

# Laryngeal Cancer: Radiation Therapy



Radiation therapy kills cancer cells by focusing powerful rays of energy at the tumor. You will see a radiation oncologist for treatment. This is a healthcare provider who specializes in radiation therapy, to treat cancer. A healthcare team will work with you during your treatment. Your team will include a radiation therapist, radiation nurse, and dietitian.

## When might radiation therapy be used for laryngeal cancer?

Radiation therapy might be used for any of these reasons:

- To kill cancer cells that might be left after surgery and lower the chance that the cancer will come back
- For tumors that can't be removed with surgery
- As the main treatment for some tumors that aren't too advanced. This may help your voice stay much the same. Surgery usually involves removing the voice box (larynx).
- If you can't have surgery for other reasons. This might be because you're too sick or have other major health problems.
- For a tumor that comes back after treatment
- To help ease symptoms caused by advanced cancers, like pain or trouble swallowing

Radiation to the head and neck area can affect your teeth and gums. It can also cause problems with tissue healing after dental work. Because of this, it's important to have a full dental exam before starting radiation. Some or all of your teeth may need to be removed because radiation can make any existing dental problems worse if you have damaged teeth.

## How is radiation therapy given for laryngeal cancer?

There are two main types of radiation therapy. One is external beam radiation treatment (EBRT). The other is internal radiation. This is also called brachytherapy.

### External beam radiation treatment (EBRT)

This type of therapy uses a large machine to focus the radiation beams on the tumor. The machine doesn't touch you, and radiation treatment doesn't hurt. EBRT is the type of radiation therapy most often used to treat laryngeal cancer. The treatment plan will be made to fit your cancer. It will usually include a specific number of treatments given over a set period of time.

Some of the types of EBRT that may be used include:

- Standard. Standard EBRT aims radiation at your tumor from one direction. Treatment is a lot like getting an X-ray, but it lasts longer.
- 3-D conformal radiation therapy (3-D CRT). This form of EBRT uses a computer to shape the radiation beams and aim them at your tumor from many directions. This can decrease the dose of radiation to nearby healthy tissue and help lessen side effects.
- Intensity-modulated radiotherapy (IMRT). IMRT uses a computer to control the direction, shape, and strength or intensity of the radiation beams. This allows a high dose to reach the tumor. It decreases the dose of radiation to nearby healthy tissue to help reduce side effects. IMRT is the most common type of radiation used for laryngeal cancer.

## Internal radiation or brachytherapy

Internal radiation therapy is done by putting radioactive material right into or near the tumor. It may be done along with EBRT. But it's seldom used for laryngeal cancer.

### What are common side effects of radiation therapy?

Radiation therapy affects normal cells as well as cancer cells. The side effects of radiation depend on the amount and the type of radiation you get, as well as the part of the body being treated. It also depends on whether you're getting chemotherapy along with the radiation. Side effects may start 2 to 3 weeks after starting EBRT treatment.

Radiation to the neck and throat often causes painful sores in the mouth and throat. This can make it hard for you to chew and swallow. Because of this, you may not eat or drink enough. The sores tend to go away a few weeks after radiation ends. But to help prevent weight loss and malnutrition, your healthcare provider may advise putting a feeding tube into your stomach. This tube is called a percutaneous endoscopic gastrostomy (PEG) tube. It's put into your stomach through a small cut (incision) on your belly. The PEG tube is temporary. It is taken out when it's no longer needed. A dietitian can work with you to help you get enough nutrition to stay at your normal weight.

Other side effects from radiation therapy may include:

- Skin in the treated area turns red and may peel or blister
- Dry mouth
- Thick, sticky saliva
- Hoarseness
- Trouble swallowing
- Difficulty opening the mouth
- Decreased sense of taste
- Loss of appetite
- Trouble breathing because of swelling. This could require a temporary breathing tube.
- Tiredness
- Swelling or scarring
- Hearing loss

Side effects of radiation are worse when it's given along with chemotherapy. You most likely will feel better 4 to 6 weeks after the end of radiation therapy.

In rare cases, radiation may lead to a breakdown of cartilage that can further damage your larynx. Or it may damage your windpipe or trachea.

Radiation to the neck might damage the thyroid gland. This may make you feel tired, gain weight, feel cold, and have dry skin or hair. If this happens, you may need to take thyroid hormone pills.

Radiation near the salivary glands may cause dry mouth. This may continue even after treatment ends because of lasting damage to the salivary glands. People with dry mouth after radiation must pay close attention to their oral and dental health. Dry mouth can cause tooth decay and tooth loss. This is why it's important to see the dentist before starting radiation so teeth in the radiation field can be removed.

Most side effects go away after treatment. Talk to your healthcare provider about what radiation side effects you should watch for and when to notify them. Ask what you can do to manage or even prevent side effects.

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