Laryngeal and Hypopharyngeal Overview

The information that follows is an overview of this type of cancer. It is based on the more detailed information in our document, *Laryngeal and Hypopharyngeal Cancer* This document and other information can be obtained by calling 1-800-227-2345 or visiting our Web site at www.cancer.org.

What is cancer?

The body is made up of trillions of living cells. Normal body cells grow, divide to make new cells, and die in an orderly way. During the early years of a person's life, normal cells divide faster to allow the person to grow. After the person becomes an adult, most cells divide only to replace worn-out, damaged, or dying cells.

Cancer begins when cells in a part of the body start to grow out of control. There are many kinds of cancer, but they all start because of this out-of-control growth of abnormal cells.

Cancer cell growth is different from normal cell growth. Instead of dying, cancer cells keep on growing and form new cancer cells. These cancer cells can grow into (invade) other tissues, something that normal cells cannot do. Being able to grow out of control and invade other tissues are what makes a cell a cancer cell.

In most cases the cancer cells form a tumor. But some cancers, like leukemia, rarely form tumors. Instead, these cancer cells are in the blood and bone marrow.

When cancer cells get into the bloodstream or lymph vessels, they can travel to other parts of the body. There they begin to grow and form new tumors that replace normal tissue. This process is called *metastasis* (muh-**tas**-tuh-sis).

No matter where a cancer may spread, it is always named for the place where it started. For instance, breast cancer that has spread to the liver is still called breast cancer, not

liver cancer. Likewise, prostate cancer that has spread to the bone is still called prostate cancer, not bone cancer.

Different types of cancer can behave very differently. For example, lung cancer and breast cancer are very different diseases. They grow at different rates and respond to different treatments. That is why people with cancer need treatment that is aimed at their own kind of cancer.

Not all tumors are cancerous. Tumors that aren't cancer are called *benign* (be-**nine**). Benign tumors can cause problems— they can grow very large and press on healthy organs and tissues. But they cannot grow into other tissues. Because of this, they also can't spread to other parts of the body (metastasize). These tumors are almost never life threatening.

What are laryngeal and hypopharyngeal cancers?

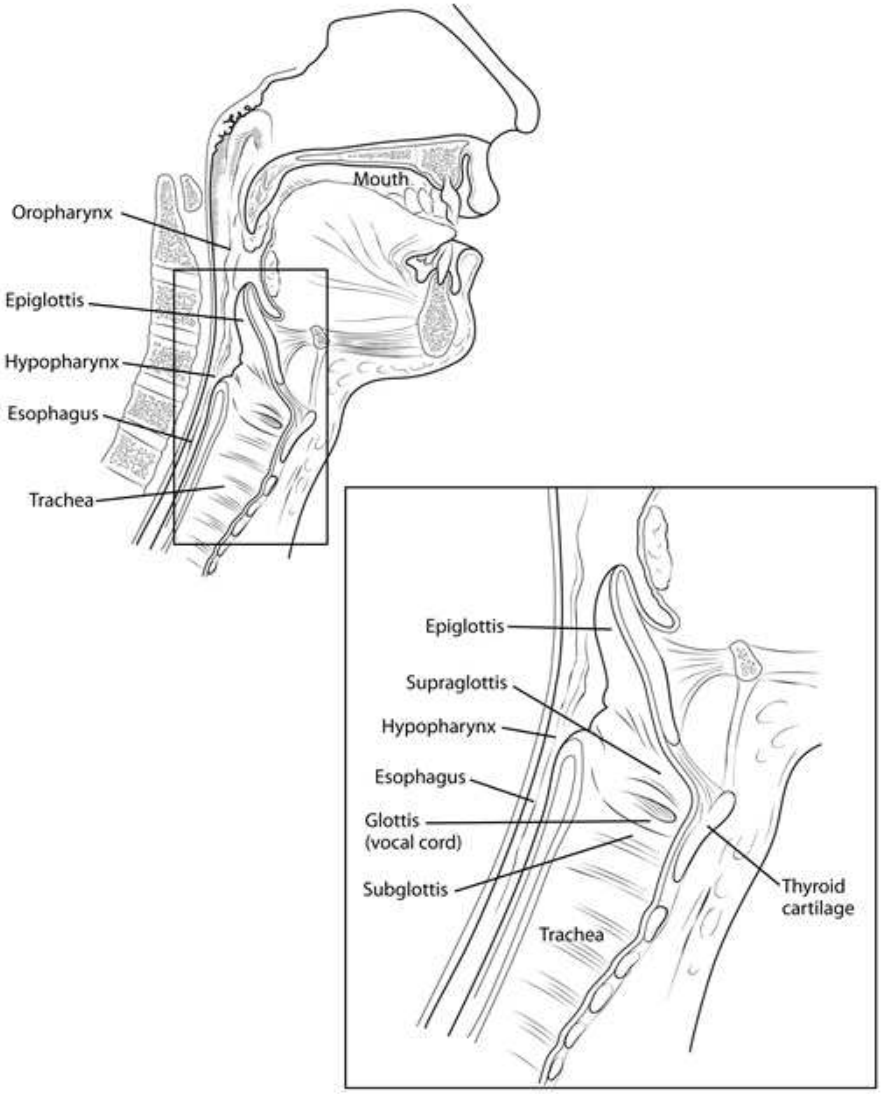
These cancers start in the lower part of the throat. To understand these cancers, it helps to know a little about the larynx and hypopharynx.

The larynx

The *larynx*, often called the *voice box*, is one of the organs helps us speak. It contains the vocal cords. It is found in the neck (see the picture below), above the opening to the windpipe (trachea). It helps keep food and fluids from going down the windpipe. The larynx has 3 main sections:

- The *supraglottis* is the area above the vocal cords. It includes the epiglottis, which closes off when you swallow food.
- The *glottis* is the area with the vocal cords.
- The *subglottis* is the area below the vocal cords.

Cancers that start in different parts of the larynx are treated differently.



Your larynx and vocal cords have several functions:

- The larynx makes sound for speaking. The vocal cords move and come together to change the sound and pitch of your voice.
- The larynx protects your airway when you swallow. The epiglottis and vocal cords close tightly when you swallow to keep food and fluids from going into your lungs.
- The vocal cords open on their own when you breathe so that air can get in and out of your lungs.

What is the hypopharynx

The *hypopharynx* is the part of the throat (pharynx) that lies beside and behind the larynx. When foods and liquids are swallowed, they pass through the mouth and throat, through the hypopharynx and esophagus, and then into the stomach.

Cancers of the larynx and hypopharynx

Cancers that start in the larynx are called laryngeal cancers; cancers of the hypopharynx are called hypopharyngeal cancers. Cancers of the larynx and hypopharynx are both covered here because the 2 structures are so close to each other.

Squamous cell carcinomas

Almost all of the cancers in these areas start from the thin, flat cells (called *squamous cells*) that line the larynx and hypopharynx. Cancers that start in these cells are called *squamous cell carcinomas* or *squamous cell cancers*.

Most squamous cell cancers of the larynx and hypopharynx begin as pre-cancerous changes called *dysplasia*. Smoking and heavy alcohol drinking usually cause the changes. Most pre-cancers will not become cancers. If the causes (like smoking) stop, these pre-cancers most often go away. Most pre-cancers of the larynx and hypopharynx do not cause symptoms unless they are on the vocal cords.

Sometimes dysplasia will progress to a condition called *carcinoma in situ* (CIS). In CIS, only the cells of the top layer are affected. Cancer cells in CIS have not yet spread into lower layers of cells or spread to other parts of the body. Most can be cured, but if CIS is not treated it can develop into cancer that can spread into nearby tissue and to other parts of the body.

Other cancers

Other kinds of cancer can start in the larynx and hypopharynx. They include minor salivary gland cancers, sarcomas, and melanomas. These cancers are rare.

The rest of this information refers only to squamous cell cancer.

How many people get laryngeal and hypopharyngeal cancer?

The American Cancer Society’s estimates for laryngeal cancers in the United States for 2013 are:

- About 12,260 new cases of laryngeal cancer

- About 3,630 deaths from laryngeal cancer

The rate of new cases of laryngeal cancer is falling, most likely because fewer people are smoking.

The American Cancer Society estimates that about 13,930 new cases of cancer of the throat (pharynx) will occur in 2013. Only about 2,450 of these will start in the hypopharynx.

What are the risk factors for laryngeal and hypopharyngeal cancer?

We don't know what causes each case of laryngeal or hypopharyngeal cancer. But we do know many of the risk factors for these cancers. A risk factor is anything that affects your chance of getting a disease such as cancer. Different cancers have different risk factors. Some risk factors, such as smoking, can be controlled. Others, like a person's age or race, can't be changed. But risk factors don't tell us everything. Having a risk factor, or even several risk factors, does not mean that you will get the disease. And many people who get the disease may not have had any known risk factors.

Laryngeal and hypopharyngeal cancers are often grouped with other cancers of the mouth and throat as *head and neck cancers*. These cancers have many of the same risk factors, some of which are listed below.

Tobacco and alcohol use

Tobacco use is the most important risk factor for head and neck cancers (including cancers of the larynx and hypopharynx). Smoke from cigarettes, pipes, and cigars all increase the chance of getting these cancers. Some studies have also found that long-term exposure to secondhand smoke might increase the risk of these cancers, but more research is needed to confirm this.

Drinking alcohol (more than 1 drink a day) also increases the risk of these cancers. People who use both tobacco and alcohol have the highest risk of all. Drinking and smoking doesn't just add both risks together, it really multiplies them. People who both smoke and drink are many times more likely to get head and neck cancer than are people with neither habit.

Poor diet

Poor eating habits may increase the risk of head and neck cancers. The exact reason for this is not known. Heavy drinkers often have a lack of some vitamins, which may help explain the role of alcohol in increasing the risk of these cancers.

HPV

HPV stands for *human papilloma virus*. Most types of HPV cause warts on the hands, feet, and other places. Some also cause cancers in the sex organs. HPV also seems to be a factor in some cases of throat cancer, such as some cancers of the tonsils and some cancers of the hypopharynx. It is very rarely a factor in laryngeal cancer.

Genetic syndromes

People with syndromes caused by inherited changes (mutations) in certain genes have a very high risk of throat cancer, including cancer of the hypopharynx. For instance, people with inherited blood problems such as *Fanconi anemia* or *dyskeratosis congenita* have a very high risk of having cancer of the mouth and throat. To learn more about these syndromes, please see our document, *Aplastic Anemia*.

Work hazards

Long and intense exposure to wood dust, paint fumes, and to certain chemicals can increase the risk of these cancers. Some studies have also found a possible link between asbestos exposure and laryngeal cancer.

Gender

These cancers are about 4 times more common in men than in women. In the past, men were more likely to smoke and drink. But now this is changing, and women's risks are going up.

Age

Because these cancers take a long time to grow, they are not common in young people. More than half of people with these cancers are older than 65 when the cancers are first found.

Race

These cancers are more common among African Americans and whites than among Asians and Latinos.

GERD

When acid from the stomach backs up into the esophagus it is called *gastroesophageal reflux disease* (GERD). GERD can cause heartburn and increase the chance of cancer of

the esophagus. Studies are being done to see if it increases the risk of laryngeal and hypopharyngeal cancers.

Can laryngeal and hypopharyngeal cancer be prevented?

Not all of these cancers can be prevented, but the risk can be greatly reduced by avoiding risk factors such as smoking and alcohol use, and by using safe work habits if you are around cancer-causing chemicals.

Poor diet and a lack of some vitamins have been linked to these cancers. Eating a healthy, balanced diet may help lower your risk of these cancers and many others.

The American Cancer Society recommends eating a healthy diet, with more plant foods. This includes eating at least 2½ cups of vegetables and fruits every day. Choosing whole-grain breads, pastas, and cereals instead of refined grains, and eating fish, poultry, or beans instead of processed meat and red meat may also help lower your risk of cancer. As a rule, eating a healthy diet is much better than adding vitamin supplements to an otherwise unhealthy diet.

How are laryngeal and hypopharyngeal cancers found?

Screening refers to testing for diseases like cancer in people without any symptoms. Screening tests may find some types of cancer early, when treatment is most likely to work best. But for now there is no simple screening test for laryngeal and hypopharyngeal cancers.

Still, many of these cancers can be found early — when they are small and have not spread. They often cause symptoms, such as voice changes, which are described below.

Signs and symptoms of laryngeal and hypopharyngeal cancer

Laryngeal and hypopharyngeal cancers are usually found because of signs or symptoms a person is having. Tests will be needed to confirm whether cancer is causing the symptoms.

Hoarseness or voice changes

Laryngeal cancers that form on the vocal cords (glottis) often cause hoarseness or a change in the voice. This can lead to the cancer being found at a very early stage. People

who have voice changes (like hoarseness) that do not get better within 2 weeks should see their doctor right away.

For cancers that don't start on the vocal cords, hoarseness occurs only after these cancers reach a later stage or have spread to the vocal cords.

Other symptoms

Cancers that start above or below the vocal cords are often found at later stages and may cause other problems.

Talk to your doctor if you have any of these symptoms:

- Sore throat that doesn't go away
- Constant coughing
- Pain when swallowing
- Trouble swallowing
- Ear pain
- Trouble breathing
- Weight loss
- Lump or mass in the neck

Many of these symptoms are more likely to be caused by something other than laryngeal or hypopharyngeal cancer. Still, if you have any of these symptoms, it is very important to have them checked by a doctor.

Exams to look for laryngeal or hypopharyngeal cancer

History and physical exam

If there is any reason to suspect cancer, the first step is for the doctor to gather facts about your health, symptoms, risk factors, and family history. You will then have a physical exam. Your doctor will look closely for abnormal areas in your mouth or throat, as well as enlarged lymph nodes in your neck.

Head and neck exam

If you might have cancer of the larynx or hypopharynx, your doctor will refer you to an expert in diseases of the ear, nose, and throat (called an ENT doctor, an otolaryngologist,

or a head and neck surgeon). You will need to have a careful exam of your mouth, head, and neck area by the ENT doctor. The larynx and hypopharynx are deep inside the neck and cannot be seen on a regular exam. The doctor will look at these areas with mirrors or a special fiber optic scope. This thin, flexible, lighted tube will be put through your mouth or nose and moved down to your throat. It helps the doctor to see these areas. The doctor may spray the back of your throat with numbing medicine to help make the exam easier.

Panendoscopy

If the doctor suspects you have cancer in the head and neck he or she will do a complete exam of this area. This exam is done in the operating room after you are given drugs to make you sleep (general anesthesia). The surgeon looks at the entire area through different scopes and may take samples of tissue (biopsies) to be looked at under a microscope. Biopsy is discussed below.

Biopsies for laryngeal and hypopharyngeal cancers

A biopsy is a test that involves taking a sample of tissue to see if it contains cancer cells. It is the only sure way to know that a growth is cancer. Some biopsies are done in the operating room with the patient asleep. Others can be done in the doctor’s office.

Endoscopic biopsy

The larynx and hypopharynx are found deep inside the neck, so biopsies of these places are not done in the doctor’s office. They are done in the operating room while you are under general anesthesia (asleep). The surgeon uses special instruments through the scope to remove small tissue samples.

Fine needle aspiration (FNA) biopsy

FNA is not used to biopsy the larynx or hypopharynx. But it may be done to find the cause of an enlarged lymph node in the neck. For this type of biopsy, a thin (fine) needle is placed into the tumor to remove cells. The cells are looked at under a microscope to see whether the swelling is caused by something like an infection, or if it is cancer.

FNA may also be used in patients whose cancer has been treated by surgery or radiation, to help find out if a neck mass in the treated area is scar tissue or if it is a return (recurrence) of the cancer.

Imaging tests

Imaging tests may be useful in finding a tumor or in figuring out how far a cancer has spread.

CT (computed tomography) scan

These scans (also call CAT scans) use x-rays to take a series of pictures of the body from many angles. A computer combines the pictures to form a detailed image. This test can help your doctor learn the size of the tumor and whether it has spread to the lymph nodes, to other nearby areas, or to the lungs.

A CT scanner has been described as a large donut, with a narrow table in the middle "hole." You will need to lie still on the table while the scan is being done. CT scans take longer than regular x-rays, and you might feel a bit confined by the ring while the pictures are being taken.

You may also have an IV (intravenous) line through which a contrast "dye" is injected. You may be asked to drink 1 to 2 pints of a liquid called "oral contrast" before any pictures are taken. This helps outline your organs so that they are not mistaken for tumors.

MRI (magnetic resonance imaging)

Like a CT scan, an MRI displays a detailed cross-sectional picture of the body. But the MRI uses radio waves and strong magnets instead of x-rays. MRI scans take longer than CT scans — often up to an hour. Also, you are placed in a narrow tube which can upset some people. Newer, open MRI machines can help with this, if needed. A contrast dye might be injected just as with CT scans.

MRI scans are very useful to look for spread of cancer in the neck. They are sometimes more helpful than CT scans for other places in the body, too.

Barium swallow

This is a series of x-rays taken while you swallow a liquid with barium in it. Barium coats the inside surface of the throat and helps create a good picture. This test helps to see how your throat looks as you swallow. This is often the first test done if someone is having a problem with swallowing.

Chest x-ray

A chest x-ray may be done to see if the cancer has spread to the lungs. If anything not normal is seen on the chest x-ray, a CT scan of the chest may be needed to get a more detailed picture.

PET (positron emission tomography) scan

PET scans use a slightly radioactive form of sugar. The sugar is injected into a vein and after a certain amount of time cancer cells in the body absorb large amounts of the sugar. A special camera can then find where the sugar has collected.

Your doctor can use this test to see whether the cancer has spread to lymph nodes or other places. It can also be used to help tell if abnormal area seen on another imaging test is cancer or not. Newer machines combine CT and PET scans to even better pinpoint the tumor.

Other tests

Other types of tests may be done as part of a workup if a person has laryngeal or hypopharyngeal cancer. These tests are not used to find the cancer, but they may be done to see if a person is healthy enough for other treatments, such as surgery or chemotherapy (chemo).

Blood may be drawn to check liver and kidney function, as well as to help find out about your overall health before treatment. Blood tests are also needed if you are getting chemo because chemo can affect the levels of blood cells in the body.

If surgery is planned, you might also have an electrocardiogram (EKG) to make sure your heart is working well. Some people having surgery also may need tests of their lung function. These are known as *pulmonary function tests* (PFTs).

Staging of laryngeal and hypopharyngeal cancers

Staging is the process of finding out how far the cancer has spread. This is very important because the type of treatment and the outlook for your recovery depend on the stage of the cancer. Laryngeal and hypopharyngeal cancers are staged based on the results of exams, tests, and biopsies as described in the section, “How are laryngeal and hypopharyngeal cancers found?”

The staging system most often used for these cancers is the *TNM* staging system, also known as the American Joint Committee on Cancer (AJCC) system.

This system gives 3 key pieces of information:

- **T** stands for **tumor** (its size and how far it has spread within the larynx or hypopharynx and to nearby tissues).
- **N** describes whether the cancer has spread to nearby lymph **nodes**.

- **M** stands for spread (**metastasis**) to distant organs. These cancers most often spread to the lungs, bones, or liver.

All of this information is combined to assign the stage of the cancer. After stage 0 (which is *carcinoma in situ* or cancer that has not grown beyond the lining layer of cells), stages are labeled using Roman numerals from I through IV (1 - 4). The smaller the number, the less the cancer has spread. A higher number, for example stage IV, means a more advanced disease.

Ask your doctor to explain the stage of your cancer in a way you can understand. This will help you take a more active role in making choices about your treatment.

Survival rates for laryngeal and hypopharyngeal cancers by stage

Some people with cancer may want to know the survival rates for their type of cancer. Others may not find the numbers helpful, or may even not want to know them. If you do not want to know the survival rates for laryngeal and hypopharyngeal cancers, stop reading here and skip to the next section.

Below are the 5-year relative survival rates for cancers from each of the sites. The 5-year survival rate refers to the percentage of patients who live *at least* 5 years after their cancer is found. Five-year *relative* survival rates adjust for the fact that some people will die of other causes. Keep in mind that many of these patients live much longer than 5 years after their cancer is found and treated. And 5-year rates are based on patients whose cancer was found and treated more than 5 years ago. Better treatments now may mean that patients have a better outlook.

The rates below are based on the stage of the cancer *at the time it was found*. Keep in mind that the stage of a cancer does not change over time, even if the cancer spreads. A cancer that comes back or spreads is still referred to by the stage it was given when it was first found, but more information is added to explain the current extent of the cancer. (And of course, the treatment plan may be changed based on the change in cancer status.)

While these numbers give an overall picture, every person is different. Statistics can’t predict what will happen in your case. Talk with your cancer care team if you have questions about your own chances of a cure, or how long you might expect to live. They know your situation best.

Supraglottis (the larynx above the vocal cords, including the epiglottis)

Stage	5-year relative survival rates

I	59%
II	59%
III	53%
IV	34%

Glottis (the part of the larynx that includes the vocal cords)

Stage	5-year relative survival rates
I	90%
II	74%
III	56%
IV	44%

Subglottis (the larynx below the vocal cords)*

Stage	5-year relative survival rates
I	65%
II	56%
III	47%
IV	32%

*(These numbers are less accurate because of the small number of patients.)

Hypopharynx (the area around the vocal cords)

Stage	5-year relative survival rates
I	53%
II	39%
III	36%
IV	24%

The data in all of these charts are from the National Cancer Data Base, based on patients diagnosed from 1998-1999, and published in the AJCC Cancer Staging Manual, Seventh Edition.

How are laryngeal and hypopharyngeal cancers treated?

This information represents the views of the doctors and nurses serving on the American Cancer Society's Cancer Information Database Editorial Board. These views are based on their interpretation of studies published in medical journals, as well as their own professional experience.

The treatment information in this document is not official policy of the Society and is not intended as medical advice to replace the expertise and judgment of your cancer care team. It is intended to help you and your family make informed decisions, together with your doctor.

Your doctor may have reasons for suggesting a treatment plan different from these general treatment options. Don't hesitate to ask him or her questions about your treatment options.

About treatment

There is a lot for you to think about when choosing the best way to treat or manage your cancer. Often there is more than one treatment to choose from. Take time to think about all of the choices. Two things to take into account are the type of cancer and the stage (extent) of the cancer. But your age, your overall health, and your own preferences are also important.

Based on the stage of the cancer and your health, different treatment options may be used alone or together. You may have different types of doctors on your treatment team, for instance an ear, nose and throat doctor (ENT), a radiation oncologist, and a medical oncologist.

It's often a good idea to get a second opinion, perhaps from a doctor who treats this type of cancer often. A second opinion can give you more information and help you feel better about the treatment plan you choose. Even if they don't require a second opinion, almost all insurance companies will pay for one.

The main types of cancer treatment

Treatments for these cancers may include:

- Surgery
- Radiation
- Chemotherapy
- Targeted therapy

Sometimes 2 or more of these treatments are used together.

It is important to discuss all of your treatment options — their goals and likely side effects, with your doctors to help make the choice of treatments that best fits your needs. It's also very important to ask questions if there is anything you're not sure about. You can find some good questions to ask in the section, "What are some questions I can ask my doctor about laryngeal or hypopharyngeal cancer?"

If at all possible, the doctor will try to save your larynx and voice. Most experts do not recommend taking out all of the larynx unless there are no other options.

If it doesn't look like the cancer can be cured, the goal of treatment might be to remove or destroy as much of the cancer as possible to delay its spread or return. Sometimes treatment is aimed at relieving symptoms. This is called *palliative treatment*.

No matter which type of treatment you get, it is important for you to understand the goals of treatment ahead of time. Be sure to discuss this with your doctor so you will have an idea of what to expect.

Surgery for laryngeal and hypopharyngeal cancers

There are many kinds of surgery used to treat these cancers. Some may remove the cancer. Others help restore the look and function of the head and neck.

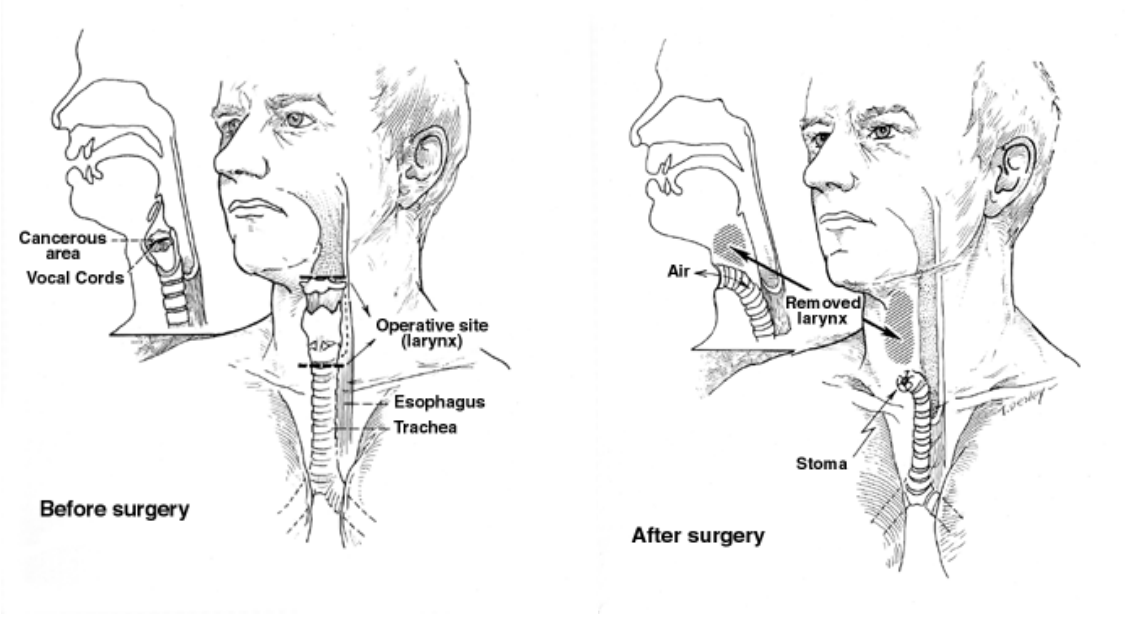
Vocal cord stripping: To do this, the doctor uses a long tool to strip away the cancer in the top layers of tissue of the vocal cords. Very early (stage 0 or CIS) cancers are sometimes treated this way. Most people can speak normally again after this operation.

Laser surgery: Lasers can be used to treat some early cancers. An endoscope is passed down the throat to find the tumor, which is then burned or cut out with a laser. If the laser is used to remove part of a vocal cord, it may result in hoarse speech.

Cordectomy: This surgery involves taking out all or part of the vocal cords. Taking out part of a vocal cord may result in hoarseness. Normal speech is no longer possible if both vocal cords are removed.

Partial laryngectomy: *Laryngectomy* refers to taking out part or all of the larynx (voice box). Smaller cancers of the larynx can often be removed without taking out the entire voice box. The goal is to leave as much of the voice box as possible while removing the cancer. For small cancers of the vocal cords, the surgeon may be able to remove the cancer by taking out only one vocal cord and leaving the other behind. This allows for some speech to remain.

Total laryngectomy: This surgery involves taking out the whole voice box. The windpipe must be brought up to the front of the neck as a hole (stoma). The person then breathes through this stoma. (See the picture below.) Once the larynx is removed, normal speech is no longer possible. But people can learn other forms of speaking (see "Moving on after treatment"). The connection between the throat and the esophagus is usually not affected, so after recovering from surgery, food and liquids can be swallowed just as they were before the operation.



Illustrations by permission of the Mayo Foundation. From "Looking Forward...A Guidebook for the Laryngectomee" by R.L. Keith, et al, New York, Thieme-Stratton, Inc. and copyrighted by the Mayo Foundation, 1984.

Total or partial pharyngectomy: This surgery is done for cancers of the hypopharynx. All or part of the pharynx (throat) is removed. The larynx is often removed, too. Surgery may be needed to rebuild the throat. This will help the patient to swallow after the operation.

Reconstructive surgery: These surgeries are used to rebuild the throat after the cancer has been removed. Sometimes a muscle and area of skin may be moved from a place close to your throat, such as the chest, to rebuild the throat after surgery. Tissues from

other parts of the body such as a piece of intestine or a piece of arm muscle may also be used to replace parts of your throat.

Neck dissection: Because these cancers often spread to the lymph nodes in the neck, these lymph nodes may need to be removed. This is called a *neck dissection*. It is done at the same time as the surgery to remove the main tumor. The amount of tissue to be removed depends on the size of the cancer and how much it has spread.

Tracheotomy/tracheostomy: This is a hole made in the trachea (windpipe) through the front of the neck to help a person breathe by letting air in and out of the lungs.

After some types of surgery, you may have a small tube placed into your windpipe through a hole in the front of your neck to help you breathe. The hole is left in place to protect the airway while you heal.

If you have a total laryngectomy or if a laryngeal or hypopharyngeal cancer is blocking the windpipe and is too large to be removed completely, an opening may be made to connect the lower part of the windpipe to a hole (stoma) in the front of your neck to allow you to breathe more comfortably.

Gastrostomy tube (G-tube or **feeding tube):** Surgery may also be done to help you get the nutrition you need. A patient who cannot swallow enough food may need a feeding tube placed through the skin in the belly (abdomen) directly into the stomach. The feeding tube can be used to put liquid nutrition into the stomach. The tube can be removed if you can swallow and eat well after treatment.

Possible risks and side effects of surgery

Any surgery can lead to problems like bleeding, blood clots, and infection. Laryngectomy and pharyngectomy often lead to the loss of normal speech, while smaller operations can also sometimes affect speech.

Surgery can also cause problems with swallowing and narrowing of the throat or larynx. The swallowing problem can be severe enough so that the patient has to use a feeding tube. In some cases the narrowing may affect breathing, so a tracheostomy may be needed.

Laryngectomy and pharyngectomy can also lead to the development of a fistula (an abnormal opening between 2 areas that are not normally connected).

Rarely, these operations can lead to problems with the thyroid and/or parathyroid glands. Damage to the thyroid gland can cause the patient to feel very tired and sluggish. Damage to the parathyroid glands can lead to low calcium levels. These problems are easy to treat once they are found.

A very rare but serious complication of neck surgery is rupture of the carotid artery (the large artery in the neck).

To find out more about surgery as a treatment for cancer, see our document, *Understanding Cancer Surgery: A Guide for Patients and Families*.

Radiation therapy for laryngeal and hypopharyngeal cancers

Radiation therapy is treatment with high energy rays (such as x-rays) to kill cancer cells or shrink tumors. The radiation may come from outside the body (external radiation) or from radioactive materials placed directly in the tumor.

External radiation is often the main treatment for small laryngeal and hypopharyngeal cancers. It may be used after surgery for larger cancers to try to kill any cancer cells that may have been left behind. It is also used for patients whose health does not permit them to have surgery. Radiation can be used to ease symptoms such as pain, bleeding, swallowing problems, and problems caused by spread of cancer to the bones.

Often chemotherapy is given with the radiation.

Getting radiation therapy is a lot like getting an x-ray, but the radiation is much stronger. Treatment is not painful. Each treatment lasts only a few minutes, although the setup time — getting you into place for treatment — usually takes longer.

Treatment is usually given daily, 5 days per week, for several weeks. There are several different types and schedules of radiation that might be used. Some show promise in lowering the risk of the cancer coming back in the place where it started or helping patients live slightly longer. The drawback is that patients may also have more severe side effects.

Possible side effects of radiation

Many people treated with radiation to the neck and throat area have problems with painful sores in the mouth and throat. These sores can make eating and drinking very hard and can lead to weight loss. The sores heal with time after the radiation has stopped.

Side effects from radiation can also include:

- Skin problems (something like sunburn)
- Dry mouth (which can lead to problems with tooth decay)
- Worsening of hoarseness
- Trouble swallowing
- Loss of taste
- Breathing problems from swelling of the larynx

- Tiredness

Most of these side effects go away after treatment is over. Talk to your doctor or nurse if you are having trouble with any side effects. There are often ways to help.

Radiation can worsen any tooth problems that you might already have. Based on the radiation plan and the health of your teeth, some or all of them may have to be removed before treatment begins.

Radiation aimed near the salivary glands may cause long-term damage, leading to dry mouth that does not get better with time. A dry mouth can affect swallowing and also cause tooth decay. People with dry mouth after radiation must be very careful about their oral health.

When radiation is used as the main treatment for cancer of the larynx, it may very rarely lead to breakdown of the cartilage. If this happens, the patient may need surgery.

To learn more, see our document, *Understanding Radiation Therapy: A Guide for Patients and Families*.

Chemotherapy for laryngeal and hypopharyngeal cancers

Chemotherapy (chemo) is the use of drugs to kill cancer cells or shrink tumors. Usually the drugs are given into a vein or by mouth. Once the drugs enter the bloodstream, they spread throughout the body.

Chemo is often given along with radiation (chemoradiation) as the main treatment for more advanced cancers. Chemoradiation can also be used after surgery to try to lower the chance the cancer will come back.

Chemo is often used to ease symptoms of tumors that are too large or have spread too far to be completely removed.

Doctors give chemo in cycles, with each round of treatment followed by a rest time to allow the body to recover. Each chemo cycle typically lasts for a few weeks.

To learn more about chemo, see our document, *Understanding Chemotherapy: A Guide for Patients and Families.*

Possible side effects of chemotherapy

Chemo can have side effects. These side effects will depend on the type of drugs given, the amount taken, and how long treatment lasts. Common side effects are:

- Nausea and vomiting
- Loss of appetite

- Hair loss
- Mouth sores
- Diarrhea (loose bowels)
- A higher chance of infection (from a shortage of white blood cells)
- Bleeding or bruising after minor cuts or injuries (caused by a shortage of blood platelets)
- Shortness of breath
- Tiredness (from low red blood cell counts or from other things)

Along with the risks above, some chemo drugs can cause other side effects. Most side effects go away after treatment ends. Anyone who has problems with side effects should talk with their doctor or nurse, as there are often ways to help.

Targeted therapy for laryngeal and hypopharyngeal cancer

Targeted therapy is a term used for drugs that are aimed at certain parts of the cancer cell which are needed for a cancer to grow. Targeted drugs work differently from standard chemotherapy (chemo) drugs. They may work in some cases when chemo doesn't. They often have different (and less severe) side effects. They can be used alone or along with other drugs and cancer treatments.

Cetuximab (Erbitux®) is a targeted drug sometimes used to treat laryngeal and hypopharyngeal cancers. The most common side effects of cetuximab are skin rash and more rarely, problems from allergic reactions that occur while the drug is being given into the vein.

Studies of other targeted therapy drugs to treat laryngeal and hypopharyngeal cancers are going on now.

Clinical trials for laryngeal and hypopharyngeal cancers

You may have had to make a lot of decisions since you've been told you have cancer. One of the most important decisions you will make is deciding which treatment is best for you. You may have heard about clinical trials being done for your type of cancer. Or maybe someone on your health care team has mentioned a clinical trial to you.

Clinical trials are carefully controlled research studies that are done with patients who volunteer for them. They are done to get a closer look at promising new treatments or procedures.

If you would like to take part in a clinical trial, you should start by asking your doctor if your clinic or hospital conducts clinical trials. You can also call our clinical trials matching service for a list of clinical trials that meet your medical needs. You can reach this service at 1-800-303-5691 or on our Web site at www.cancer.org/clinicaltrials. You can also get a list of current clinical trials by calling the National Cancer Institute's Cancer Information Service toll-free at 1-800-4-CANCER (1-800-422-6237) or by visiting the NCI clinical trials Web site at www.cancer.gov/clinicaltrials.

There are requirements you must meet to take part in any clinical trial. If you do qualify for a clinical trial, it is up to you whether or not to enter (enroll in) it.

Clinical trials are one way to get state-of-the art cancer treatment. Sometimes they may be the only way to get access to some newer treatments. They are also the only way for doctors to learn better methods to treat cancer. Still, they are not right for everyone.

You can get a lot more information on clinical trials, in our document called *Clinical Trials: What You Need to Know*. You can read it on our Web site or call our toll-free number and have it sent to you.

Complementary and alternative therapies for laryngeal and hypopharyngeal cancers

When you have cancer you are likely to hear about ways to treat your cancer or relieve symptoms that your doctor hasn't mentioned. Everyone from friends and family to Internet groups and Web sites may offer ideas for what might help you. These methods can include vitamins, herbs, and special diets, or other methods such as acupuncture or massage, to name a few.

What are complementary and alternative therapies?

It can be confusing because not everyone uses these terms the same way, and they are used to refer to many different methods. We use *complementary* to refer to treatments that are used *along with* your regular medical care. *Alternative* treatments are used *instead of* a doctor's medical treatment.

Complementary methods: Most complementary treatment methods are not offered as cures for cancer. Mainly, they are used to help you feel better. Some examples of methods that are used along with regular treatment are meditation to reduce stress, acupuncture to help relieve pain, or peppermint tea to relieve nausea. Some complementary methods are known to help, while others have not been tested. Some have been proven not to be helpful, and a few are even harmful.

Alternative treatments: Alternative treatments may be offered as cancer cures. These treatments have not been proven safe and effective in clinical trials. Some of these methods may be harmful, or have life-threatening side effects. But the biggest danger in

most cases is that you may lose the chance to be helped by standard medical treatment. Delays or interruptions in your medical treatments may give the cancer more time to grow and make it less likely that treatment will help.

Finding out more

It is easy to see why people with cancer think about alternative methods. You want to do all you can to fight the cancer, and the idea of a treatment with few or no side effects sounds great. Sometimes medical treatments like chemotherapy can be hard to take, or they may no longer be working. But the truth is that most of these alternative methods have not been tested and proven to work in treating cancer.

As you think about your options, here are 3 important steps you can take:

- Look for “red flags” that suggest fraud. Does the method promise to cure all or most cancers? Are you told not to have regular medical treatments? Is the treatment a “secret” that requires you to visit certain providers or travel to another country?
- Talk to your doctor or nurse about any method you are thinking of using.
- Contact us at 1-800-227-2345 to learn more about complementary and alternative methods in general and to find out about the specific methods you are looking at.

The choice is yours

Decisions about how to treat or manage your cancer are always yours to make. If you want to use a non-standard treatment, learn all you can about the method and talk to your doctor about it. With good information and the support of your health care team, you may be able to safely use the methods that can help you while avoiding those that could be harmful.

What are some questions I can ask my doctor about laryngeal or hypopharyngeal cancers?

As you cope with cancer and cancer treatment, you need to have honest, open talks with your doctor. You should feel free to ask any question that’s on your mind, no matter how small it might seem. Here are some questions you might want to ask. Be sure to add your own questions as you think of them. Nurses, social workers, and other members of your health care team may also be able to answer many of your questions.

- Would you please write down the exact type of cancer I have?
- Where is my cancer found?

- Has my cancer spread beyond the place where it started?
- What is the stage of my cancer and what does that mean in my case?
- Do I need other tests before we decide on treatment?
- Are there other doctors I need to see?
- How many of these cancers have you treated?
- What treatment choices do I have?
- Are there any clinical trials that might be right for me?
- What treatment do you recommend and why?
- How soon do we need to decide on treatment?
- How long will treatment last? What will it involve? Where will it be done?
- What is the goal of this treatment?
- What are the risks or side effects that I might expect?
- How will this treatment affect my voice? If my larynx is removed, what are the options for restoring my voice?
- What are the chances my cancer will come back with these treatment plans?
- What should I do to be ready for treatment?
- Based on what you've learned about my cancer, how long do you think I'll survive?
- Where can I find more information and support?

Add your own questions below:

Moving on after treatment for laryngeal or hypopharyngeal cancers

For some people with laryngeal or hypopharyngeal cancer, treatment may remove or destroy the cancer. Being done with treatment can be both stressful and exciting. You

might be relieved to finish treatment but find it hard not to worry about cancer growing or coming back. (When cancer comes back after treatment, it is called *recurrence*.) This is a very common concern in people who have had cancer.

It may take a while before your recovery begins to feel real and your fears are somewhat relieved. You can learn more about what to look for and how to learn to live with the chance of cancer coming back in *Living With Uncertainty: The Fear of Cancer Recurrence*.

For other people, the cancer may never go away completely. These people may get regular treatments with chemo, radiation, or other treatments to help keep the cancer in check for as long as possible. Learning to live with cancer as more of a chronic disease can be hard and very stressful. It has its own type of uncertainty.

Follow-up care

If you have finished treatment, your doctors will still want to watch you closely. It is very important to go to all follow-up visits. When these cancers come back, it is most often in the first couple of years, so you will likely have head and neck exams often, including a scope exam, about every other month during the first year or so after treatment. Follow-up may then be more spread out as time goes on and there is no sign of cancer. Chest x-rays and other imaging tests may be used to watch for a return of the cancer or for a new tumor.

If you were treated with radiation and it reached your thyroid gland, you may need blood tests to check your thyroid function. Your doctor may also suggest dental exams or tests to check your speech and swallowing, especially if you are having any problems after treatment.

Almost any cancer treatment can have side effects. Some may last for a few weeks or months, but others can be permanent. Please tell your cancer care team about any symptoms or side effects that bother you so they can help you manage them. Use this time to ask your health care team questions and discuss any concerns you might have.

It is also important to keep health insurance. While you hope your cancer won’t come back, it could happen. If it does, you don’t want to have to worry about paying for treatment. Should your cancer come back, our document *When Your Cancer Comes Back: Cancer Recurrence* can help you cope with this phase of your treatment.

Restoring speech after total laryngectomy

If you have had a total laryngectomy, you will not be able to talk like you did before. But there are many ways you can talk again. Learning to speak again will take time and effort, and your voice will not sound the same. You will need to see a person trained to

help people who have lost their vocal cords (a speech therapist). Here are some of the options for speech after laryngectomy:

Esophageal speech: After laryngectomy, your windpipe (trachea) no longer connects to the throat. So you cannot expel air from the lungs through your mouth to speak. With training, you can learn to swallow air and force it through your mouth. And with practice you can turn this into speech. But with new devices and new types of surgery, learning this method may not be needed.

TEP (tracheoesophageal puncture): This surgery (done either during the first surgery or later) creates a connection between the windpipe and the food pipe through a small hole at the stoma. A one-way valve placed into the hole allows you to force air from the lungs into the mouth but keeps food and liquids out of the lungs. You cover the stoma with your finger to force air out of your mouth. (Some newer “hands-free” models do not need for you to cover the stoma to speak.) With practice and the help of a speech therapist, you can learn this way of speaking.

Electrolarynx: If you cannot have TEP for some reason, or while you are learning to use your TEP voice, you might use an electrical device to produce speech. These use batteries and are placed in the corner of the mouth or against the skin of the neck. When you press a button it makes a vibrating sound. By moving your mouth and tongue, you can form this sound into words. You will need training with a speech therapist to learn to use this tool.

Stoma care after total laryngectomy

Having a stoma (tracheostomy) means that the air you breathe in and out will not pass through your nose or mouth. The air reaching your lungs will be dryer and cooler. This may cause problems with the lining of the breathing tubes and thick or crusty mucus may form.

For this reason, you should learn how to take care of your stoma. The cancer care team will give you information about stoma care, such as protecting and cleaning it. And there are support groups for people who have had this surgery. They can give you information about caring for the stoma and how to use products to help protect and clean it.

Help for trouble swallowing and nutrition problems

Cancers of the larynx or hypopharynx and their treatments can sometimes cause problems such as trouble swallowing, dry mouth, or even loss of teeth. This can make it hard to eat, which can lead to weight loss and weakness due to poor nutrition.

Some people may need to adjust what they eat during and after treatment or they might need nutritional supplements. Some may even need a feeding tube placed in the stomach for a short time after treatment. A team of doctors and nutritionists can work with you to

help sort out what works for you. This can help you maintain your weight and nutritional intake.

Sexual impact of laryngectomy

Losing the voice box changes the way a person looks, sounds, and breathes. This can have an impact on lovemaking. Feeling self-conscious about the stoma can affect intimacy. A scarf, ascot, or turtleneck shirt can look nice and hide the stoma cover. Even during sex, a stoma cover may look more appealing than a bare stoma.

Other common-sense ideas are to avoid garlic or spicy foods that might cause odors from the stoma, and to use perfume, cologne, or after-shave lotion.

Sometimes problems with speech can be an issue for couples. Most methods of speech after laryngectomy require some effort and don't allow you to whisper. But you can still say a lot by guiding your partner's hand and using body language.

Seeing a new doctor

At some point after your cancer is found and treated, you may find yourself in the office of a new doctor. It is important that you be able to give your new doctor the exact details of your diagnosis and treatment. Gathering these details soon after treatment may be easier than trying to get them at some point in the future. Make sure you have this information handy and always keep copies for yourself:

- A copy of your pathology report from any biopsy or surgery
- Copies of imaging tests (CT or MRI scans, etc.), which can usually be stored on a CD, DVD, etc.
- If you had surgery, a copy of your operative report
- If you stayed in the hospital, a copy of the discharge summary that the doctor wrote when you were sent home from the hospital
- If you had radiation treatment, a copy of the treatment summary
- If you had chemotherapy or targeted therapies, a list of your drugs, drug doses, and when you took them

Lifestyle changes after laryngeal or hypopharyngeal cancers

You can't change the fact that you have had cancer. What you can change is how you live the rest of your life — making choices to help you stay healthy and feel as well as you can. This can be a time to look at your life in new ways. Maybe you are thinking about

how to improve your health over the long term. Some people even start during cancer treatment.

Make healthier choices

For many people, a diagnosis of cancer helps them focus on their health in ways they may not have thought much about in the past. Are there things you could do that might make you healthier? Maybe you could try to eat better or get more exercise. Maybe you could cut down on the alcohol, or give up tobacco. Even things like keeping your stress level under control might help. Now is a good time to think about making changes that can have positive effects for the rest of your life. You will feel better and you will also be healthier.

You can start by working on those things that worry you most. Get help with those that are harder for you. For instance, if you are thinking about quitting smoking and need help, call the American Cancer Society at 1-800-227-2345.

Eating better

Eating right can be a challenge for anyone, but it can get even tougher during and after cancer treatment. This is especially true for cancers of the head and neck. The cancer or its treatment can affect how you swallow or cause other problems. Nausea can be a problem from some treatments. You may lose your appetite for a while and lose weight when you don’t want to.

If you are losing weight or have taste problems during treatment, do the best you can with eating and keep in mind that these problems usually improve over time. You may find it helps to eat small portions every 2 to 3 hours until you feel better and can go back to a more normal schedule. You might also want to ask your cancer team to refer you to a dietitian, an expert in nutrition who can give you ideas on how to fight some of the side effects of your treatment.

One of the best things you can do after treatment is to put healthy eating habits into place. You may be surprised at the long-term benefits of some simple changes, like increasing the variety of healthy foods you eat. Getting to and staying at a healthy weight, eating a healthy diet, and limiting your alcohol intake may lower your risk for a number of types of cancer, as well as having many other health benefits.

Rest, fatigue, and exercise

Feeling tired (fatigue) is a very common problem during and after cancer treatment. This is not a normal type of tiredness but a bone-weary exhaustion that doesn’t get better with rest. For some people, fatigue lasts a long time after treatment and can keep them from staying active. But exercise can actually help reduce fatigue and the sense of depression that sometimes comes with feeling so tired.

If you were very ill or weren’t able to do much during treatment, it is normal that your fitness, staying power, and muscle strength declined. You need to find an exercise plan that fits your own needs. If you haven’t exercised in a few years, you will have to start slowly — maybe just by taking short walks. Talk with your health care team before starting. Get their input on your exercise plans. Then try to get an exercise buddy so that you’re not doing it alone.

If you are very tired, you will need to balance activity with rest. It is OK to rest when you need to. Sometimes it’s really hard for people to allow themselves to rest when they are used to working all day or taking care of a household, but this is not the time to push yourself too hard. Listen to your body and rest when you need to. (To learn more about dealing with fatigue, please see *Fatigue in People With Cancer* and *Anemia in People With Cancer*.)

Exercise can improve your physical and emotional health.

- It improves your heart fitness.
- It makes your muscles stronger.
- It reduces fatigue.
- Along with a good diet, it will help you get to and stay at a healthy weight.
- It can help lower anxiety and depression.
- It can help you feel generally happier.
- It helps you feel better about yourself.

Long term, we know that getting regular physical activity plays a role in helping to lower the risk of some cancers, as well as having other health benefits.

Can I lower my risk of the cancer growing or coming back?

Most people want to know if there are certain lifestyle changes they can make to reduce their risk of their cancer growing or coming back. For many cancers there is little solid evidence to guide people. This doesn’t mean that nothing will help —it's just that for the most part this is an area that hasn’t been well studied. Most studies have looked at lifestyle changes as ways to prevent cancer in the first place, not slowing it down or keeping it from coming back.

Tobacco and alcohol use have clearly been linked to laryngeal and hypopharyngeal cancers, so not smoking or drinking may help reduce your risk of the cancer coming back. If you smoke, it is very important to quit. Quitting may also reduce your chance of getting other new cancers (especially other head and neck or lung cancers), which is a serious problem among laryngeal and hypopharyngeal cancer survivors. Quitting can also

help improve your appetite and your overall health. If you want to quit smoking and need help, call the American Cancer Society at 1-800-227-2345.

Other healthy habits such as eating well, getting regular exercise, and staying at a healthy weight may help as well, but no one knows for sure. But we do know that these types of changes can affect more than just your risk of cancer.

How does having laryngeal or hypopharyngeal cancer affect your emotional health?

During and after treatment, you might find yourself overcome with many different emotions. This happens to a lot of people.

You may find yourself thinking about death and dying. Or maybe you're more aware of the effect the cancer has on your family, friends, and career. You may take a new look at your relationships with those around you. Other issues may also cause concern. For instance, you may see your health care team less often after treatment and have more time on your hands. These changes can make some people anxious.

Almost everyone who is going through or has been through cancer can benefit from getting some type of support. You need people you can turn to for strength and comfort. Support can come in many forms: family, friends, cancer support groups, church or spiritual groups, online support groups, or one-on-one counselors. What's best for you depends on your own preferences. Some people feel safe in peer-support groups or education groups. Others would rather talk in an informal setting, such as church. Others may feel more at ease talking one-on-one with a trusted friend or counselor. Whatever your source of strength or comfort, make sure you have a place to go with your concerns.

The cancer journey can feel very lonely. It is not necessary or good for you to try to deal with everything on your own. And your friends and family may feel shut out if you do not include them. Let them in, and let in anyone else who you feel may help. If you aren't sure who can help, call your American Cancer Society at 1-800-227-2345 and we can put you in touch with a group or resource that may work for you.

If treatment for laryngeal or hypopharyngeal cancer is no longer working

If cancer keeps growing or comes back after one kind of treatment, you might try another treatment plan that might still cure the cancer, or at least shrink the tumors enough to help you live longer and feel better. But when a person has tried many different treatments and the cancer has not gotten any better, the cancer tends to resist all treatments. If this happens, it's important to weigh the possible small benefits of a new treatment against the possible downsides, including treatment side effects. Everyone has their own way of looking at this.

This is likely to be the hardest part of your battle with cancer — when you have been through many treatments and nothing's working. Your doctor may offer you new options, but at some point you may need to take into account that treatment is not likely to improve your health or change your outcome or survival.

If you want to keep on getting treatment for as long as you can, you need to think about the odds of it having any benefit and how this compares to the possible risks and side effects. In many cases, your doctor can estimate how likely it is the cancer will respond to treatment you are thinking about. For instance, the doctor may say that more treatment might have about a 1 in 100 chance of working. Some people are still tempted to try this. But it is important to think about and understand your reasons for choosing this plan.

No matter what you decide to do, it is important that you feel as good as you can. Make sure you are asking for and getting treatment for any symptoms you might have, such as nausea or pain. This type of treatment is called *palliative care*.

Palliative care helps relieve symptoms, but is not meant to cure the disease. It can be given along with cancer treatment, or can even be cancer treatment. The difference is its purpose — the main goal of palliative care is to improve the quality of your life, or help you feel as good as you can for as long as you can. Sometimes this means using drugs to help with symptoms like pain or nausea. Sometimes, though, the treatments used to control your symptoms are the same as those used to treat cancer. For instance, radiation might be used to help relieve pain caused by cancer that has spread. Or chemo might be used to help shrink a tumor and keep it from blocking an airway. But this is not the same as treatment to try to cure the cancer.

At some point, you may benefit from hospice care. This is special care that treats the person rather than the disease. Its focus is on quality rather than length of life. Most of the time, it is given at home. Your cancer may be causing problems that need to be managed, and hospice focuses on your comfort. You should know that while getting hospice care often means the end of treatments such as chemo and radiation, it doesn’t mean you can’t have treatment for the problems caused by your cancer or other health problems. In hospice the focus of your care is on living life as fully as possible and feeling as well as you can at this difficult time. You can learn more about hospice in our document called *Hospice Care*.

Staying hopeful is important, too. Your hope for a cure may not be as bright, but there is still hope for good times with family and friends — times that are filled with joy and meaning. Pausing at this time in your cancer treatment gives you a chance to focus on the most important things in your life. Now is the time to do some things you’ve always wanted to do and to stop doing the things you no longer want to do. Though the cancer may be beyond your control, there are still choices you can make.

What's new in laryngeal and hypopharyngeal cancer research?

Research into the causes, prevention, and treatment of these cancers is now being done at many places around the world.

Gene changes

A great deal of research is being done to find out how changes in the DNA of certain genes cause cells to become cancer. Tests to find these changes may allow these cancers to be found early and lead to better ways to treat them.

Chemoprevention

Researchers are also looking at ways to use drugs to keep cancer from starting in the first place. This is called *chemoprevention*. They are looking at several drugs that might prevent pre-cancerous growths from changing into cancer.

People who have had these cancers are at risk for getting a second tumor in the head and neck area, as well as having the first cancer come back. Different drugs are being studied to see if they can help lower this risk. So far the results have not been successful.

Treatment

Promising new forms of treatment are likely to be effective and less burdensome in the coming years.

Surgery and radiation treatment

Doctors continue to refine surgery methods to try to limit the amount of normal tissue that is removed along with the tumor. This may help limit the side effects after treatment.

One new surgery method now being studied for some early stage cancers is called *transoral robotic surgery*. For this operation, the doctor sits at a control panel and moves robotic arms holding long surgeons' tools that are passed down the throat. Smaller incisions are needed, so if it proves successful it might lessen the side effects from surgery. This approach is most commonly being used to treat pharyngeal tumors.

Doctors are also working to improve radiation treatment methods. This is very important for cancers in the head and neck, where there are often a lot of important structures in a very small space.

Chemotherapy

Studies are also going on to find new ways to give drugs (such as direct injection into the blood vessels feeding the tumor) and new ways to combine drugs. Drugs that have been used to treat other types of cancer are being tested, too. Clinical trials are looking for the best ways to combine drugs with radiation treatment.

Studies are also looking to see if starting treatment with chemotherapy (rather than surgery) might be useful. If this shrinks the tumor, further chemotherapy and radiation can then be given to try to make it go away completely. If it doesn't work, then surgery can be done. This approach might help spare some people from having to have more widespread surgery, but most doctors still see this as experimental at this time.

Targeted therapy

Newer targeted therapy drugs attack certain substances in or around cancer cells that help them grow. These drugs work in a different way from standard chemo drugs. They may work in some cases when chemo drugs don't, and they often have less severe side effects.

EGFR (epidermal growth factor receptor) inhibitors: Growth factors are hormone-like substances that attach to receptors and send signals to cells to grow and divide. Having too many receptors is one reason that some cancer cells grow. Several new drugs (known as EGFR inhibitors) have been developed to block the action of EGFR. Cetuximab (Erbitux) is already used to treat cancers of the head and neck, including cancer of larynx and hypopharynx. Other EGFR blockers are under study.

Angiogenesis inhibitors: Tumors need a large blood supply to grow, so they release chemicals that cause new blood vessels to form. Researchers are looking at drugs that turn off these signals. The idea is to limit the blood supply and thus prevent the tumor from growing. These drugs are now under study for the treatment of head and neck cancers.

Photodynamic therapy

In this treatment, the patient is given a substance that makes the cancer cells more sensitive to light, and then the cancer is exposed to laser light a day later. This is being studied as a treatment for very early stage laryngeal cancer.

More information about laryngeal and hypopharyngeal cancers

From your American Cancer Society

Here is more information you might find helpful. You also can order free copies of our documents from our toll-free number, 1-800-227-2345, or read them on our Web site, www.cancer.org.

Laryngeal and Hypopharyngeal Cancer: Detailed Guide (also in Spanish)

After Diagnosis: A Guide for Patients and Families (also in Spanish)

Caring for the Patient With Cancer at Home: A Guide for Patients and Families (also in Spanish)

Clinical Trials: What You Need to Know

Living With Uncertainty: The Fear of Cancer Recurrence

Pain Control: A Guide for Those With Cancer and Their Loved Ones (also in Spanish)

Questions About Smoking, Tobacco, and Health (also in Spanish)

Targeted Therapy

Understanding Cancer Surgery: A Guide for Patients and Families (also in Spanish)

Understanding Chemotherapy: A Guide for Patients and Families (also in Spanish)

Understanding Radiation Therapy: A Guide for Patients and Families (also in Spanish)

When Your Cancer Comes Back: Cancer Recurrence

Books

Your American Cancer Society also has books that you might find helpful. Call us at 1-800-227-2345 or visit our bookstore online at cancer.org/bookstore to find out about costs or to place an order.

National organizations and Web sites*

Along with the American Cancer Society, other sources of information and support include:

International Association of Laryngectomees (IAL)
Toll-free number: 1-866-IAL-FORU (1-866-425-3678)
Web site: www.theial.com

National Cancer Institute
Toll-free number1-800-4-CANCER (1-800-422-6237)
Web site: www.cancer.gov

National Coalition for Cancer Survivorship
Toll-free number: 1-888-650-9127
1-877-NCCS-YES (622-7937) for some publications and Cancer Survivor Toolbox® orders
Web site: www.canceradvocacy.org

Support for People with Oral and Head and Neck Cancer, Inc. (SPOHNC)
Toll-free number: 1-800-377-0928
Web site: www.spohnc.org

WebWhispers
Web site: www.webwhispers.org

**Inclusion on this list does not imply endorsement by the American Cancer Society.*

No matter who you are, we can help. Contact us anytime, day or night, for information and support. Call us at **1-800-227-2345** or visit www.cancer.org.

Last Medical Review: 1/22/2013
Last Revised: 1/22/2013

For additional assistance please contact your American Cancer Society
1-800-227-2345 or www.cancer.org