

Head and Neck Cancer



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Head and Neck Cancer

City of Hope is a new model of cancer center. Here, medical research and clinical care are joined, speeding the application of scientific discoveries to newer, more effective patient treatments. As a Comprehensive Cancer Center — the highest designation given by the National Cancer Institute — City of Hope is widely regarded as a leader in cancer prevention, treatment and education.

From breakthroughs in basic biology to advanced technologies for diagnosis and therapy, progress at City of Hope is accelerated by the need to offer more positive outcomes to patients everywhere. Our research innovations become advances in clinical care as quickly as possible, because people battling cancer and other serious diseases need better options — now.

Overview

Head and neck cancers are the sixth most common kind of cancer worldwide. The term head and neck cancer is most often used to refer to a group of cancers that arise in the nasal cavity, sinuses, lips, mouth, salivary glands, throat or larynx (voice box). However, it also may include any tumor occurring in the head and neck region of the body, including the skin, thyroid gland and lymph nodes in the neck.

Most head and neck cancers begin as an invasive growth called squamous cell carcinoma. This cancer begins in the cells that line the moist mucosal tissues of the airway and digestive tract. Other cancer types include adenocarcinomas (arising in glandular tissues), parotid (salivary) gland tumors, melanomas, lymphomas and sarcomas, among others.

Because these are malignant growths, head and neck cancers can also spread to lymph nodes in the neck. An increase in the size of these lymph nodes may be the first and only outward sign of the disease when it is initially diagnosed.

City of Hope is actively involved in the diagnosis and treatment of head and neck cancers, as well as research to improve the lives of patients with these diseases.

Areas that May be Affected

Cancers of the head and neck are identified by the area involved:

- Oral cavity (mouth, lips, gums, hard palate, tongue and tonsils)
- Salivary glands
- Mandible and maxilla (lower and upper jawbones)
- Nasal cavity and paranasal sinuses, including the back of the skull
- Pharynx (a hollow tube that runs down from the nose, leading to the esophagus or lungs)
- Larynx (voicebox)
- Lymph nodes
- Thyroid gland

Risk Factors

Tobacco (whether chewed or smoked) and alcohol consumption are the most important risk factors for head and neck cancers; in fact, most

head and neck cancers are linked to tobacco use. Using both tobacco and alcohol together further increases the risk.

Other risk factors include sun exposure, radiation to the head and neck, exposure to certain industrial chemicals and wood dust, infections including human papillomavirus (HPV) and Epstein-Barr virus, consumption of certain preservatives and salted foods, poor oral hygiene and dentition, and Plummer-Vinson (Paterson-Kelly) syndrome.

Signs and Symptoms

Sometimes, head and neck cancers occur without any noticeable symptoms. In other cases, symptoms may include any of the following:

- A lump or swelling in the neck or along the jaw that does not go away
- A sore throat that does not go away
- Hoarseness or changes in the voice
- Difficulty swallowing
- Trouble breathing or speaking
- A white or red patch in the mouth that doesn't go away
- Unusual bleeding or pain in the mouth
- Nasal obstruction that doesn't go away
- Recurrent bleeding through the nose
- Frequent headaches
- Swelling or other trouble with the eyes
- Numbness or paralysis of the face
- Stubborn pain in the face, throat, ear or teeth
- Hearing loss or ringing in the ear
- A nonhealing skin ulcer, new skin growth or mole, or change in appearance of a mole

Symptoms of skin cancer affecting the head and neck may include:

- A change on the skin, especially a new growth or sore that does not heal
- Any unusual skin condition, especially a change in the size or color of a mole or other dark-colored growth or spot
- Scaliness, oozing, bleeding or a change in the appearance of a bump or nodule
- The spread of skin color (pigmentation) in a mole beyond its border
- Pale-colored bumps
- Crusted, bleeding or ulcerated lesions
- Flat, widening dark patches
- A change in sensation such as itchiness, tenderness or pain

Quit Tobacco Now

The use of tobacco is the biggest risk factor in developing head and neck cancers. Quitting tobacco greatly reduces your risks.



Diagnosing Head and Neck Cancer

Many different tests may be needed to establish a specific diagnosis, which guides doctors on the proper treatment. Diagnostic tests allow doctors to confirm the specific kind of tumor, and if it is malignant, to determine its stage (whether or not the cancer has spread). Tests may include the following:

- Physical exam and history

- X-ray
- CT or CAT (computerized axial tomography) scan

This procedure uses a computer connected to an X-ray machine to obtain detailed pictures of areas inside the body. A dye (“contrast material”) may be used to help visualize organs or tissues more clearly.

- MRI (magnetic resonance imaging)

This procedure creates a series of detailed pictures of structures inside the body, using the combination of a powerful magnet, radio waves and computer imaging.

- PET (positron emission tomography) scan

This scan is used to identify malignant cells. First, a small amount of radionuclide glucose (sugar) is injected into a vein, and then the scan begins. Because cancer cells divide more frequently than normal cells and need more energy, they take up more glucose and therefore appear brighter in the scan.

- Esophagoscopy

An esophagoscope (a thin, lighted tube) may be used to visually examine the nose/sinuses, oral cavity, pharynx, larynx and/or esophagus. Sometimes, tissue samples are taken for testing (biopsy).

- Laryngoscopy

In this test, the larynx is examined using a mirror or a thin, lighted tube called a laryngoscope.

- Endoscopic ultrasound

Here, a thin, lighted tube called an endoscope is inserted into the esophagus. The device emits ultrasound waves that create images of structures inside the esophagus.

- Biopsy

In a biopsy, a tissue sample is removed for examination under a microscope. A biopsy is the only definite way to tell whether a problem involves cancer, and also allows the doctor to “stage” the cancer — to know how advanced it is, and whether it has spread. Biopsies may be performed under local or general anesthesia.

One method called fine-needle aspiration, or needle biopsy, involves inserting a thin needle into an area of concern and taking samples of cells for diagnostic analysis.

Treating Head and Neck Cancer

At City of Hope, patients with head and neck cancers are treated by a multidisciplinary team of experts. This team may include specialists from the departments of Surgery, Medical Oncology & Therapeutics Research and Radiation Oncology, as well as occupational therapists, speech pathologists, nutritionists, nurses and social workers.

Winning Team

Our head and neck cancer team has developed a treatment approach tailored to each patient, an approach that has been achieving outstanding results.



Surgery

Surgery is often part of a patient’s treatment plan. At City of Hope, specially trained surgeons in head and neck surgery including ear, nose and throat, surgical oncology and plastic and reconstructive surgery are experienced in procedures that offer patients the best possible

outcomes. A surgeon will discuss your options, including minimally invasive techniques that offer results comparable to traditional surgery but with smaller incisions, less pain and faster recovery.

Chemotherapy

Chemotherapy — the use of anticancer medicines — includes a wide range of drugs and treatment strategies to treat primary and metastatic head and neck cancer. Depending on the type and stage of disease, chemotherapy may be given as the main treatment, or in addition to surgery or radiation therapy. City of Hope, a National Cancer Institute-designated Comprehensive Cancer Center, provides both standard chemotherapies as well as access to newly developed drugs through an extensive program of clinical trials. Currently, researchers at City of Hope are testing new “neoadjuvant” strategies in which drugs are given prior to surgery to shrink head and neck cancers.

A medical oncologist will evaluate the best available options so that a course of chemotherapy, if appropriate, can be tailored to each patient.

Radiation

Radiation therapy uses energy beams to destroy cancer cells. Often, radiation is used after surgery to rid the body of any cancer cells that may remain. Radiation may also be used before surgery and, in some cases may be the primary form of treatment. Radiation therapy may also be used to relieve symptoms when a cancer has spread.

Specialists in the Department of Radiation Oncology have developed highly accurate new treatments that optimize the delivery of radiation to malignant cells while minimizing unnecessary exposure of healthy tissues.

Procedures may include:

- Brachytherapy

Tiny pellets of radioactive material smaller than a grain of rice are inserted directly into the cancerous tissue, or into tubes that are implanted temporarily. The radiation attacks the tumor from the inside out. By targeting cancer directly, brachytherapy reduces radiation to healthy tissue.

- Intensity modulated radiation therapy (IMRT)

IMRT is another way of administering therapeutic radiation to patients with great precision. High-energy X-ray machines linked with imaging systems deliver targeted doses of energy that are sculpted to the tumor's shape by tailoring the radiation beam intensity and aiming multiple beams at the tumor from many different directions.

- Helical TomoTherapy

This advanced radiation therapy system combines precision scanning of the tumor with IMRT, which allows doctors to precisely match the highest dose of radiation to the affected area. The imaging strategy used with TomoTherapy targets the affected area right before the radiation is given. This greatly improves the accuracy of each treatment session and delivers the maximum therapeutic dose to the cancer while minimizing exposure of normal tissues. Precision targeting is desirable because radiation therapy is a localized treatment, so its benefits — and side effects — occur in the exact area where the energy is delivered. Reducing the dose received by healthy tissue can decrease the potential for side effects compared with conventional radiation treatment.

Better-targeted radiation is especially beneficial when treating the head and neck region. For example, sparing any portion of the mouth or throat can help minimize side effects such as dry

mouth and problems with swallowing. This can help preserve the ability to eat normally, which directly impacts a person's quality of life.

After Treatment

Rehabilitation is an integral part of treatment for people with head and neck cancers. It may include physical therapy, dietary counseling, speech therapy, swallow therapy and other specific training. Our multidisciplinary team engages at the very beginning to assess each patient, as well as to monitor function and quality-of-life issues as treatments progress.

Rehabilitation Services

After surgery, some patients may require a prosthesis such as an artificial dental and/or facial part, as well as special training to improve their ability to swallow and speak. Services are provided by a team of specialists, including professionals in occupational therapy, physical therapy, clinical nutrition, and speech and language pathology.

- Physical therapy

Patients may receive treatment by physical therapists to help with jaw and shoulder problems, as well as other conditions related to head and neck cancer and related treatment side effects.

- Occupational therapy

Occupational therapists help patients with everyday living activities, as well as dealing with post-operative issues.

- Speech and language pathology

City of Hope speech and language pathologists help patients regain their ability to swallow, if necessary, as well as their speech and communication skills. Our therapists can help restore voice to patients who have undergone surgical and reconstructive procedures, either by retraining or through the use of prosthetic devices.

- Clinical nutrition

Dietitians help patients correct nutritional deficiencies and minimize treatment side effects. They also create nutrition plans and provide strategies for eating that can optimize quality of life after treatment.

Follow-up Care

After treatment for head and neck cancer, regular follow-ups are important to make sure the original cancer has not returned, and that no new cancers have developed.

Research and Clinical Trials

City of Hope has long been a leader in cancer research, including promising new combinations of surgeries, chemotherapy drugs and radiation treatments. With our extensive program of clinical trials, we can provide our patients access to novel therapies that are not yet available elsewhere.

Supportive Care

All of our patients have access to the Sheri & Les Biller Patient and Family Resource Center, which offers a wide array of support and educational services. Patients and loved ones may work with a coordinated group of social workers, psychiatrists, psychologists, patient navigators and spiritual care providers at the center, as well as participate in programs such as music therapy, meditation and many others.

Providing New Hope

City of Hope works to move scientific discoveries rapidly from the laboratory to the clinic, benefiting patients everywhere.



To Become a Patient

For more information, or to become a patient at City of Hope, please call 800-826-HOPE or visit us at www.cityofhope.org.

Support the Search

City of Hope's breakthroughs are made possible by the generous donations of compassionate, committed people like you: individuals who value the way we speed the translation of laboratory research into practical results. We are proud of the support that enables us to innovate and inspire.

Help accelerate the pace of progress against cancer at City of Hope. Join our worldwide network of donors who fuel new discoveries leading to treatments that save lives everywhere. To arrange a donation, please call 800-544-3541.

