



## FACTS ABOUT HEAD AND NECK CANCER

This year, about 62,000 Americans will be diagnosed with cancer of the oral cavity, pharynx, larynx and thyroid.

- More than 25 percent of oral cancers occur in people who do not smoke or have other risk factors.
- Rates of head and neck cancer are nearly twice as high in men and are greatest in men over age 50.

## RISK FACTORS FOR HEAD AND NECK CANCER

The use of tobacco and alcohol greatly increases your chances of developing head and neck cancer. Risk factors include:

- Alcohol consumption.
- Smoking or use of smokeless tobacco, such as chew or dip.
- Exposure to wood or nickel dust or asbestos.
- Plummer-Vinson syndrome (disorder from nutritional deficiencies).
- Exposure to viruses, including the human papillomavirus (HPV) and Epstein-Barr.

## QUITTING SMOKING

If you quit smoking, the health benefits begin immediately.

- For patients with head and neck cancer, quitting smoking reduces the risks of infections and developing other cancers.
- To learn how to quit, ask your doctor or visit [www.smokefree.gov](http://www.smokefree.gov).

## LEARNING ABOUT CLINICAL TRIALS

The radiation oncology team is always looking for new ways to treat and cure cancer patients through studies called clinical trials. Today's radiation therapy treatments are the result of clinical trials completed many years ago that showed radiation therapy can cure head and neck cancers and is safe long term. For more information on clinical trials, please visit the following Web sites:

National Cancer Institute  
[www.cancer.gov/clinicaltrials](http://www.cancer.gov/clinicaltrials)

Radiation Therapy Oncology Group  
[www.rtog.org](http://www.rtog.org)

## HELPFUL WEB SITES ON HEAD AND NECK CANCER

Oral Cancer Foundation  
[www.oralcancerfoundation.org](http://www.oralcancerfoundation.org)

People Living with Cancer  
[www.plwc.org](http://www.plwc.org)

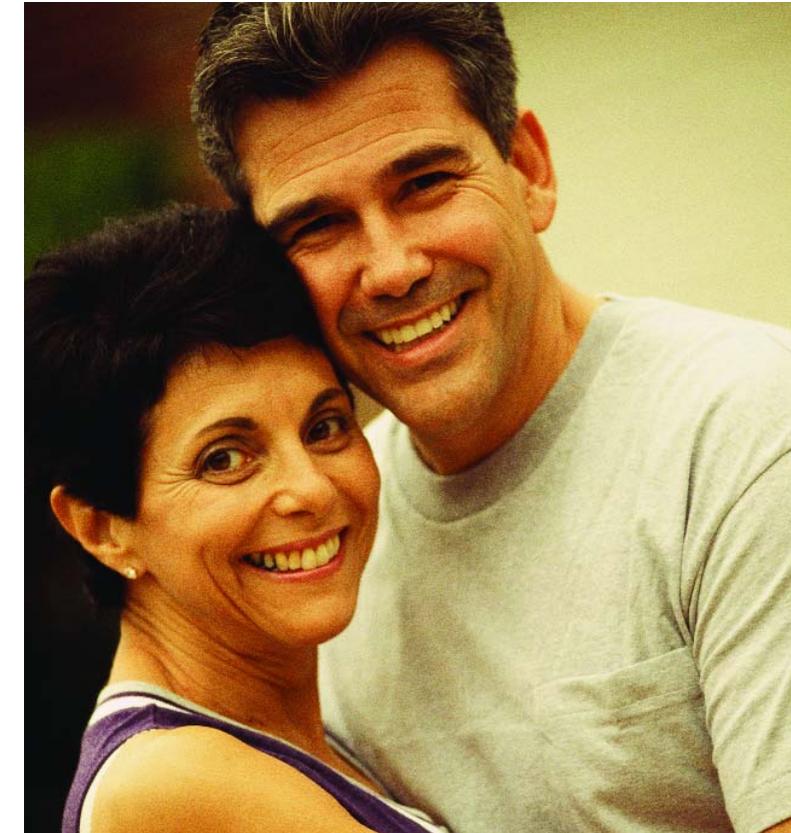
Support for People With Oral and Head and Neck Cancer  
[www.spohnc.org](http://www.spohnc.org)

## ABOUT ASTRO

The American Society for Therapeutic Radiology and Oncology is the largest radiation oncology society in the world. ASTRO's mission is to advance radiation oncology by promoting excellence in patient care, supporting research and distributing research results.

## ABOUT THE RADIATION ONCOLOGY TEAM

Radiation oncologists are the doctors who oversee the care of each patient undergoing radiation treatment. Other members of the radiation oncology team include radiation therapists, radiation oncology nurses, medical physicists, dosimetrists, social workers and nutritionists. To locate a radiation oncologist in your area, visit [www.astro.org/patient](http://www.astro.org/patient).



## RADIATION THERAPY for HEAD AND NECK CANCER

Facts to Help Patients Understand Their Treatment



THE AMERICAN SOCIETY FOR THERAPEUTIC RADIOLOGY AND ONCOLOGY

Targeting Cancer Care

12500 Fair Lakes Circle, Suite 375  
Fairfax, VA 22033-3882  
Phone: 1-800-962-7876 • 703-502-1550  
Fax: 703-502-7852  
[www.astro.org](http://www.astro.org)

## SYMPTOMS OF HEAD AND NECK CANCER

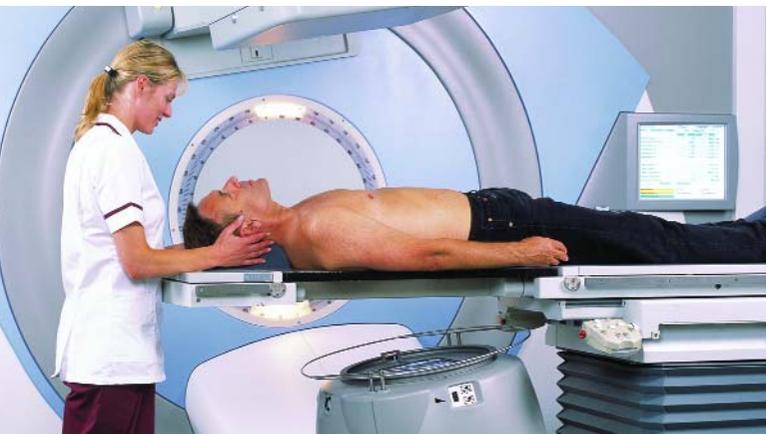
Although there are sometimes no symptoms of head and neck cancer, common complaints include:

- Lump or sore that does not heal.
- Sore throat that does not go away.
- Difficulty or pain with swallowing.
- Change in your voice or hoarseness.
- Blood in your saliva or from your nose.
- Ear pain or loss of hearing.
- Lump in the neck.
- Nasal stuffiness that does not resolve.

## DIAGNOSING HEAD AND NECK CANCER

To look for cancer, your doctor will examine all the areas of your head and neck.

- Your doctor will first feel for lumps on the neck, mouth and throat. He or she may also use a flexible endoscope, a thin, lighted tube that is passed through the nose, to obtain a more comprehensive assessment of the head and neck area.
- X-rays or CTs, MR or PET scans are often needed to show the location and extent of the cancer.
- To confirm if you have cancer, some tissue will be removed and analyzed. This test is called a biopsy.



## TYPES OF HEAD AND NECK CANCERS

Head and neck cancers arise from the cells that make up the face, mouth and throat. Because cancers in different locations behave differently, treatment depends on the cancer type and extent. Some common locations include:

- Nasal cavity/paranasal sinuses.
- Nasopharynx.
- Oral cavity (lips, gums, floor of mouth, oral tongue, cheek mucosa, hard palate, retromolar trigone).
- Oropharynx (base of tongue, tonsils, soft palate, oropharyngeal wall).
- Larynx (vocal cords and supraglottic larynx).
- Hypopharynx (pyriform sinuses, post-cricoid area, posterior pharyngeal wall).
- Salivary glands (parotid, submandibular, sublingual and minor salivary glands).
- Thyroid.

Cancers arising in the brain or eyes are considered different from head and neck cancers. However, your doctor will check the areas to make sure the cancer has not spread.

## TREATMENT FOR HEAD AND NECK CANCER

Treatment for head and neck cancer depends on several factors, including the type of cancer, the size and stage, its location and your overall health.

- Surgery, radiation therapy and chemotherapy are the mainstays of treating head and neck cancer.
- For many head and neck cancers, combining two or three types of treatments may be most effective. That's why it is important to talk with several cancer specialists about your care, including a surgeon, a radiation oncologist and a medical oncologist.
- An important concept in treating head and neck cancer is organ preservation. Rather than relying on major surgery, an organ preservation approach first uses radiation and chemotherapy to shrink the tumor. This allows for a less extensive surgery and may even allow some patients to avoid surgery altogether.

## EXTERNAL BEAM RADIATION THERAPY

External beam radiation therapy involves a series of daily outpatient treatments to accurately deliver radiation to the cancer.

- Painless radiation therapy treatments are delivered in a series of daily sessions. Radiation treatments take only a few minutes, but each session takes about half an hour to get checked in, change clothes, get into position and receive the radiation. For some conditions, radiation is given twice a day, with a four to six hour gap between treatments.
- Treatments are usually scheduled Monday through Friday, for five to eight weeks. However, your radiation oncologist may schedule your treatments more or less often depending on your cancer.
- **3-dimensional conformal radiotherapy (3D-CRT)** combines multiple radiation treatment fields to deliver precise doses of radiation to the affected area. Tailoring each of the radiation beams to accurately focus on the patient's tumor allows coverage of the cancer while at the same time keeping radiation away from nearby healthy tissues.
- **Intensity modulated radiation therapy (IMRT)** is a form of 3D-CRT that further modifies the radiation by varying the intensity of each radiation beam. This technique allows a precise adjustment of radiation doses to the tissues within the target area. IMRT may allow doctors to direct a higher radiation dose to the affected area and keep more radiation away from nearby normal tissues.
- To help you keep still during treatment, your doctor may use a plastic head or shoulder mask. These devices are specially fitted for you and are painless to use.

## INTERNAL RADIATION THERAPY

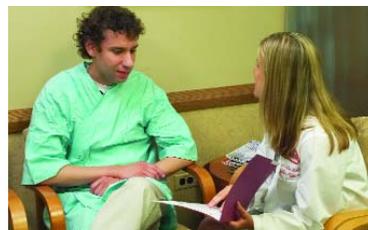
Also called **brachytherapy**, internal radiation therapy involves surgically implanting radioactive material into a tumor or surrounding tissue. For head and neck cancers, brachytherapy is often used in conjunction with external beam radiation therapy, but may be used alone.

- During **low-dose-rate brachytherapy**, your radiation oncologist implants thin, hollow, plastic tubes in and around a tumor.
- These tubes are loaded with tiny radioactive seeds that remain in place for one or several days to kill the cancer. The seeds and the tubes are then removed. Sometimes, tiny radioactive seeds are implanted directly into the tumor and remain permanently.
- For **high-dose-rate brachytherapy**, your doctor implants hollow tubes in and around the tumor site.
- After these tubes are implanted they are then connected to a special brachytherapy machine, which houses a high activity radioactive source. According to your doctor's specifications, the seed is automatically delivered from the machine and into the tubes, delivering localized radiation over several minutes to kill the cancer.

## POSSIBLE SIDE EFFECTS

Side effects of radiation therapy are limited to the area that is receiving treatment.

- Side effects can include redness of the skin, sore throat, dry mouth, alteration of taste, pain on swallowing and possible hair loss in the treated area. Fatigue is also very common.
- Side effects are different for each patient. Medications and nutritional supplements may be prescribed to make you as comfortable as possible.
- If at any time during your treatment you feel discomfort, tell your doctor or nurse. They may be able to alter the treatment or prescribe a drug to help you feel better.



## MOUTH CARE

It is important to take care of your mouth, teeth and gums during radiation.

- Careful brushing of your teeth can help prevent tooth decay, gum disease, mouth sores and jaw infections.
- Be sure to tell your dentist that you received radiation to the head and neck area.
- Talk to your doctor or dentist about any problems you are having.