used to make these marks.

If these marks fade, they will be re-marked. After your radiation therapy is finished, you can allow the marks to fade. You can also gently remove them using soap and water or baby oil. These marks may rub off on your clothes. If this happens, spray the stains with hair spray or Spray'N'Wash® before you wash your clothes.

**Radiation Skin Reaction**

Most radiation goes through the skin into body tissues. Even so, the skin in treatment sites can become reddened and irritated. 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 tell you which sites to watch.

Watch your skin closely and report any changes you notice. Use the skin care products as directed. As your skin reaction develops, we will also watch it closely. We may tell you to change the way you care for your skin. Some skin reactions can be painful. Tylenol or ibuprofen is usually helpful. If you need something stronger or help with skin care, let us know.

If you have questions or concerns after your treatments end, call the Radiation Oncology Clinic (open 8-5) at (608) 263-8500 and 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.

**Skin Care during Treatment**

In order to protect your skin during treatment, please follow the guidelines listed below. You will need to follow these guidelines during your treatment and afterwards, until your skin has fully healed.

1. You may bathe or shower as usual using lukewarm water. If you need soap, use one that is meant for dry or sensitive skin. Rinse skin well and gently pat it dry. Do not rub.

2. Avoid heat—heating pads, very hot water in the bathtub or shower, and hot water bottles.

3. Avoid cold. Do not allow the skin to become chilled from exposure to ice or very cold water or air.

4. Avoid sunlight or sunlamps on the skin in the treatment site. When you are outside, keep the area covered with clothing. If clothing does not completely cover the area, use a sunscreen with a SPF of 30 or higher.

5. Avoid rubbing or using friction on the skin exposed to treatment. Do not rub or scrub the treated area. Wear comfortable, loose, cotton clothing that will allow good air flow. Avoid clothing made of nylon or synthetics because they hold moisture next to the skin. Clothes that bind can cause further irritation to the treated skin.

6. Avoid using tape on skin in the treated area.

7. In most cases, nothing should be applied to the treated skin unless approved by your doctor or nurse. This includes bath oils, perfumes, talcum powders, and lotions. If a skin reaction is expected, we will suggest a skin moisturizer. Use it each day as instructed.
Remember: Your skin needs to be clean and dry before each treatment. Lotions and creams should be applied 2–4 times per day to make your skin feel better. If your treatment is later in the day, you may apply a skin care product before your treatment if it will be fully absorbed by the time your treatment is given.

Care of Skin After Treatment

1. Although rare, late effects may occur. These late effects may occur months to years after the end of 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.

2. The skin in treatment areas may always be extra sensitive to sunlight. When outdoors, use a sunscreen with SPF 30 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.

Fatigue (Feeling Tired)

Felling tired (fatigue) during radiation treatment is a common side effect. The severity of fatigue varies from person to person. Fatigue does not mean that your tumor is getting worse. Some people feel no fatigue and are able to keep up with their normal routines. Others feel the need to take an extra nap each day. Still others change their routines, working only part-time, for example. Some people don’t do anything that requires a large amount of energy. Fatigue can begin right away, or it can occur after 1–2 weeks of treatment. It can go on for several weeks to months after treatment has ended. Rarely, it can last for up to a year.

Low blood counts may also cause you to feel tired. Your bone marrow makes blood cells. If a lot of bone is in your radiation field, your production of blood cells may be slowed down for a time. This is a short term side effect. 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.

1. Listen to your body and rest when you need to. A short nap during the day or sleeping a little longer may help.

2. Make time for activities you enjoy. Take a walk, enjoy the fresh air, visit with a friend, or pursue a hobby during the times that you feel most energetic. Do the things that make you feel good.

3. Stop smoking! Do something healthy for yourself. If you need help with this, talk with your doctor or nurse. There are ways we can help.

4. If you work, you may want to keep working. Some people are able to maintain a full time job. Others find it helpful to work fewer hours. Many employers understand and will agree to part time work. We can schedule your treatment times to fit in with your work schedule.

5. 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. A good rule of thumb is that you should feel less tired after the exercise than you did before.
6. Take advantage of emotional outlets. Pent up emotions can add to fatigue. Talk with family or friends. Having a good cry or a laugh can be helpful.

7. Eat well. Keep foods around that need little effort to prepare—cheese, yogurt, or slices of meat. When you feel well, prepare and freeze meals to eat later when you are tired. Extra calories and protein are needed to maintain energy while getting treatments. They also help to repair normal skin cells damaged by your treatment. Speak with a clinic nurse if you have trouble eating.

8. Drink lots of fluid—about 8-12 glasses per day. The water will help to flush some of the byproducts of your cancer fighting treatment out of your body.

9. If you need help with your basic daily needs, ask your nurse or social worker to help you contact your local resources. You may be able to receive help with meals, housekeeping, personal care, transportation, support groups, and respite care.

10. Accept offers of help from family and friends. If friends ask if they can help, accept it! If they ask you to call if you “need anything,” they may need specific ideas from you. Often, people want to help but don’t know what things you need the most help doing. Things like mowing the lawn, baking a casserole, or watching the kids can help both you and your friends to feel good.

11. Visits from family and friends can be pleasant, but also tiring. You do not need to feel as if you need to be the perfect host or hostess. Let your family and friends fix dinner, and get the drinks and snacks for you.

12. 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 discomfort you have during treatment.

Cervical Spine

Besides skin irritation and fatigue, patients getting radiation to the upper neck area may develop a sore throat and problems swallowing. There are a number of things that can help relieve discomfort.

Sore Throat

1. Rinse your mouth regularly to keep it moist. Use a mouthwash made with salt and water.

   mix: 1/4 tsp salt or 1 tsp salt
   8 oz. water 1 quart of water

2. Avoid commercial mouthwashes that contain alcohol such as Scope®, Cephacol®, and Listerine®.

3. Avoid smoking and drinking alcoholic beverages.

4. Avoid or dilute citrus juice. Orange, grapefruit, lemon, and lime juices are slightly acidic. Substitute foods that are low in acid such as bananas or canned fruits.

5. Foods at room temperature or slightly chilled are more soothing to the throat. Try ice cream, sherbet, or Popsicles®.
6. Sometimes the throat can become painful. The pain can interfere with eating. It is important that you continue to eat. Discuss this with your doctor or nurse if it occurs.

**Problems Swallowing**

1. Try to eat soft moist foods. Foods such as mashed potatoes, scrambled or poached eggs, cooked cereals, puddings, gelatin, and macaroni casseroles may be easier to swallow.

2. Avoid rough or coarse foods such as raw vegetables, hard breads, toast, pretzels and chips.

3. Use liquids, gravies, or sauces on food to help it slide down the throat more easily.

4. Cut food into small pieces.

5. Eat smaller amounts of food more often. Sometimes 4-6 smaller meals each day will be better than 3 larger meals.

**Thoracic Spine**

Besides skin irritation and fatigue, patients may develop a sore throat, problems swallowing, nausea, and esophagitis.

Please see section titled "Cervical Spine" for ways to manage a sore throat and problems swallowing.

**Nausea**

Radiation to the thoracic spine can cause feelings of nausea and, sometimes, vomiting. Decreased appetite and hesitancy to eat for fear of nausea are common. It is important to eat. Food provides energy and strength. If you should have this, tell your doctor or nurse; we may be able to prescribe helpful medicines.

Some of the tips below may be helpful to you.

1. Try eating small amounts of salty foods like chicken soup, saltine crackers, pickles, or olives. If your mouth is not sore, you may also want to try tart foods such as lemons.

2. Eat low fat foods and avoid fried foods.

3. Drink small amounts of clear, cold drinks such as apple juice.

4. Try cool foods such as Popsicles®, gelatin desserts, yogurt, cottage cheese, cheese, deviled eggs, and cold meats.

5. Relax, eat slowly, and chew your food well so it can be digested easily. Eat small meals (4-6 per day).

6. The smell of cooking sometimes nauseates people. If this applies to you, avoid cooking the food yourself. Ask your nurse about community resources to help you with the cooking.

7. If you become nauseated during treatment, avoid eating one to two hours before treatment and one to two hours after treatment.

**Esophagitis**

If the esophagus is included in the treatment field, a burning sensation in the throat, similar to heartburn, may develop. The range and type of discomfort vary from person to person. You may notice a burning, fullness, or have a lump in your throat when you swallow. These tips may help to relieve
the discomfort. Also review the section on problem swallowing.

1. Antacids sometimes help to coat and protect the esophagus. Ask your doctor before you begin using an antacid.

2. Sometimes pain medicine is needed. If you have pain that prevents eating or swallowing, talk with your doctor or nurse.

**Lumbar Spine**

Besides skin irritation and fatigue, patients may have nausea and also diarrhea. Review helpful hints in the "Thoracic Spine" section under "Nausea."

**Diarrhea**

Diarrhea, or loose bowel movements, can occur with radiation to the abdomen. This is because the lining of the bowel is very sensitive to radiation. How severe diarrhea becomes depends on the amount of bowel in the radiation field. It also depends on the total dose of radiation. When diarrhea develops, it most often begins during the 3rd or 4th week of treatment.

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. 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 may cause gas or cramps such as beans and cabbage.

3. Drink at least 8-12 glasses of liquids per day to replace fluids lost.

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.

**Food Supplements**

Liquid or powdered food supplements add protein and calories to your diet. These supplements can be found in grocery, drug, and health food stores. Some brand names include: Carnation Instant Breakfast®, Boost®, Ensure®, Sustacal®, Osmolyte®, Skandi-Shake®. Persons with diabetes, may use Glucerna® or Choice® products. GNC (a health food store) also carries a supplement called Gainer’s Fuel® by Twinlab. Many stores carry generic brands of these supplements. Canned liquid supplements are easy to use. Just pop the can and drink. Powders can be mixed into fluids or foods.
Eating Suggestions for Diarrhea

The following are some suggestions for foods to choose and avoid:

<table>
<thead>
<tr>
<th>Choose These Foods</th>
<th>Avoid These Foods</th>
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<tbody>
<tr>
<td><strong>Meat and Protein</strong></td>
<td>Fatty or fried meats, or legumes (peas and beans).</td>
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<tr>
<td>Two or more servings per day of lean meat, pork, veal, poultry, fish, eggs, or cottage cheese.</td>
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<tr>
<td><strong>Fruit</strong></td>
<td>Most fresh fruits, dried fruits, prune juice.</td>
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<tr>
<td>Two or more servings per day of bananas, melon, cooked or canned fruits (no skins or seeds), juices; nectars.</td>
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<tr>
<td><strong>Vegetables</strong></td>
<td>Raw vegetables, dried peas or beans, gassy vegetables (such as cabbage, cauliflower, broccoli, and onions).</td>
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<tr>
<td>Two or more servings per day of cooked or juiced vegetables.</td>
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<tr>
<td><strong>Breads and Pasta</strong></td>
<td>Breads or cereals made of whole grain, bran, granola, wheat germ, oatmeal, Wheatena, Ralston, or other high fiber grains.</td>
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<tr>
<td>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, spaghetti.</td>
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<td><strong>Fats</strong></td>
<td>Fried or fatty foods, rich sauces.</td>
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<td>Small amounts of margarine, oil, butter, cream.</td>
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<tr>
<td><strong>Desserts</strong></td>
<td>Nuts or seeds, &quot;sugar free&quot; products made with sorbitol, spicy foods, large amounts of carbonated beverages.</td>
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<td>Small amounts of sweets, ice cream, puddings, jello, sherbet.</td>
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<tr>
<td><strong>Dairy</strong></td>
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<tr>
<td>Two or more servings per day of whole, low fat, or skim milk, cheese; or yogurt.</td>
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Other Concerns

When you have cancer you may have concerns other than the need to manage your side effects. Often, it affects many other aspects of your life. Patients feel its impact on their emotions, marriage, family, jobs, finances, thoughts, and feelings about the future. 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

Cancer Connect is a service of the UW Comprehensive Cancer Center. The staff can answer your questions about local treatments. Cancer Connect has knowledge of community resources and support services. The number is (608) 262-5223.

Cancer Information Service is a phone service of the National Cancer Institute. It is a resource for local cancer care as well as cancer care around the country. The toll free number is: 1-800-422-6237.