



**IMPORTANT INFORMATION AND INSTRUCTIONS
FOR PATIENTS RECEIVING RADIATION THERAPY
TO THE HEAD AND NECK**

Your doctors have recommended radiation treatments to the head and neck area. The number and exact location of these treatments will be determined by your radiation oncologist. This hand out will acquaint you with some of the side effects associated with treatment to the head and neck area. Normal tissues included in your treatment fields may be affected by the radiation and therefore undergo some temporary or permanent changes. Some of the information that follows describes how to manage and cope with many side effects that may occur.

The chance that radiation therapy will be effective in treating your tumor depends on a number of factors. Probably the most important two factors are the kind of tumor that you have and the stage, or amount, of disease. As with any type of medical treatment, radiation therapy does not always work and there is a chance that these treatments may not help you. Your doctor will discuss these possibilities with you, but, if you have further questions do not hesitate to ask your doctors or nurses.

Again, side effects listed below do not occur in all patients. They are changes that MIGHT happen during radiation therapy and may range from mild to severe. They are listed in alphabetical order, not in relation to their frequency. Because each case is unique, there may be some additional short and long term side effects that your doctor will discuss with you. Whenever you have questions or concerns, please bring them up to your physician, radiation therapist or nurse.

NUTRITION CHANGES

□ Explanation: Sometimes appetite changes occur during radiation therapy or they may already be present due to the disease itself and/or other treatments. Nutrition, however, is an important part of your therapy and we recommend you maintain your present weight. In addition, swallowing may become very difficult (see “mucositis and esophagitis”)

⊗ Characteristics: You may notice that you never feel hungry.
You may become full quickly after only a small amount of food.
You may notice foods tasting or smelling different, flat or unpleasant.
You may feel nauseated and/or vomit.

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☺ Solutions/Resources: The staff will have suggestions and handouts to help you maintain the best possible nutritional status or to help with symptoms. Try eating smaller, more frequent meals. Dietary supplements are available to assist you when eating is difficult.

FATIGUE

☐ Explanation: Some patients develop a decrease in energy levels or actual fatigue from their radiation treatments. This varies from patient to patient. Your body is using energy to fight cancer cells and/or to repair normal cells and tissues. Causes of fatigue are varied and can be due to your cancer, blood counts, nutrition and prior or current treatments.

☺ Characteristics: You may experience fatigue that builds up toward the 2nd week of treatment and then stabilizes. This fatigue may persist for several weeks after you have finished your radiation treatments.

☺ Solutions/Resources: Be sure to get adequate rest, balance your activities and try to exercise regularly. Eat a balanced and nutritious diet. Take naps, as necessary. Try to maintain a positive attitude towards your therapy. Do not expect immediate resolution of your fatigue when treatment stops. It may take weeks or months to return to “your old self.”

SKIN CHANGES

☐ Explanation: The skin affected by your treatment field may become reddened, itchy or tender after several weeks of treatment. At the end of treatment, your skin may appear tanned and there could be some peeling. The area may feel firmer or fuller than surrounding skin due to temporary fluid accumulation. This fluid accumulation will most likely resolve without any treatment after a few months. Over time, the tissues under the skin may become more firm (fibrosis). This is often most apparent in the neck under the chin. These changes resolve to a varying degree and may be permanent.

The skin in the involved area will be more sensitive to sun exposure and should be protected.

☺ Solutions/Resources: Avoid lotions or creams to the skin over the treatment field unless approved by the staff. The nurse may give samples or suggest preparations you can use. Currently, we are recommending AQUAPHOR ointment and 100% aloe vera gel. Use mild soaps (e.g., Eucerin, Liquid Olay soap, or Dove) if any. Wash gently and pat dry. DO NOT remove marks made on your body by the physician or radiation therapist unless specifically told to do so. Always protect against sunburn. Use products with at least a SPF of 15, or greater. Small, blue tattoos (the size of a freckle) will be placed to locate your treatment area once your treatments are underway. These tattoos are small permanent records on your skin as to where you received radiation treatments.

Do not shave in the treated areas, unless you use an electric razor. Do not use hot water bottles or heating pads in the treated area. Special exercises and/or a chin strap may help prevent or treat swelling under the chin. Please ask the staff if you think you are developing a problem.

HAIR LOSS

Explanation: Hair loss related to your radiation treatments occurs only in the areas within the treatment fields. For head and neck radiation, this means facial, neck and side hair, sometimes a small amount of hair on the back of the scalp and possibly the upper chest. Hair loss generally begins 2 to 3 weeks into your treatment course and re-growth usually begins 3 to 6 months following the completion of your radiation treatments. Occasionally, the hair does not grow back.

HEARING LOSS

Explanation: Although it happens rarely, some patients describe ear “stiffness” or temporary dulling of their hearing while on treatment. This can occur for several reasons, including a build up of wax or skin in the outer ear or fluid behind the ear.

In addition to short-term loss, patients can occasionally experience long-term loss, or even loss of certain frequencies. In some cases, imbalance problems or tinnitus (ringing of the ears) can occur.

☺ Solutions/Resources: Please mention this change to the staff.

❖ Never attempt to clean or dislodge debris inside the ear canal without medical supervision.

MUCOSITIS AND ESOPHAGITIS (sore mouth and throat with difficulty swallowing)

Explanation: Irritation of the mouth, throat and esophagus occur when portions of each are treated. Some swallowing problems may be temporary, but permanent swallowing problems can occur.

☺ Characteristics: You may notice that about 2 weeks into your treatments the sensation of a “lump in your throat” that may cause difficulty with eating and swallowing.
You may experience tightness or “burning” when swallowing.
You may experience increased difficulty in swallowing.
You may experience pain with swallowing.
You may experience not being able to swallow at all.
You may notice some changes in your voice.

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- ☺ Solutions/Resources: Diet changes that include softer, more easily swallowed foods.
Dietary supplements that are higher in calories will help if you are eating less.
Increase the amount of fluids you drink.
Aloe vera juice can be helpful and is available at some health food stores. Ask the staff for a list of places where it might be found.
Throat lozenges, such as Sucrets may be used to numb the throat.
Chewing Aspergum may soothe the sore throat.
Use antacids such as Mylanta or Maalox for tightness and or burning when swallowing.
Prescription medications are available for more severe sore throats.
Occasionally, this symptom is due to infection. Antibiotics or anti-fungal medications may be prescribed.
Peridex mouth rinse may be recommended to aid in preventing a severe mouth reaction. Please review the directions and information regarding Peridex carefully. It may cause permanent stains on your teeth.

- 👁️ Report to the Physician or Nurse: Whenever you have problems with your throat and swallowing, inform the staff.

SALIVARY GLAND CHANGES

📖 Explanation: Your radiation therapy may cause dryness of your mouth due to a decrease in saliva.

- ☺ Characteristics: After the first few weeks of treatment you may begin to notice that your saliva becomes thicker. You may notice that your food begins to taste differently.

- ☺ Solutions/Resources: Increase the amount of water you are drinking in order to keep moisture in your mouth. Drink fluids frequently. Avoid pop and sugary fruit or sports drinks.
Use sugarless lozenges, lemon drops, candy or sugarless gum to stimulate saliva production.
Occasionally, patients find that artificial saliva products or toothpaste developed for dry mouths are beneficial. Please ask the staff for suggestions of samples.
Use Aquaphor on lips, as needed.
Gargling with a solution of baking soda and water or club soda will help thin out thickened mucus. (1 teaspoon of baking soda to 1 pint of warm water.)

Your doctor may prescribe medication to increase your saliva flow.

TOBACCO AND ALCOHOL CONSUMPTION

Explanation: It is best to completely avoid both tobacco and alcohol during radiation therapy, whenever possible. Both alcohol and tobacco irritate the lining of the esophagus and stomach often making side effects in those areas even more severe.

☺ Solutions/Resources: If abruptly stopping the use of alcohol and tobacco seems impossible, discuss this with staff. There are several different methods of cessation for both alcohol and tobacco available at St. Patrick Hospital.

DENTAL CARE

Explanation: The effect of radiation on the salivary glands is closely related to the potential for dental problems. In addition to reducing the amount of saliva, the volume of saliva that remains after therapy tends to lose its lubricating and protective qualities. This can result in an increased risk of tooth decay.

☺ Characteristics: For those patients who wear either full or partial dentures, you may notice that your dentures don't seem to fit as well as before treatments. You may notice pain or irritation when wearing your dentures.

☺ Solutions/Resources: Make an appointment with your dentist! Any major dental work that needs to be done should be done before radiation begins. Feel free to ask your dentist to call us if he/she has any questions. Also, inform our staff of your dentist's name and we will send a packet of information on dental care for radiation patients to him/her. Your natural teeth will be much more cavity prone due to reduction in saliva, so your dentist should construct a set of fluoride trays to fit all of your present natural teeth. Daily fluoride soaking for 5 to 10 minutes is very important. Your dentist will prescribe a fluoride solution as well as describe the extra dental care that you should perform to maintain your teeth's current health. Avoid commercial mouth washes or rinses. Regular brushing with a soft bristle toothbrush or sponge toothette and fluoridated toothpaste after each meal is suggested. Floss teeth gently at least once a day.

Peridex mouth rinse may be recommended to aid in preventing a severe mouth reaction. Please review the directions and information regarding Peridex carefully. It may cause permanent stains on your teeth.

For those patients with dentures, avoid using adhesive powders or paste that help your dentures stay in place. Try using an artificial saliva product on your dentures to keep them lubricated and to keep them from sticking to your gums. Your dentures may need several adjustments or fittings over the next few years due to radiation induced changes or your mouth.

LONG TERM SIDE EFFECTS/PERMANENT COMPLICATIONS

□Explanation: Any type of cancer treatment can result in complications that occur weeks, months or years following completion of treatment. Generally, late complications occur in less than 10% of patients receiving standard treatments.

As with most short term side effects, many long term effects affect body structures included in or adjacent to, the radiation treatment fields. Organs that may be treated with radiation to the head and neck include eyes, brain, blood vessels, bone, nerves, lungs, oral cavity, teeth and gums, salivary glands and sinus passages. Scar tissue from tumor shrinkage and/or Radiation can cause potentially serious, even life-threatening permanent damage. Rarely, blood vessels can be affected resulting in decreased blood flow. The gastrointestinal tract may also be affected and includes the esophagus. Permanent dry mouth and esophagus may occur. Skin, skin color changes and connecting tissues may be affected. General effects of suppression of the immune system, endocrine system, and psychosocial complications may occur. The most common side effects include contracture or tightening of the tissues in the neck. This may cause a sense of stiffness in the neck. Exercises and the use of chin strap may help keep your neck mobile. Please ask the staff for more information.

Long-term swallowing problems can result from tumor, surgery, radiation or scar tissue. These can range from mild symptoms to severe permanent swallowing problems that can cause aspiration and choking. In such instances, surgery can be required and in severe situations, feeding and breathing tubes may be required.

Some radiation treatment to the neck may cause a swelling under the chin. This is a result of fluid accumulation in the tissues and is usually temporary, resolving itself a few months after treatments are completed, but can be a problem permanently.

Although it happens rarely, some patients will experience some permanent loss of hearing. Any organ or tissues that is in the treatment area will be affected to a varying degree. The number of treatments, dose per day, total dose and technique are calculated to try and reduce the risk of long term damage. Your cancer may require treatment that may permanently affect tissues or organs. Your physician will discuss this will you.

LHERMITTE'S SYNDROME: Weeks and months after finishing radiation, you may notice a shooting, tingling or "lightening bolt" sensation down your spine. Do not be alarmed. This is a syndrome which may occur after treatment and usually resolves spontaneously in time. Please contact the Cancer Center if you notice this occurring.

Radiation therapy has been reported to increase the occurrence of new cancer. This is very unlikely and if it happens, it is usually after many years.

☛ If there is any possibility that you are pregnant, it is important to inform your physician, nurse or radiation therapist immediately. If you or your spouse are considering pregnancy in the next year, please discuss this with your physician as soon as possible.

☺ The possibility that long term consequences may occur following cancer treatment is a major reason that regular, lifelong medical follow-up is essential. Your physician will discuss any problems that may be associated with your particular cancer or type of treatment.

FERTILITY

Both chemotherapy and radiation therapy can potentially affect fertility. If you are getting chemotherapy, you should talk to your medical oncology doctor (chemotherapy doctor) about any potential impact on fertility and their recommendations.

As for radiation therapy, we generally recommend that while on radiation therapy, patients should take appropriate steps for birth control. This is true for both men and women, as both sperm and eggs can be affected by radiation therapy. Therefore, it is very important that you take measures to prevent starting a pregnancy.

As for long-term fertility issues, this varies dramatically depending on the type of radiation therapy. With many treatments, there is no long-term impact to fertility from radiation therapy. However, for patients that receive radiation therapy to the pelvis or upper thighs, there can be impact on fertility. If that is the case, your radiation oncologist will talk to you about infertility risks, and give you information, if you are male patient, on sperm banking if you wish to preserve fertility. For female patients that wish to preserve fertility, information will be given on oocyte, egg or ovarian tissue banking prior to treatment.

On a long-term basis, even though there may be some impact on fertility, you cannot assume that you are sterile in the future. Therefore, it is generally recommended that if you do not to have a pregnancy in the future, that you apply any necessary birth control measures.

If you have questions regarding this, do not hesitate to talk to your physicians.