



Greater Regional Cancer Center

Welcome to Greater Regional Cancer Center

Welcome to Greater Regional Cancer Center and thank you for choosing our state-of-the-art services. In partnership with Mercy Cancer Center of Des Moines, Greater Regional Cancer Center offers convenient and comprehensive cancer care for southwest Iowans. Our staff is here to assist you and your family in any way possible to ensure that your experiences with us are positive ones.

Treating cancer is a complex and challenging field of medicine. It is constantly evolving and our team of professionals is dedicated to excellence in the management of cancer and the care of diagnosed patients.

Our complete cancer treatment options include:

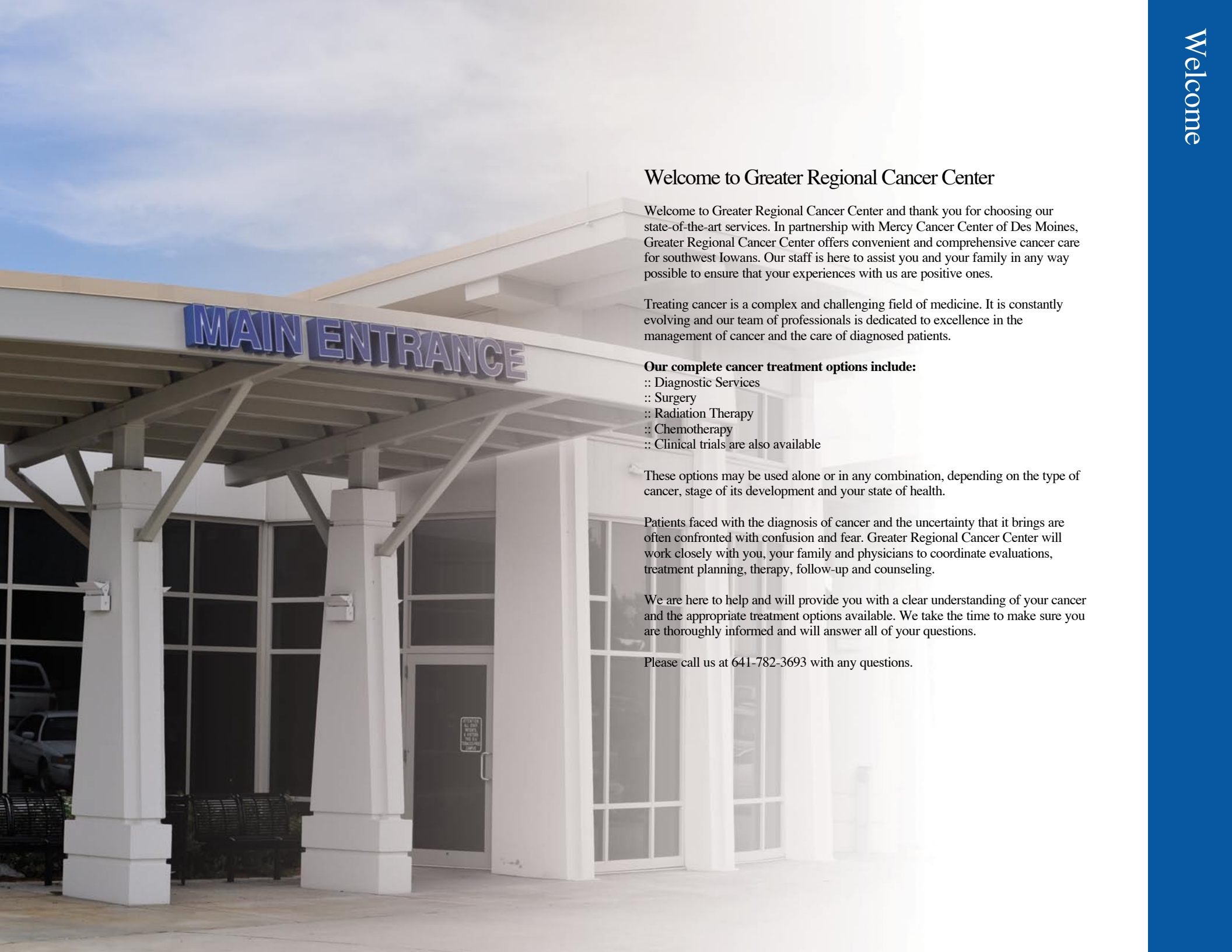
- :: Diagnostic Services
- :: Surgery
- :: Radiation Therapy
- :: Chemotherapy
- :: Clinical trials are also available

These options may be used alone or in any combination, depending on the type of cancer, stage of its development and your state of health.

Patients faced with the diagnosis of cancer and the uncertainty that it brings are often confronted with confusion and fear. Greater Regional Cancer Center will work closely with you, your family and physicians to coordinate evaluations, treatment planning, therapy, follow-up and counseling.

We are here to help and will provide you with a clear understanding of your cancer and the appropriate treatment options available. We take the time to make sure you are thoroughly informed and will answer all of your questions.

Please call us at 641-782-3693 with any questions.





What is Cancer?

“Cancer” is a general term used to describe more than 200 diseases characterized by abnormal uncontrolled growth of cells that invade and destroy healthy tissue. Cancer can begin in any part of the body and may remain localized to one organ in the body or spread to other parts of the body.

The term “tumor” is used to describe a localized mass of cancer cells and is usually used to refer to a lump or mass seen or felt by physicians or visualized on x-ray studies.

Each type of cancer is different. Some types of cancer tend to remain localized in one spot, while other cancers have the ability to spread quickly to other parts of the body. Not all patients with cancer are treated in the same way.

It is important for doctors to determine the type and extent of the cancer. The term “stage” is used to describe the size of the cancer tumor mass and/or the extent to which the cancer cells have spread. Prior to determining a patient’s treatment, physicians will usually recommend a series of medical tests (x-rays, blood tests, biopsies, etc.) to determine the type and extent of cancer.

How is Cancer Treated?

The treatment of cancer is constantly undergoing change as we learn more about the disease and its treatment. Today, many patients with cancer can be cured of their disease.

There are three main types of cancer treatment which include surgery, radiation therapy, and chemotherapy. These treatments can be used alone or in any combination, depending on the type of cancer and its stage.

Surgery

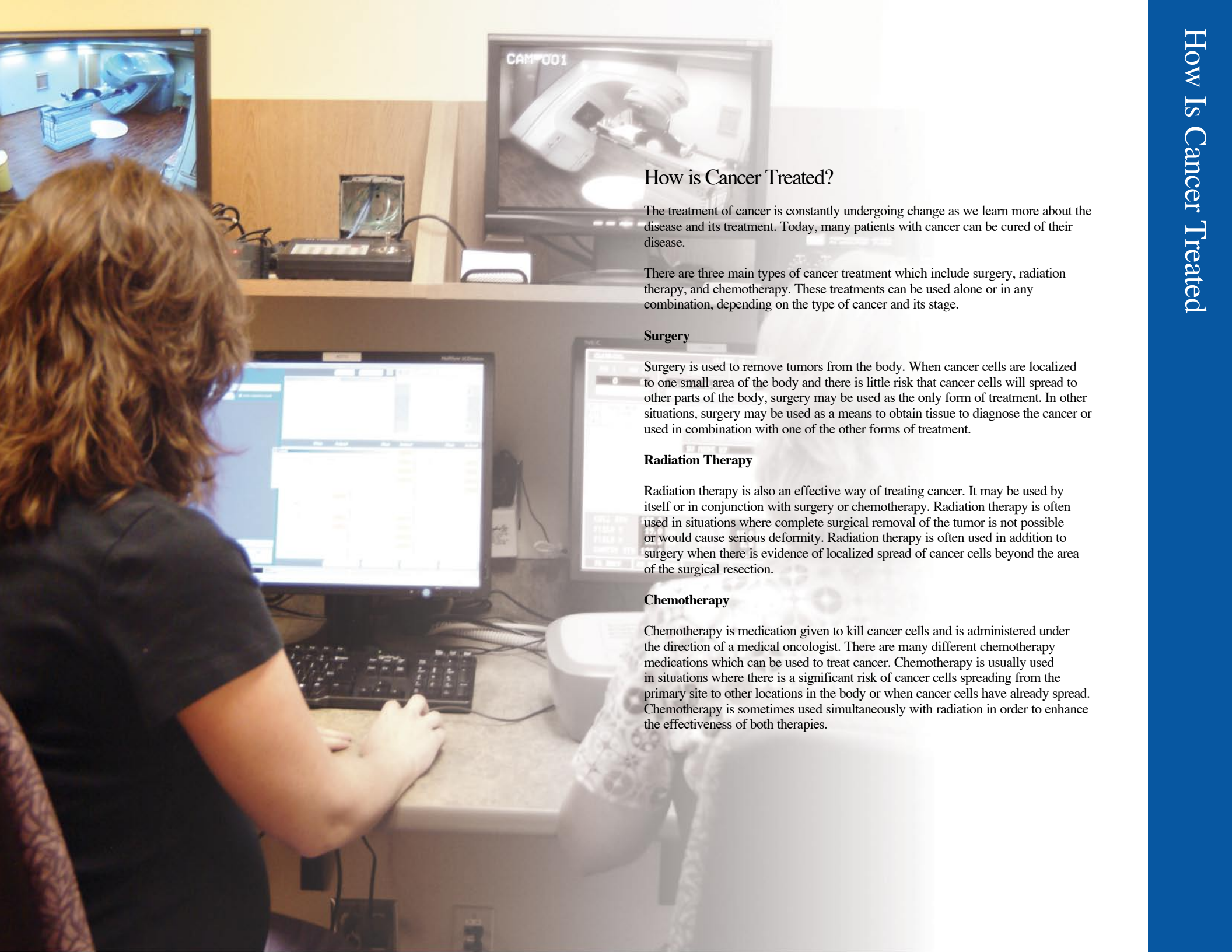
Surgery is used to remove tumors from the body. When cancer cells are localized to one small area of the body and there is little risk that cancer cells will spread to other parts of the body, surgery may be used as the only form of treatment. In other situations, surgery may be used as a means to obtain tissue to diagnose the cancer or used in combination with one of the other forms of treatment.

Radiation Therapy

Radiation therapy is also an effective way of treating cancer. It may be used by itself or in conjunction with surgery or chemotherapy. Radiation therapy is often used in situations where complete surgical removal of the tumor is not possible or would cause serious deformity. Radiation therapy is often used in addition to surgery when there is evidence of localized spread of cancer cells beyond the area of the surgical resection.

Chemotherapy

Chemotherapy is medication given to kill cancer cells and is administered under the direction of a medical oncologist. There are many different chemotherapy medications which can be used to treat cancer. Chemotherapy is usually used in situations where there is a significant risk of cancer cells spreading from the primary site to other locations in the body or when cancer cells have already spread. Chemotherapy is sometimes used simultaneously with radiation in order to enhance the effectiveness of both therapies.



Your Cancer Treatment Team

Robert M. Kuhl, MD General Surgeon	Dev R. Puri, MD Radiation Oncologist	Sheila Brown, RN Oncology, Certified Nurse
Chris L. Downing, DO General Surgeon	Bradley K. Hiatt, DO Medical Oncologist	Cali Purdum, RN Chemotherapy, Nurse
Richard L. Deming, MD Radiation Oncologist	Joan Weis Radiation Therapist	Robin Vogel, RN Chemotherapy, Nurse
Philip J. Colletier, MD Radiation Oncologist	Katy Wiley Radiation Therapist	Sheryl Phillipe, RN Chemotherapy, Nurse
John M. Martens, MD Radiation Oncologist	Sara Trimble Radiation Therapist	
George H. Voynov, MD Radiation Oncologist	Jeni Thompson, RN Oncology, Certified Nurse	

What is a Radiation Oncologist?

Radiation oncology is the medical specialty that deals with the treatment of cancer with radiation. A radiation oncologist is a medical doctor who has received many years of special training in the study of cancer and in the use of radiation to treat cancer. Upon successful completion of an approved training program and successful completion of special examinations, a radiation oncologist can become board certified by the American Board of Radiology in the specialty of radiation oncology.

What is a Medical Oncologist?

A doctor who specializes in diagnosing and treating cancer using chemotherapy, hormonal therapy, biological therapy, and targeted therapy. A medical oncologist often is the main health care provider for someone who has cancer. A medical oncologist also gives supportive care and may coordinate treatment given by other specialists.

A surgeon in a green scrub suit, surgical cap, and mask is performing a procedure in an operating room. The patient is lying on a table covered with white and blue drapes. Medical equipment and monitors are visible in the background.

Treatment Options - Surgery

At Greater Regional Cancer Center, our surgeons are skilled in providing the most appropriate surgical techniques and interventions for our patients from the pre-operative assessment to the post-operative recovery phase, and locally - without the inconvenience of traveling to a larger city.

We believe it is of utmost importance that you are comfortable during your experience in our department and will do everything possible to help lessen any anxiety you may have about your procedure. We listen to your needs, and keep you and your family well-informed and educated about your treatment.

For some types of cancer, surgery is the most common way to remove a tumor, which is a lump or mass that can be seen or felt by physicians or visualized on X-rays. When cancer cells are localized to one small area and there is little risk of the cancer spreading to other parts of the body, surgery may be used as the only form of treatment. In other situations, surgery may be used as a means to obtain tissue to establish the diagnosis of cancer or used in combination with one of the other forms of cancer treatment (i.e., chemotherapy or radiation therapy).

Common surgical procedures done at Greater Regional Medical Center include:

- :: Endoscopies (EGD & colonoscopies) and colon resections for GI-related cancers
- :: Port placements for chemotherapy treatments
- :: Thyroidectomy
- :: Mastectomy, quadrantectomy, lumpectomy; sentinel node breast biopsies and needle localized breast biopsies for breast cancers (Stereotactic breast biopsies are done in Greater Regional Medical Center radiology department)
- :: Hysterectomies and other gynecological procedures for cancers affecting the female reproductive system
- :: Bladder tumor excisions for urological cancers and lesion removals for skin cancers.

Our highly skilled patient-focused team include general surgeons, specialty surgeons, Certified Registered Nurse Anesthetists and surgical nursing staff with years of knowledge and experience.

Our Greater Regional surgical department prides itself on how it cares for each patient and we are dedicated to providing compassionate patient care exceeding the expectations of our patients and families.

Please call 641-782-3532 with any questions.

Treatment Options - Radiation Therapy

Radiation therapy is an important component in the management of a patient with cancer. The radiation oncology team at Greater Regional Cancer Center has highly trained personnel that work closely with you and your physicians to administer treatment.

Radiation therapy uses high doses of radiation to kill cancer cells and stop them from spreading. Used in cancer treatment, a tool called a linear accelerator electrically manufactures x-rays in much the same way as an X-ray of your teeth or bones, except it is given at much higher doses. Nearly 60 percent of people with cancer get radiation therapy.

Radiation therapy is used to treat cancer by curing, stopping or slowing the growth of cancer. It can also reduce symptoms by shrinking cancer tumors in order to relieve pressure and pain, or can prevent problems such as blindness or loss of bowel and bladder control.

:: Radiation therapy and surgery - Radiation may be given before, during, or after surgery as a way to shrink a tumor and kill any cancer cells that remain. During surgery, radiation therapy can be given to go straight to the cancer without passing through skin.

:: Radiation therapy and chemotherapy - Radiation may be given before, during, or after chemotherapy to shrink the cancer so that treatment works better and afterwards to kill any cancer cells that remain.

Treatment

You may get radiation therapy once a day for many weeks or in smaller doses two times a day, but radiation therapy does not kill cancer cells right away. It takes days or weeks of treatment before cancer cells begin to die and they will continue dying for weeks or months after radiation therapy ends.

Radiation therapy may also affect nearby healthy cells. Spreading out your radiation sessions allows healthy cells to recover while cancer cells die. Healthy cells typically recover after treatment is complete.

Your physicians try to protect healthy cells during treatment by:

- :: Using as low a dose of radiation as possible
- :: Spreading out treatment over time
- :: Aiming radiation at a precise part of your body
- :: Using medicines to help protect certain parts of your body

Side Effects During Treatment

Radiation therapy does not hurt while being given, however, side effects may cause pain or discomfort. Each person and treatment is different, so it is not always possible to tell how you will feel. Some patients feel well enough to keep their normal schedules at home or at work. Others feel more tired. Patients may have side effects that do not get better or are severe.

Your physician will review with you in detail the side effects you may experience during your radiation therapy.

After Treatment

Once you have finished radiation therapy, you will need follow-up care and check-ups for the rest of your life. During these checkups, your physician will see how well the radiation therapy worked, check for other signs of cancer, look for late side effects, and talk with you about your treatment and ongoing care. Your physician will examine you and review how you have been feeling, order lab and imaging tests, discuss any additional treatment and answer any questions.

Your Radiation Therapy Team

Many healthcare providers work together to provide you with radiation treatment and care that is just right for you. Your radiation therapy team will include radiation oncologists, nurse practitioners, radiation nurses, radiation therapists and other healthcare workers.

The radiation physicist is a scientist with extensive training in monitoring the operation of the complex treatment machines and in overseeing the computerized planning of radiation dose distribution. A dosimetrist works with the radiation oncologist and physicist in designing specialized treatments for patients. A radiation therapist administers the daily treatments to the patients under the supervision of the doctors and operates the machines that deliver radiation therapy.

You are also a very important part of the radiation therapy team. You can help to receive the best possible treatment by arriving on time for sessions, discussing your concerns and letting your physician know if you are in pain or experiencing side effects. We also encourage you to take care of your body by eating proper foods, drinking plenty of fluids and getting plenty of rest.

Please call 641-782-3693 with any questions.

The above radiation therapy text was adapted from National Cancer Institute materials. Visit www.cancer.gov for more information.



What is Radiation Therapy?

Radiation therapy is the use of high energy forms of radiation (such as x-rays, gamma rays, and electrons) in the treatment of diseases, especially cancer. Radiation has the ability to damage and kill cancer cells. Normal cells can also be affected by radiation. Most normal cells, however, have the ability to repair the damage done to them by radiation and are thus able to recover.

The damage to cancer cells happens when they are exposed to the radiation. The death of cancer cells, however, may not occur immediately. The radiation damage to cancer cells often causes their death at the time when they attempt to grow and divide. This could be days or weeks after the radiation therapy has actually been administered.

Usually radiation treatments are given once daily over several weeks. This increases the likelihood of killing cancer cells and allows for the normal cells receiving radiation to repair themselves between treatments.

There are several different types of machines that can be used to give radiation treatments. The most popular machine today is called a linear accelerator, which electrically manufactures high energy x-rays. These x-rays are similar to types of x-rays used to take an x-ray picture; however, the x-rays produced by a linear accelerator are much higher in energy. An older form of radiation therapy machine is a cobalt machine. Cobalt is a naturally occurring radioactive material that emits gamma rays which can be utilized in radiation therapy. Linear accelerators and cobalt machines are means of providing external radiation. That is, the radiation is produced in the machine and travels through air, entering the patient and absorbing the tumor cells and body tissues of the patient.

In some situations, radioactive materials are implanted directly into the tumor.



What is Involved in Receiving Radiation Therapy?

Consultation

When a patient is referred to a radiation oncologist, the first meeting between the patient and the radiation oncologist is usually a consultation. This provides the radiation oncologist an opportunity to meet the patient, review the medical history and pertinent medical records, x-rays and laboratory tests. During the initial consultation, the radiation oncologist will also examine the patient. Before recommending any specific treatments, the physician needs to determine the type and extent of the cancer. The radiation oncologist will then discuss the case with the other physicians involved in the patient's care and treatment recommendations will be made.

Treatment Planning

Once the decision is made to use radiation therapy in the treatment of a patient's disease, then the treatment planning stage begins. The radiation oncologist will determine what area of the body needs to be treated - a decision often made based on various x-ray studies. A treatment planning simulation session will be scheduled. At the time of simulation, the radiation oncologist determines the size of the area to be treated and what energy of radiation will be used. The patient is measured and x-rays are taken on a machine called a simulator. The treatment planning simulation session takes approximately 40 minutes. During this time, the patient lies on a table. The skin overlying the area to be treated is marked with an ink-like fluid that will allow the patient to be positioned in the same exact way for each of the subsequent treatments. Usually, very small pinpoint tattoos are used so that the ink marks do not have to be kept on the skin for the entire course of the radiation treatments.

Prior to beginning treatment, information obtained at the treatment planning simulation session is used to determine the dose of radiation to be administered. This often entails extensive computer planning and manufacturing custom made lead blocks to shield portions of the patient's body that do not need to be treated.

Treatment

Once radiation therapy treatment begins, it is typically administered once a day, five days a week. The radiation treatments last only about 15 minutes. One of the most important aspects of the treatment is for the patient to be positioned in exactly the same way each day. The treatments are completely painless; in fact, most patients experience no sensation at all while the treatment is being received.



Side Effects of Therapy

When radiation is administered to a patient, it is not possible to treat only the cancer cells. The surrounding normal tissues also receive some radiation exposure. The effect that the radiation has on these normal tissues accounts for the side effects of radiation therapy. The side effects of the therapy are very much dependent on what part of the body is being treated. For the most part, radiation therapy affects only parts of the body that are actually receiving the treatment. The radiation oncologist will carefully review the expected side effects with each patient prior to treatment.

Side Effects

1. Every person is an individual. Radiation therapy side effects vary greatly from patient to patient. Some people have no side effects; others may develop mild to severe side effects.
2. Side effects of radiation therapy are dependent on what part of the body is being treated and what dose of radiation is being given. For example, a patient receiving radiation treatments for a brain tumor would have very different side effects than a patient receiving radiation treatments for a tumor in the pelvis.
3. Side effects represent the normal body tissue's response to radiation. Hence, the side effects depend on what normal tissues are in the vicinity of the tumor and are also receiving some of the radiation.
4. No two patients are exactly alike. Not every one will experience all the same side effects to the same degree. Many patients will complete their course of radiation therapy with little or no significant side effects.
5. Your doctor will review with you in detail the side effects that you may experience during your radiation therapy. These handouts will serve as a general guide to describe certain side effects and provide you with general instruction on how to handle them.
6. It is important that you tell your doctor about any side effects that you experience during the course of your radiation therapy. Most side effects are a normal body reaction to radiation and will require no specific medical treatments. In some circumstances, your doctor may prescribe medication to treat certain side effects depending on the symptoms.
7. If you have any questions about the information provided in this handout, ask your doctor or nurse. We will be happy to answer your questions at any time.

Side Effects Of Radiation Therapy To The Brain

1. Hair Loss - Radiation therapy to the head will cause hair to fall out. The amount of hair loss will depend on how much of the head is being treated. The hair loss usually begins approximately two to four weeks after the radiation is started. Whether hair loss is temporary or permanent will depend on the dose of radiation given.

Suggestions:

- :: You may continue to wash your hair during your course of radiation treatment. You should use a mild shampoo (baby shampoo). Other hair care products (hair spray, gels, mousses, permanents, etc.) may be irritating to the scalp.
- :: You may want to consider obtaining a wig. We can provide you with information on where to get one. Some patients prefer to get one before they actually need it, which allows you to pick a color and style that matches your own hair.

2. Scalp Irritation - The skin of the head may become irritated in the area being treated. It may become pink to reddish in color as the radiation treatments progress. It is common to experience itchiness of the scalp and the scalp may become dry and flaky.

Suggestions:

- :: Dry your hair and scalp gently, but thoroughly after each wash.
- :: Avoid sun exposure to your scalp while you are undergoing treatment and for the first few months after treatment is completed. If you are to be outside for a prolonged period of time, cover your head with a cap, hat, scarf or wig.

3. Ear Problems - If the ears are in the radiation beam, you may experience irritation around the outside of our ears similar to the scalp irritation described above and inside the ear canals also. Radiation can increase the thickness of the waxy secretions in your ears.

Suggestions:

- :: External ear care is the same as for the scalp described above. When outside for prolonged periods of time, keep your ears covered or use sunscreen.
- :: Do not use sharp items to attempt to remove wax from your ears. If wax build up becomes a problem, you can use a preparation like Deborx which is available over the counter at the drug store.

4. Throat Irritation - Because the back of the throat is located near the brain, it often will receive some radiation during the course of your treatments. A mild sore throat may occur approximately two weeks after beginning treatment.

Suggestions:

- :: If you develop a sore throat, gargle with a salt and soda water solution (one quart of water with 1 tsp. of table salt and 1 tsp. of baking soda).
- :: If you develop a sore throat, avoid foods that increase the irritation. Some patients find that rough foods such as popcorn and chips can be irritating.
- :: Cold or warm drinks may be soothing.
- :: Tylenol is also helpful in decreasing pain.

5. Fatigue and Sleepiness - Radiation therapy to the brain can cause generalized fatigue and increased sleepiness which may persist for several weeks after the treatments are completed.

Suggestions:

- :: If you don't feel fatigued and want to continue with your regular activities, by all means do so. We will do all we can to make your radiation treatments as convenient for you as possible.
- :: If you feel tired, listen to your body and limit your activities as you see fit.
- :: You may need to get more sleep and consider taking a nap during the day.

6. Medications - Your physicians may prescribe a medication called Decadron or Dexamethasone to decrease the swelling of brain tissue that can be associated with some brain tumors. Decadron can increase fluid retention, increase appetite, and may make it difficult to sleep at times. Decadron can also cause an upset stomach. It also can interfere with glucose metabolism and make diabetes worse.

Suggestions:

- :: Do not take Decadron on an empty stomach. Take Decadron with food. Antacids such as Mylanta or Maalox may help decrease upset stomach.
- :: If you find that you are having difficulty sleeping, adjust the time that you are taking your Decadron tablets so that you are not taking a dosage right before going to bed.
- :: Don't stop taking Decadron without your physician's orders. Decadron has to be tapered gradually, not stopped abruptly.

7. Diet - Continue to eat nutritious, well-balanced meals. There are no specific dietary restrictions because you are receiving radiation treatments. Eat the foods that you enjoy eating and whenever you feel hungry. Many cancer patients experience a poor appetite and have trouble maintaining weight. Some people notice food tastes different or becomes tasteless.

Suggestions:

- :: Many small meals and snacks during the day may be more appealing to you than attempting three large meals.
- :: Experiment with different foods and find what tastes best to you. Vary the texture and color of your foods.
- :: Avoid foods that are unappetizing or irritate your throat.

Side Effects Of Radiation Therapy To Mouth, Throat And Neck

1. Skin Irritation - Radiation therapy to the mouth, throat and neck will cause irritation of the skin in the area being treated. The skin will become pink to reddish in color, similar to a mild sunburn. This will occur gradually over the several weeks you are receiving your treatment. This is a normal and expected side effect. As the treatment progresses, you may develop itchininess of the skin in the area being treated. Following treatment, it is common for the skin to become darker in color (like a suntan) as well as dry and flaky.

Suggestions:

- :: Keep the area dry. You may wash with a mild soap (such as Ivory). Dry the area gently, but thoroughly after washing.
- :: Avoid using irritating products on the area being treated. This would include perfumes, after shave lotions, deodorants, creams and lotions.
- :: If the skin becomes irritated, there are some skin products which may be helpful. Aloe Vera has been found to be soothing for many patients. Before using any product, discuss it with your physician.
- :: Shaving with a straight edge razor can be irritating to skin in the treatment area. If you need to shave, an electric razor will be gentler on your skin.
- :: Avoid exposing the treated areas to the sun during weeks you are receiving your treatment and for several months following treatment. Use sunscreen if you need to be outside for prolonged periods of time during summer months.

2. Hair Loss - You will not lose the hair on your head from radiation therapy to your mouth, throat and neck. Men, however, may lose their sideburns and facial hair. In some situations, the top of the neck near the back of the head may receive some radiation causing some minimal hair loss in this region.

Suggestions:

- :: You may continue to wash your hair with a gentle shampoo (such as baby shampoo). You also may continue to shower and wash your face. We recommend using a gentle soap as discussed above.

3. Mouth And Throat Irritation - Radiation treatments will cause irritation of the lining of your mouth and throat. You may start to experience this approximately one to two weeks after starting radiation treatments. Soreness in the throat and difficulty swallowing are the most common problems. These side effects may gradually worsen as you proceed through the weeks of radiation treatment. At times, you may develop sores inside of the mouth. You are more prone to develop growth of yeast in your mouth and throat, which may appear as small white spots.

Suggestions:

- :: Rinse your mouth and gargle frequently with a salt and soda water solution. You may prepare this solution by adding a teaspoon of table salt and a teaspoon of baking soda to a quart of water. Keep this on hand in the refrigerator and use it frequently. This will help to keep the lining of your mouth and throat clean and will help to soothe the irritation.
- :: Suck on ice chips and sip on cool liquids frequently during the day. Some patients find that sucking on hard candy or throat lozenges is helpful.
- :: Avoid foods and liquids that are irritating to the mouth and throat. Many people find that highly spiced foods, foods containing high acid content (such as citric juices), and alcohol make the throat irritation worse.
- :: Let your physician know if you develop sores in your mouth or notice white patches along your throat. There are medications which may be prescribed.
- :: Chew foods thoroughly before swallowing and drink liquids with solid foods to make the swallowing easier.

4. Dry Mouth - Radiation treatments will cause salivary glands to produce less saliva which will be thicker in consistency. You may begin to notice a dry mouth sensation one to two weeks after starting radiation treatments. After radiation therapy has been completed, some of your saliva production will return, although, it will usually not fully return to normal. You may always have persistent dry mouth depending on the extent to which the salivary glands were included in the treatment area.

Suggestions:

- :: The only real way to counter the dry mouth side effects is with water. Many patients find it useful to carry a small container of water with them. See the suggestions above concerning the use of salt and soda water gargles and ice chips.

5. Changes In Taste - Radiation therapy to the mouth, and in particular to the taste buds on the tongue, will affect your taste. You may begin to experience this side effect one to two weeks after treatment has started. You will commonly notice that foods will lack distinct tastes and occasionally notice a metallic taste in your mouth. After treatment has been completed, your taste buds will gradually return to normal.

Suggestions:

- :: It will be a matter of trial and error for you to try many different foods and determine what tastes best for you.
- :: Try adding a bit of salt or use seasonings such as basil, tarragon, and mint to enhance flavor of your foods.

6. Dental Care - Saliva is one of the major ways that our body is able to constantly cleanse our teeth. With decreased saliva production and increased thickness of the saliva, some of the natural cleansing mechanisms are lost. Consequently, patients receiving radiation therapy to the mouth may develop dental problems if good dental hygiene is not followed.

Suggestions:

- :: You should be seen by your dentist prior to beginning radiation therapy to the mouth. A thorough exam should be performed and any needed dental work should be done. Your dentist can also give you a fluoride solution to use to help prevent the development of cavities.
- :: Use a soft toothbrush and toothpaste containing fluoride to brush your teeth. Your gums may become irritated by the radiation treatments and aggressive brushing can cause gum bleeding and increase the risk of gum infections.
- :: Drink water frequently and use the salt and soda water rinses as discussed above.

7. Hoarseness - If the voice box is included in the area being treated, hoarseness may be a side effect of radiation treatment. This is caused by irritation of the vocal cords from the radiation. Depending on the type of cancer being treated, some patients have hoarseness as a symptom of their cancer before treatment even begins. Mild hoarseness that develops during radiation therapy is most likely due to irritation of the vocal cords from radiation.

Suggestions:

- :: Avoid yelling and loud talking. This will increase the vocal cord irritation.

8. Fatigue - Some people undergoing radiation therapy may feel tired and have less energy. This is caused by a combination of factors related to your illness, treatments and the increased stress you may experience as you make adjustments in your daily routine.

Suggestions:

- :: If you don't feel fatigued and want to continue with your regular activities, by all means do so. We will do all we can to make your radiation treatments as convenient for you as possible.
- :: If you feel tired, listen to your body and limit your activities as you see fit. Consider taking a nap during the day.

9. Diet - We want you to continue to eat nutritious, well-balanced meals. There are no specific dietary restrictions that you must adhere to because of the radiation treatments. Eat the foods that you enjoy and whenever you feel hungry.

Suggestions:

- :: As you develop soreness of the mouth and throat, you will need to avoid foods that aggravate the irritation. As discussed above, foods that are likely to cause increased irritation include spicy foods, foods containing a high acid content such as citrus fruits, and alcohol.
- :: As swallowing becomes more difficult, you may need to change to a soft diet. Foods that are easy to swallow include eggs, custards, applesauce, gelatin, soups, ice cream and yogurt. You can use a blender or food processor to puree vegetables and meats. Milk shakes can provide an appetizing way to increase calories. Add eggs, fruits and other flavoring to increase nutrition and appeal. Food supplements such as Carnation Instant Breakfast and Sustacal may also be helpful.
- :: Several small meals and snacks during the day may be more appealing to you than three large meals.
- :: Experiment with foods and find what tastes best for you. Vary the texture and the color of foods.

Side Effects Of Radiation Therapy To Chest

1. Skin Irritation - Radiation therapy to the chest will cause irritation of the skin in the area being treated. The skin will become pink to reddish in color, similar to a mild sunburn. This will occur gradually over the several weeks you are receiving treatment, and is a normal, expected side effect. As the treatment progresses, you may develop itchiness of the skin in the area being treated. Following treatment, it is common for the skin to become darker in color (like a sun tan) as well as dry and flaky.

Suggestions:

- :: Keep the area dry. You may wash with a mild soap (such as Ivory). Dry the area gently, but thoroughly after washing.
- :: Avoid using irritating skin products on the area being treated.
- :: If the skin becomes irritated, some skin products may be helpful. Aloe Vera has been found to be soothing for many patients. Before using any product, discuss it with your physician.
- :: Avoid exposing the treated area to the sun during the course of your treatment and for several months after treatment.

2. Swallowing Difficulty - The esophagus is the “food tube” between the mouth and the stomach. It is located in the center of the chest. Radiation causes irritation of the lining of the esophagus. This may cause discomfort and a “catching” sensation when you swallow. This side effect, referred to as “esophagitis”, will usually begin approximately two to four weeks after treatment has begun.

Suggestions:

- :: Inform your physician if you begin to experience swallowing difficulties. He will discuss with you types of medication that may be helpful in relieving some of the symptoms. Liquid antacids such as Maalox or Mylanta may be helpful.
- :: If esophageal irritation occurs, avoid foods that make the irritation worse. Some patients find heavily spiced foods, acidic foods (such as tomatoes and citrus fruits) and alcohol may worsen the pain.
- :: Chew foods thoroughly before swallowing and drink liquids with solid foods to make swallowing easier.

3. Fatigue - Some people undergoing radiation therapy may feel tired and have less energy. This is caused by a combination of factors related to your illness, treatments and the increased stress you may experience as you make adjustments in your daily routine.

Suggestions:

- :: If you don’t feel fatigued and want to continue with your regular activities, by all means do so. We will do all we can to make your radiation treatments as convenient for you as possible.
- :: If you feel tired, listen to your body and limit your activities as you see fit. Consider taking a nap during the day.

4. Diet - We want you to continue to eat a good, nutritious, well-balanced diet. There are no specific dietary restrictions just because you are receiving radiation treatments. Eat the foods that you enjoy and eat whenever you feel like it. Many cancer patients experience poor appetite and have trouble maintaining their weight. Some people state that food tastes different or becomes tasteless. Experiment with different types of food to find what tastes best to you.

Suggestions:

- :: Many small meals and snacks during the day may be more appealing to you than three large meals.
- :: Experiment with different foods. Vary the texture and colors of your foods.
- :: Avoid foods of you find them to be unappetizing or irritate your throat.
- :: If you are having irritation of your esophagus and swallowing difficulty, you may need to change to a soft diet. Foods that are easy to swallow include eggs, custards, applesauce, gelatin, soups, ice cream and yogurt. You can use a blender or a food processor to puree vegetables and meats. Milk shakes can provide an appetizing way to increase calories. Add eggs, fruits, and other flavorings to increase the nutrition and appeal. Food supplements such as Carnation Instant Breakfast and Sustacal may also be helpful.



Side Effects Of Radiation Therapy To The Breast Or Chest Wall

1. Skin Irritation - Radiation therapy to the breast and/or to the chest wall will cause irritation of the skin in the area being treated. The skin will become pink to reddish in color, similar to a mild sunburn. This will occur gradually over the several weeks that you are receiving your treatment. This is a normal and expected side effect. As the treatments progress, you may develop itchiness of the skin in the area being treated. Following the treatment, it is common for the skin to become darker in color (like a sun tan) and for the skin to become dry and flaky.

Suggestions:

- :: Keep the area dry. You may wash with a mild soap (such as Ivory or baby shampoo). Dry the area gently, but thoroughly after washing.
- :: Avoid using irritating products on the area being treated. Some lotions, creams and ointments are alcohol-based and may be uncomfortable.
- :: If the skin becomes irritated, there are some skin products which may be helpful. Aloe Vera has been found to be soothing to many patients. Before using any product, discuss it with your physician.
- :: Avoid exposing treated areas to the sun during your treatment and for several months after treatment.
- :: Tight fitting clothing may chafe irritated skin. Wear soft, absorbent clothing. A tight fitting bra may irritate the skin. If possible, try going without a bra or use a loose fitting cotton bra.

2. Diet - We want you to eat a well-balanced, nutritious diet. There are no foods that you have to avoid just because you are receiving radiation therapy.

3. Fatigue - Some people undergoing radiation therapy will feel tired and have less energy. This is caused by a combination of factors related to your illness, treatments and the increased stress you may experience as you make adjustments in your daily routine.

Suggestions:

- :: If you don't feel fatigued and want to continue with your regular activities, by all means do so. We will do all we can to make your radiation treatments as convenient for you as possible.
- :: If you feel tired, listen to your body and limit your activities as you see fit. Consider taking a nap during the day.

Side Effects Of Radiation Therapy To The Abdomen

1. Skin Irritation - Radiation therapy to the abdomen will cause some mild irritation of the skin overlying the area being treated. The skin may become pink to reddish in color similar to a mild sunburn. This will occur gradually over the several weeks you are receiving your treatment and is a normal, expected side effect. As the treatment progresses, you may develop itchiness of the skin the area being treated. Following the treatment, it is common for the skin to become slightly darker in color (like a suntan) as well as dry and flaky.

Suggestions:

- :: Keep the area dry. You may wash with a mild soap (such as Ivory). Dry the area gently, but thoroughly after washing.
- :: Avoid using any irritating skin products on the area being treated.
- :: If the skin becomes irritated, there are some skin products that may be helpful. Aloe Vera has been found to be soothing for many patients. Before using any product, discuss it with your doctor.
- :: Avoid exposing the treated area to the sun during the course of your treatment and for several months after treatment.

2. Nausea - Radiation therapy to the abdomen may cause nausea. If the nausea is severe, vomiting may occur. This is caused by irritation of the stomach and small bowel. Not everyone will experience nausea and vomiting. Whether this side effect occurs and the degree to which it occurs will depend on the size of the area being treated and dose of radiation therapy being delivered. Many patients experience nausea during the few hours after radiation treatment.

Suggestions:

- :: If you don't experience nausea or vomiting, continue with your normal diet.
- :: Avoid eating for several hours before your treatment time, if you are experiencing nausea right after your radiation treatments.
- :: If you feel nauseated, you may need to make some changes in your diet. Avoid fried foods and those with a high fat content. Eat bland foods that have a mild aroma and are easy to digest. Examples include saltine crackers, gelatin and dry toast.
- :: Many small meals and snacks during the day may be easier for you than trying to eat three large meals.
- :: If nausea is severe or if you experience vomiting, let your physician know. Medications are available.

3. Diarrhea - A few people who are undergoing radiation therapy to the abdomen may experience some loose stools or diarrhea. This is caused by irritation of the large bowel.

Suggestions:

- :: If you experience diarrhea, you may want to change your diet and avoid foods that increase the number of bowel movements. Many people find that high fiber foods such as raw vegetables and whole grains increase the number of bowel movements.
- :: Let your physician know if you are having problems with diarrhea. Medications are available if the diarrhea becomes a problem.

4. Fatigue - Some people undergoing radiation therapy will notice they feel tired and have less energy. This is caused by a combination of factors related to your illness, treatments and the increased stress you may experience as you make adjustments in your daily routine.

Suggestions:

- :: If you do not feel fatigued and want to continue with your regular activities, by all means do so. We will do all we can to make your radiation treatments as convenient for you as possible.
- :: If you feel tired, listen to your body and limit your activities as you see fit. Consider taking a nap during the day.

5. Diet - Continue to eat nutritious, well-balanced meals. There are no specific dietary restrictions because you are receiving radiation treatments. Eat the foods you enjoy and whenever you feel hungry.

Suggestions:

- :: Refer to the recommendations in the earlier portion of this handout if you are having problems with nausea, vomiting or diarrhea.
- :: If you have a poor appetite and difficulty maintaining your weight, consider eating several small meals and snacks during the day instead of attempting three large meals. Also experiment with foods. Vary the texture and color of foods to increase their appeal.

Side Effects Of Radiation Therapy To The Pelvis

1. Skin Irritation - Radiation therapy to the pelvis will cause irritation of the skin in the area being treated. The skin will become pink in color similar to a mild sunburn. This will occur gradually over the several weeks you are receiving treatment. This is a normal, expected side effect. It is likely to be most prominent in between the buttocks. Although there will be no loss of hair from your head as a result of the radiation treatment, there may be some hair loss in the pubic region.

Suggestions:

- :: Keep the area dry. You may wash with a mild soap (such as Ivory). Dry the area gently but thoroughly after washing.
- :: Avoid using any irritating products on the area being treated (such as creams, lotions and sprays).
- :: Let your physician know if the skin is irritated. There are prescriptions to help ease the irritation.
- :: Tight fitting clothing may chafe the irritated skin. We suggest you wear soft, absorbent, loose fitting clothing next to the skin.

2. Bladder Irritation - All or part of the urinary bladder may receive some radiation during the treatment. Irritation of the lining of the bladder will make you urinate more frequently. There may also be some mild discomfort when you urinate.

Suggestions:

- :: Even though you may be urinating more frequently, it is important to take in an adequate amount of fluid each day. Don't stop drinking fluids just because you are inconvenienced by the number of times you need to urinate.
- :: Let your physician know if you have any pain or burning during urination. While this may be a side affect of radiation, your physician will need to make sure there is not a urinary tract infection that could also cause the urinary burning.

3. Rectal Irritation - All or part of the rectum may receive some radiation during the treatment. When the lining of the rectum becomes irritated, you may sense the need to have bowel movements more frequently. Your bowel movements may also become looser and eventually, diarrhea may occur. This will result in burning sensation around the anus, especially when having a bowel movement.

Suggestions:

- :: If you develop irritation around the anus, let your physician know. There are medicated creams available to lessen the discomfort.
- :: If you develop diarrhea, then you may want to change your diet so that you avoid foods that increase your bowel movements. Many people find that high fiber foods such as raw vegetables and whole grains increase bowel movements. You do not have to specifically avoid these foods unless you find they aggravate your loose stools.
- :: Also, let your physician know if you are having problems with diarrhea. There are medications available if the diarrhea becomes a problem.

4. Fatigue - Some people undergoing radiation therapy will notice they feel tired and have less energy. This is caused by a combination of factors related to the illness, treatment and stress you may experience as you have had to make adjustments in your daily routine.

Suggestions:

- :: If you don't feel fatigued and want to continue with your regular activities, then by all means do so. We will do all we can to make your radiation treatments as convenient for you as possible.
- :: Listen to your body and limit your activities as you see fit. Consider taking a nap during the day.

5. Diet - Continue to eat good, nutritious and well-balanced meals. There are no specific dietary restrictions while receiving radiation treatments. Eat the foods you enjoy and whenever you feel like it.

Suggestions:

- :: Consider eating several small meals and snacks during the day if you have a poor appetite or are having difficulty maintaining weight. Also, experiment and try all different types of foods. Vary the texture and color of foods to increase their appeal.
- :: Let your physician know if you are having problems with diarrhea and consider altering your diet. There are medications available if the diarrhea becomes a problem.

Treatment Options - Chemotherapy

Chemotherapy is a cancer treatment that uses drugs to destroy and stop the growth of cancer cells. More than half of all people diagnosed with cancer are treated with chemotherapy. Millions of people receive chemotherapy and their cancer is treated effectively, allowing them to enjoy full and productive lives.

Chemotherapy cannot tell the difference between cancer cells and healthy cells. Therefore, chemotherapy eliminates not only fast-growing cancer cells, but also fast-growing cells in your body, like hair and blood cells. Damage to healthy cells may cause side effects which often go away after chemotherapy treatments are completed.

Depending on your type of cancer and how advanced it is, chemotherapy can be used to destroy cancer cells until no longer detected by your physician; slow the growth of cancer cells and/or stop cancer cells from spreading to other parts of the body; and/or to shrink tumors that are causing pressure or pain in parts of your body effected by the cancer.

Our staff is here to help you understand the process you will undergo and to provide you with a clear understanding of chemotherapy and your treatment.

Treatment

You may get treatment daily, weekly or monthly and treatment periods are followed by a period of rest during which you won't get chemotherapy. Often, patients receive chemotherapy in cycles. For example, in a four week cycle, you may receive one week of chemotherapy followed by three weeks of rest. Rest gives your body a chance to build healthy new cells.

Chemotherapy can be given in many forms including the following: an IV (intravenously); a shot (injection) into a muscle or other part of your body; a pill or a liquid that you swallow; or a cream that is rubbed on your skin.

Treatment schedules for chemotherapy vary widely and are dependent upon multiple factors including the type of cancer, goals of treatment, type of chemotherapy and how your body reacts to the treatment. Discuss your chemotherapy treatment schedule with your Greater Regional Cancer Center physician. We realize patients have other personal and professional commitments and our goal is to accommodate scheduling needs where possible.

Side Effects During Treatment

Each person and treatment is different, so it is not always possible to tell how you will feel. Some people feel well enough to keep their normal schedules at home or at work. Others feel more tired. Many side effects can be prevented or controlled. Ask your physician what side effects you may experience and how you can best manage them.

Clinical Trials Offered At Greater Regional Cancer Center

Clinical trials, a popular option for many people undergoing cancer treatment, are research-based studies that involve people to test new treatments and find better ways to treat cancer. Participating in a clinical trial allows you to try a new treatment that could possibly work better than the treatment already being given.

Discuss with your physician what clinical trials might be available for the type of cancer you have, and whether it is appropriate for you to take part in any of those offered.

Bradley Hiatt, DO, is in Creston weekly. Nurses at Greater Regional Cancer Center are OCN certified, offering chemotherapy treatments Monday-Friday and are also able to give blood transfusions, iron infusions, IV fluids and various other outpatient infusion/injection services.

Please call 641-782-3650 with any questions.

The above chemotherapy text was adapted from National Cancer Institute materials. Visit www.cancer.gov for more information.

Patient Services

Greater Regional Cancer Center believes in providing the best holistic care for all patients and their families and is proud to provide the following patient, support and educational services:

Medical Social Services

Greater Regional Medical Center understands that facing cancer or helping a family member with cancer isn't easy. We have medical social workers available for a variety of counseling and support services. For information, please call 641-782-3615 or 641-782-3827.

Medical Social Services Offers The Following Services:

- :: Education materials: We currently have several items in our lending library that includes free educational pamphlets, a large selection of books and DVDs available for check out.
- :: Community Resource Information: Our medical social worker is available to provide information on resources and support available to assist you in your home such as home care nursing, meals on wheels, homemaker services, etc.
- :: Financial Assistance: Our medical social worker is here to provide information on resources available to assist with medical costs and transportation, and answer questions regarding financial resources available in your community, etc.
- :: Provide Support: Patients may contact the medical social worker to arrange a time to talk about their cancer and assist with coping skills as well as obtain information about on-line support groups. Caregivers may also need information on coping as they provide support and encouragement for a family member or friend who has cancer.
- :: Cancer Support Group: Currently a Women's Cancer Support groups meets regularly and provides a safe, confidential place to share your feelings, concerns and questions with other women who are currently undergoing treatment. In addition, survivors of cancer also attend and share their encouragement and hope with others. With enough interest, a Men's Cancer Support Group will be added.

Our staff is here to assist you and your patients in any way possible. We welcome the opportunity to work with you and your family.

Rehabilitation Services

Recovering from an illness, injury or surgery can be a long process. At Greater Regional Medical Center, we are committed to your long-term health and recovery. Because of the recent remodel, rehabilitation services is now conveniently located just off of the new entrance to the medical center, making our department and its services easily accessible to patients coming for rehabilitation therapy sessions. Rehabilitation services offered at Greater Regional Medical Center include physical, occupational and speech therapies. For information, please call 641-782-3510.

Greater Regional Home Care

Greater Regional Home Care acts as a medical center without walls, offering services to patients as they transition from a medical setting to home. We take referrals directly from family, self or other care providers and offer a full range of services, which encourage and maximize an individual's recovery, independence and long-term wellness in a safe home environment. Services include, but are not limited to, nursing care, rehabilitation services and home health aides for assistance with personal care needs. In addition, our staff also transition with patients who would benefit from hospice care. For information, please call 641-782-3528.

A large, brown sign with a blue outline of Iowa and a white star, sitting on a stone base. The text "GREATER REGIONAL HOSPICE HOME" is written in blue, serif, all-caps font.

GREATER REGIONAL
HOSPICE HOME

Dietitians

Greater Regional has dietitians that are available to help patients and their families create a plan to facilitate healing and good health during the treatment process. For information, please call 641-782-3526.

Beauty Aids

Greater Regional Cancer Center understands that some side effects of cancer treatment can impact a patient's personal image. We have wigs and scarves available, and are happy to refer you to local salons that specialize in beauty products; hair replacement options and skin care items for cancer patients. For information, please call 641-782-3693.

Patients faced with the diagnosis of cancer and the uncertainty that it brings are often confronted with confusion and fear. Greater Regional Cancer Center offers a variety of services for you and your family to support you during this time.

Greater Regional Hospice and Hospice Home

Greater Regional Hospice has been caring for southwest Iowans for 30 years - delivering comfort and compassion when it's needed most. Our staff has years of experience in hospice and palliative care. While hospice care is primarily provided in a patient's home, our new Greater Regional Hospice Home is the only one of its kind for southwest Iowans, providing a home-like environment for our hospice patients and families. Our staff collaborates with our patients' primary physicians in every step of care while we also attend to daily physical, emotional and spiritual needs of patients. We also partner with area physicians as well as hospitals, assisted living, nursing and independent senior housing facilities. When you need us - We're Your Answer. You can depend on Greater Regional Hospice to support you and your family. For information, please call 641-782-3528.

Lance Armstrong Foundation

The Lance Armstrong Foundation (LAF) and the LIVESTRONG initiative are dedicated to helping anyone affected by cancer. Whether you have cancer, are a friend or family member of someone diagnosed, LAF is committed to providing answers and support.

The LIVESTRONG SurvivorCare program provides one-on-one cancer support. SurvivorCare provides one-on-one support with all issues involving cancer, including counseling and local services, financial, insurance and job concerns, new developments in treatment, and discussing your personal cancer issues. Please call 866-467-7205 toll-free Monday through Friday, 9 a.m. to 5 p.m. EST to speak to a case manager or visit <http://www.livestrong.org> for more information.

Radiation Therapy - Nutritional Guide

In radiation therapy, radiation is directed at the parts of the body with cancer so the cells are unable to grow and divide. While the cells are affected by radiation, most normal cells can usually recover.

People with cancer often receive radiation treatments five days a week for two to nine weeks. The type of side effect the therapy may cause depends on the area of the body receiving radiation, the size of the area being treated, the total dose of radiation, and the number of treatments. The following chart shows possible eating-related side effects of radiation, according to the area of body being treated. Some of these side effects can occur during treatment while others may not occur until some time after treatment.

Area Of Body Being Treated	Nutritional related side effects that might occur during treatment	Nutritional related side effects that might occur more than 90 days after treatment
Brain, spinal column	Nausea, vomiting	Headache, tiredness
Tongue, voice box, tonsils, salivary gland, nasal cavity, pharynx	Sore mouth, difficulty or pain with swallowing, change in taste, sore throat, dry mouth, thick saliva	Dry mouth, damage to jaw bone, lockjaw, changes in taste and smell
Lung, esophagus, breast	Difficulty swallowing, heartburn, fatigue, loss of appetite	Narrowing of the esophagus, chest pain on exertion or physical activity, heart enlargement, inflammation of the pericardium, lung scarring or inflammation
Large or small intestine, prostate, cervix, uterus, rectum, pancreas	Loss of appetite, nausea, vomiting, diarrhea, gas, bloating, difficulty tolerating milk products	Diarrhea, blood in urine or bladder infection

Side effects typically start around the second or third week of treatment and peak about two-thirds of the way through treatment. After radiation therapy ends, most side-effects last two to three weeks, although some may last longer.

If side effects develop, ask your doctor, nurse, or other health care professional whether medicines, a change in diet, or some other suggestion can help you manage the side effects.

Eating well while receiving radiation therapy can help you:

- :: Feel better
- :: Keep up your strength and energy
- :: Keep up your weight and your body's store of nutrients
- :: Tolerate treatment-related side effects
- :: Decrease your risk of infection
- :: Heal and recover quickly

Nutrition suggestions for people receiving radiation therapy:

Eating well while receiving radiation may be difficult if you are being treated at a facility far from your home. If you have a kitchen, you can store and easily prepare frozen foods, soups, or single servings of fruits, puddings, gelatin, ice cream, or cereals.

If there is no kitchen where you are staying, keep foods on hand that do not need refrigeration such as single servings of canned fruit, gelatin, puddings, cheese or peanut butter and crackers, granola bars, or cereal.

Supplementation Ideas:

Fortified Milk:

Can use this in cooking puddings, soups, casseroles, or to mix with Instant Breakfast mixes for added calories and protein.

- 1 quart milk
- 1 cup non-fat dry milk
- Blend and chill

Milkshake with Instant Breakfast:

- 1 package instant breakfast
- 1/2 cup milk
- 1 cup ice cream
- Can add fruit or peanut butter to change taste
- Blend and chill

Pudding:

- 2 cup milk
- 1 package instant pudding mix
- 2 packages instant breakfast
- Blend and chill

Sherbet Shakes:

- 1 cup sherbet
- 1 package vanilla instant breakfast mix
- 1 cup fruit
- Blend and chill

In addition, remember:

- :: Try to eat something at least 60 minutes before treatment rather than coming with an empty stomach.
- :: Bring snacks or nutrition supplements with you to eat or drink on the ride to and from treatment if you are traveling a long distance.
- :: Eat small frequent meals with fluids if food does not taste good, hurts going down, or causes diarrhea. Be sure to drink plenty of water or liquids.
- :: Ask friends and family members to help with grocery shopping and preparing meals.
- :: Do not expect to have the same side effects as someone else being treated for cancer in another area of the body. Even people with the same treatment may have different side effects.
- :: Try to eat small, frequent meals and snacks rather than three large meals. If your appetite is better at certain times of the day, plan on having your largest meal then.
- :: Nutrition supplements, such as liquid meal replacements, can be helpful during this time. Your doctor, nurse, or dietician may have samples for you to try. Sometimes your insurance company will pay for nutrition supplements with a doctor's order.
- :: Other patients can be a great source of information and support. Get to know and talk with other patients about their experiences, or join a support group. For information on local support programs, contact Medical Social Services at 641-782-3827 or 641-782-3615.
- :: If you are having appetite problems, nausea or vomiting, diarrhea, sore mouth or throat, dry mouth or thick saliva, difficult swallowing, or changes in the taste or smell of food, please see attached sheets for information on how to help manage these side effects.
- :: If you are having trouble eating and have been following a special eating plan for diabetes or some other health condition, talk to your doctor, nurse, or dietician about how best to change your eating habits while you are having radiation treatments.

Be sure that your doctor or nurse knows about your side effects so they can prescribe any needed medicines. For example, there are effective medicines to control nausea and vomiting or to treat diarrhea.

All information was obtained from the American Cancer Society.
1-800-ACS-2345 or www.cancer.org

To Meet Daily Adult Nutritional Requirements:**Milk, Yogurt and Cheese: 3 cups**

Milk may be fresh, dried or evaporated; fat-free, reduced fat, 2 or whole; used as a beverage and in cooking; yogurt; cheese

Meat and Meat Substitutes: 2-3 servings (total 5-7 ounces)

Meat, fish, poultry, eggs, dried beans or peas, or peanut butter

Fruits: 2-4 servings

Fruits may be fresh, frozen, or 2-canned; served whole, diced or as juice

Vegetables: 2-4 servings (including potatoes)

Vegetables may be fresh, frozen, or canned; served plain, in mixed dishes, or as juice

Choices of fruits and vegetables should include an outstanding source (or two fair sources) of vitamin C daily and an outstanding source of vitamin A at least every other day.

Breads, Cereals, and Grains: 6-11 servings

Use whole-grain or enriched breads; whole-grain enriched pasta; or rice

Fats: Use sparingly

Salad oils, fortified margarine, butter, cream, mayonnaise, salad dressings, bacon

Fluids: 6-8 cups

Water and other fluids, such as coffee, tea, fruit or vegetable juice, lemonade, broth or soup

Desserts: 1 or more servings

All sweets and desserts

Chemotherapy - Nutritional Guide

Chemotherapy involves taking strong drugs that kill cancer cells. The drugs are most commonly taken by mouth or given by injection into the bloodstream. Chemotherapy drugs can damage both healthy cells and cancer cells. Cells most likely to be injured are bone marrow, hair, and the lining of the digestive tract from the mouth all the way to the rectum or anus.

Side effects will depend on what kind of chemotherapy drugs you take and how you take them. The following are common side effects of chemotherapy that can interfere with your ability to eat:

- :: Loss of appetite
- :: Changes in taste and smell
- :: Mouth tenderness and sores
- :: Nausea
- :: Vomiting
- :: Changes in bowel habits
- :: Fatigue
- :: Low white blood cell counts with the chance for infection
- :: Changes in weight (gain or loss)

You may not have all of these side effects from chemotherapy, but if you do, be sure to tell your doctor or nurse. They may suggest medicines, daily self-care practices, and changes in diet to lessen eating-related side effects you are having.

Eating well while receiving chemotherapy can help you to:

- :: Feel better
- :: Keep up your strength and energy
- :: Keep up your weight and your body's store of nutrients
- :: Tolerate treatment-related side effects
- :: Decrease your risk of infection
- :: Heal and recover quickly

Nutrition suggestions for people receiving chemotherapy: Most people receive chemotherapy at an outpatient facility. It may take anywhere from minutes to several hours.

- :: Plan ahead and bring a light meal or snack in an insulated bag or small cooler. Find out whether your facility has a refrigerator or microwave oven you can use.
- :: Make sure you eat something before receiving your treatment. Most people find that a light meal or snack before chemotherapy is well tolerated.
- :: You may be very tired while receiving chemotherapy. Fatigue (tiredness or lack of energy) is very common during chemotherapy. Unless you are given other instructions, eat a balanced diet that includes protein (meat, milk, eggs, and legumes, such as peas and beans) to help boost your energy. Other suggestions to reduce fatigue are to do the most important activities when you have the most energy, and to balance rest and activity so that it does not interfere with nighttime sleep.

- :: Don't be too hard on yourself if side effects make it hard to eat. Try eating small, frequent meals or snacks. Go easy on fried or greasy foods. These can be hard to digest.
- :: On days when you are feeling well and your appetite is good, try to eat regular meals and snacks. Be sure to drink plenty of water or liquids (eight to ten 8-ounce glasses) each day.
- :: Don't be afraid to ask family and friends for help with grocery shopping and fixing meals. If you have no one to help you, think about having meals delivered to your home or eating a meal at a community or senior center. You might also try your county assistance groups, area churches, and social services.
- :: Some side effects of chemotherapy go away within hours of receiving treatment. If your side effects persist, tell your health care team. Prompt attention to nutrition-related side effects can help keep up your weight and energy level and help you feel better.
- :: If you are having appetite problems, nausea or vomiting, diarrhea, sore mouth or throat, dry mouth, trouble swallowing, or changes in the taste or smell of food, tell your health care team and they can give you information on how to help manage these side effects.
- :: If you are having trouble eating and have been following a special eating plan for diabetes or some other health condition, talk to your doctor, nurse, or dietitian about how best to change your eating habits while you are having chemotherapy.
- :: Be sure that your doctor or nurse knows about your side effects so they can prescribe any needed medicines. For example, there are medicines that work well to control nausea and vomiting or to treat diarrhea.

Foods to Avoid

- :: Raw and undercooked meat (includes game), fish, poultry, eggs and egg substitutes, tofu
- :: Cold smoked fish (salmon), lox, and pickled fish
- :: Meats and cold cuts from delicatessen
- :: Cured hard salami in natural wrap
- :: Unpasteurized milk and milk products, including cheese and yogurt
- :: Cheeses with molds such as blue, Roquefort, Gorgonzola, and Stilton
- :: Cheeses containing chili pepper or other uncooked vegetables
- :: Sharp cheddar, Brie, Camembert, feta cheese, farmer's cheese unless packaged.
- :: Fresh salad dressings containing aged cheese (blue, Roquefort) or raw eggs, stored in refrigerated case
- :: Unwashed raw vegetables and fruits and those with visible mold
- :: All raw vegetable sprouts, such as alfalfa and mung beans
- :: Unpasteurized commercial fruit and vegetable juices
- :: Raw or non-heat treated honey; honey in the comb
- :: All miso products, tempeh, and mate tea
- :: All moldy and outdated food products
- :: Unpasteurized beer
- :: Raw, uncooked brewer's yeast
- :: Well water, unless tested yearly and found safe
- :: Herbal preparations and nutrient supplements
- :: Unroasted nuts, roasted nuts in the shell



Foods to Avoid (Cont.)

- :: Salads from delicatessens
- :: Commercial salsas stored in the refrigerated case
- :: Unrefrigerated, cream-filled pastry products (not shelf-stable)

What to Eat When Your White Blood Count Is Low

Recommended

High Protein:

Well cooked bacon, beef, chicken, fish, ham, hot dogs, lamb, pork, sausage, veal; canned fish, well-cooked pasteurized eggs or egg custard; cream, cottage, or processed cheeses; pasteurized yogurt; cooked homemade canned, dehydrated, or frozen soups

Breads, Cereals, Rice and Pasta:

All breads, bagels, muffins, rolls, and cereals without dried fruits, nuts, or seeds; crackers; French toast; noodles; pancakes; pasta; potatoes; and rice

Fruits and Vegetables:

Peeled thick-skinned fruit without bruises or spots (banana, citrus fruit, melon), peeled apples, canned fruits, cooked dried fruits; well-cooked fresh, frozen, or canned vegetables

Beverages, desserts, & Miscellaneous:

Processed fruit juice, pasteurized milk, instant breakfast, homemade milkshakes, nondairy creamer, soda, coffee, tea, commercial liquid nutritional supplements

Fruit pies, cakes and cookies without nuts; flavored gelatin; commercial ice cream, sherbet, popsicles; pretzels, chips

Sugar, jam, jelly, preserves, syrup, molasses; mustard, catsup, candy, chocolate, pickles, relish, olives; butter, margarine, cooked gravies, mayonnaise, salad dressing, vegetable oils, plain peanut butter; salt, pepper, herbs, spices, or honey (may be added to foods only during the cooking process)

Foods To Avoid

Meat or fish salads with raw vegetables; raw fish and shellfish, such as sushi and oysters; raw or rare meats, such as steak tartare; raw or soft cooked eggs (includes "over easy", poached, soft boiled, and "sunny side up" eggs, as well as Caesar salad, homemade eggnog made with raw eggs, and raw cookie dough); fresh blue or Roquefort cheeses and salad dressings; Brie, Camembert, and other unpasteurized cheeses; cold, uncooked soups

Macaroni or pasta salad or potato salad made with raw vegetables; breads or cereals with dried fruits, nuts, or seeds

Foods To Avoid (Cont.)

All other fresh or dried fruits; raw vegetables

Fresh-squeezed fruit juice, unpasteurized fruit juice, unpasteurized beer and wine

Noncommercial ice cream, sherbet, or popsicles; popcorn

Raw or roasted nuts; salt, pepper, herbs, spices, or honey added after cooking

Supplementation Ideas:**Fortified Milk:**

Can use this in cooking puddings, soups, casseroles or to mix with instant breakfast mixes for added calories and protein.

1 quart milk

1 cup non-fat dry milk

Blend and chill

Milkshake with Instant Breakfast:

1 package instant breakfast

1/2 cup milk

1 cup ice cream

Can add flavor by adding fruit or peanut butter to change taste

Blend and chill

Pudding:

2 cup milk

1 package instant pudding mix

2 packages of instant breakfast

Blend and chill

Sherbet Shakes:

1 cup sherbet

1 package vanilla instant breakfast mix

1 cup fruit

Blend and chill

To meet daily adult nutritional requirements:**Milk, Yogurt and Cheese: 2-3 cups**

Milk may be fresh, dried or evaporated; fat-free, reduced fat, 2 or whole; used as a beverage and in cooking; yogurt; cheese

Meat and Meat Substitutes: 2-3 servings (total 5-7 ounces)

Meat, fish, poultry, eggs, dried beans or peas, or peanut butter

Fruits: 2-4 servings

Fruits may be fresh, frozen, or canned; served whole, diced, or as juice

Vegetables: 2-4 servings (including potatoes)

Vegetables may be fresh, frozen, or canned; served plain, in mixed dishes, or as juice

Choices of fruits and vegetables should include a variety and at least one high vitamin C source (citrus) daily. A good vitamin A source at least every other day (dark green and orange colors tend to be high in vitamin A).

Breads, Cereals, and Grains: 6-11 servings

Use whole-grain or enriched breads; whole-grain enriched pasta; or rice

Fats: Use sparingly

Salad oils, fortified margarine, butter, cream, mayonnaise, salad dressings, bacon

Fluids: 6-8 cups

Water and other fluids, such as coffee, tea, fruit or vegetable juice, lemonade, broth or soup

Desserts: 1 or more servings - All sweets and desserts

Ways To Give

There are many ways to provide support to the mission of the Greater Regional Healthcare Foundation. Your support and volunteerism is always appreciated. Monetary gifts to the Foundation are another important method. Whether large or small, each gift is important. Every dollar contributed goes directly to support the program or project the donor has requested.

The Heritage Society:

The Greater Regional Healthcare Foundation established The Heritage Society in 2007 as a way to commemorate those who donated to Greater Regional through their estate plans.

Planned gifts that qualify for membership include, but are not limited to, will bequests or living trusts, charitable remainder trusts, charitable lead trusts, life insurance, IRA and retirement plan assets, charitable gift annuities and personal residences or farms with retained life assets.

The Hospice Home Pathway:

The pathway leading to the Greater Regional Hospice Home is lined with brick pavers honoring or in memory of family and friends. With a donation of \$500 or more, you may have a brick commemorating someone special in your life.

A \$500 brick will be 6 X 6 inches in diameter with three lines of wording, 11 characters per line, including spacing.

A \$1,000 brick will be 6 X 9 inches in diameter and will have three lines of wording, 15 characters per line, including spacing.

Other Donations:

There are many ways to provide support to the mission of the Greater Regional Healthcare Foundation. Your support and volunteerism is always appreciated. Monetary gifts to the Foundation are another important method. Whether large or small, each gift is important. Every dollar contributed goes directly to support the program or project the donor has requested.

Donation Categories:

Pinnacle Member	\$100,000 +
Humanitarian Member	\$50,000-\$99,999
Family of Builders	\$25,000-\$49,999
Family of Benefactors	\$10,000-\$24,999
Circle of Sponsors	\$1000-\$9,999
Patron	\$500-\$999
Partner	\$100-\$499
Friend	\$99 or less

Memorials:

Memorials are made to the Foundation as a thoughtful means to remember a loved one and become a part of helping others who are facing health concerns. Memorial gifts may be designated for where the need is greatest or for specific use by the medical center. All gifts, (unless requested to be anonymous) will be recognized and a note acknowledging your thoughtfulness will be sent to the family members if a name and address is provided.

Honor Gifts:

Honor gifts are similar to memorials. An honor gift enables you to pay tribute to a person or group by making a donation in the person/group's name. Honor gifts are also recognized and a note acknowledging your thoughtfulness will be sent to the honoree.

Wills And Bequests:

You may provide for gifts to the Foundation in your will. A bequest could be a specific amount of money, a particular property or a percentage of an estate. A charitable gift may mean substantial tax savings for your estate. This option should be explored with your personal attorney and/or financial planner.

Deferred Gifts:

A deferred gift enables you to make a generous gift and benefit financially at the same time. A deferred gift may create an opportunity for you to save on income, capital gains and estate taxes. Consulting with your attorney and/or financial planner is advised. The Greater Regional Healthcare Foundation will provide a permanent source of funds to meet community healthcare needs now and into the future. You can be assured that continual and perpetual benefits will continue to flow from your generosity. Your gift will be pooled with other gifts that will ensure maximum potential earning. To learn more call 641-782-3515.

Glossary Of Frequently Used Terms

Adjuvant Therapy: A treatment method used in addition to the primary therapy. Radiation therapy is often used as an adjuvant to surgery.

Alopecia (al-oh-PEE-she-ah): Hair loss.

Anesthesia: Loss of feeling or sensation resulting from the use of certain drugs or gases.

Antiemetic: A medicine to prevent or relieve nausea or vomiting.

Benign Tumor: A growth that is not a cancer and does not spread to other parts of the body.

Biological Therapy: Treatment by stimulation of the body's immune defense system.

Biopsy: The removal of a sample of tissue to see whether cancer cells are present.

Brachytherapy (brak-ee-THER-ah-pee): Treatment with radioactive sources placed into or very near the tumor or affected area; includes surface application, body cavity application (intracavitary), and placement into the tissue (interstitial). Sometimes this term is used interchangeable with "internal radiation therapy".

Cancer: A general term for more than 100 diseases characterized by uncontrolled growth of abnormal cells that can invade and destroy healthy tissues.

Chemotherapy: Treatment with anticancer drugs.

Dosimetrist (do-SIM-uh-trist): A person who plans and calculates the proper radiation dose for treatment.

External Radiation: Radiation therapy that uses a machine located outside of the body to aim high-energy rays at cancer cells.

Gamma Rays: Same as x-rays but from a different radioactive source.

Gray: A measurements of absorbed radiation dose; 1 gray=100 rad.

Hyperfractionated Radiation: Division of the total dose of radiation into smaller doses that are given more than once a day.

Implant: A small container of radioactive material placed in or near a cancer.

Internal Radiation: A type of therapy in which a radioactive substance is implanted into or close to the area needing treatment. (See also interstitial implant and intracavitary implant.)

Interstitial Implant: A radioactive source placed directly into the tissue (not in a body cavity).

Intracavitary Implant: A radioactive source placed in a body cavity such as the chest cavity or the vagina.

Intraoperative Radiation: A type of external radiation used to deliver a large dose of radiation therapy to the tumor bed and surrounding tissue at the time of surgery.

Linear accelerator: A machine that creates high-energy radiation to treat cancers using electricity to form a stream of fast-moving subatomic particles. Also called megavoltage (MeV) linear accelerator or linac.

Malignant: Cancerous (see cancer).

Metastasis: The spread of a cancer from one part of the body to another. Cells in the second tumor are like those in the original tumor.

Oncologist: A doctor who is a specialist in the treatment of cancer.

Palliative Therapy: A treatment that may relieve symptoms without curing the disease.

Prosthesis: An artificial replacement for a missing body part such as an artificial limb or breast form.

Rad: Short form for "radiation absorbed dose", a measurement of the amount of radiation absorbed by tissues (100 rad=1 gray).

Radiation: Energy carried by waves or a stream of particles.

Radiation Oncologist: A doctor who specializes in using radiation to treat disease.

Radiation Physicist: A person trained to ensure that the radiation machine delivers the right amount of radiation to the treatment site.

Radiation Therapist: A person with special training who runs the equipment that delivers the radiation. Sometimes called a "radiation technologist."

Radiation Therapy: The use of high-energy penetrating rays or subatomic particles to treat disease. Types of radiation include x-ray, electron beam, alpha and beta particles, and gamma rays. Radioactive substances include cobalt, radium, iridium, and cesium. (See also gamma rays, brachytherapy, teletherapy, and x-ray.)

Radiologist: A physician with special training in reading diagnostic x-rays and performing specialized x-ray procedures.

Radiotherapy: See radiation therapy.

Simulation: A process involving special x-ray pictures that are used to plan radiation treatment so that the area to be treated is precisely located and marked for treatment.

Teletherapy: Treatment in which the radiation source is at a distance from the body. Linear accelerators and cobalt machines are used in teletherapy.

Treatment Port: The place on the body at which the radiation beam is aimed.

Tumor: An abnormal mass of tissue. Tumors are either benign or malignant.

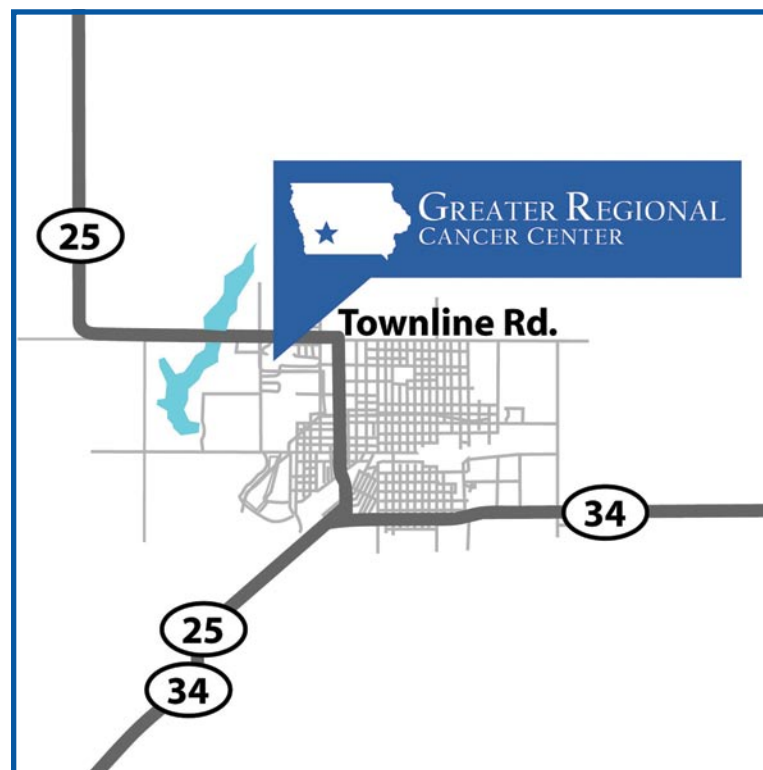
X-ray: High-energy radiation that can be used at low levels to diagnose disease or at high levels to treat cancer.

Maps And Directions

Greater Regional Cancer Center is located at:
1700 West Townline Street, Suite 3, Creston, Iowa 50801

Directions available under “Maps & Directions” via the Web site at:
www.greaterregional.org

Parking is available on the northeast side of the building near the main entrance.





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