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About Oral Cavity and Oropharyngeal Cancer

Overview and Types

If you've been diagnosed with oral cavity or oropharyngeal cancer or are worried about it, you likely have a lot of questions. Learning some basics is a good place to start.

- [What Are Oral Cavity and Oropharyngeal Cancers?](#)

Research and Statistics

See the latest estimates for new cases of oral cavity and oropharyngeal cancers in the US and what research is currently being done.

- [Key Statistics for Oral Cavity and Oropharyngeal Cancers](#)
 - [What's New in Oral Cavity and Oropharyngeal Cancer Research?](#)
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What Are Oral Cavity and Oropharyngeal Cancers?

Cancer starts when cells in the body start to grow out of control. Cells in nearly any part of the body can become cancer, and can spread to other parts of the body. To learn more about how cancers start and spread, see [What Is Cancer?](#)¹

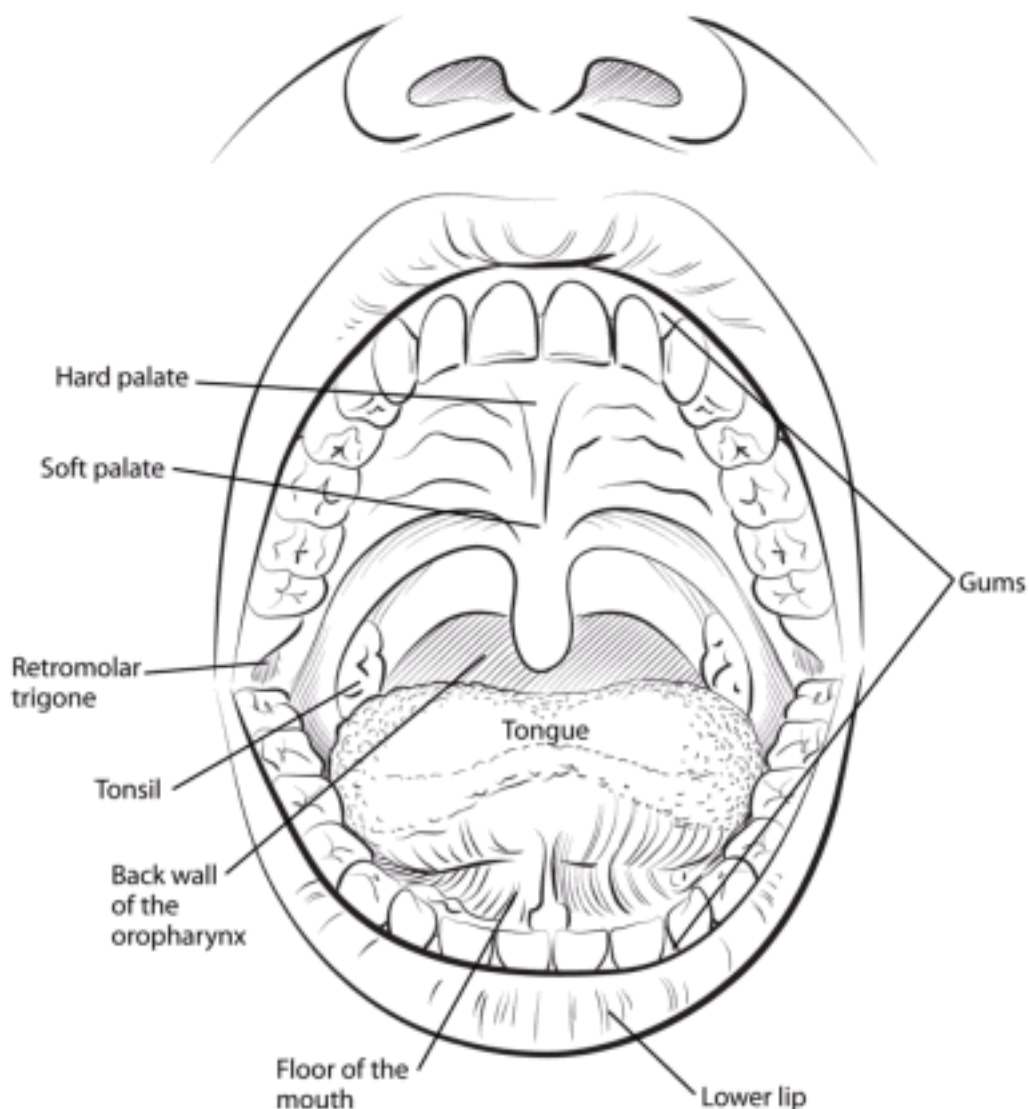
Oral cavity cancer, or just oral cancer, is cancer that starts in the mouth (also called the *oral cavity*). Oropharyngeal cancer starts in the oropharynx. This is the part of the throat just behind the mouth. Most cancers that form here are a type of cancer called *squamous cell carcinoma*. But other types of cancer, and other benign growths and tumors, can also form.

The oral cavity (mouth) and oropharynx (throat)

To understand these cancers, it helps to know the parts of the mouth and throat.

The oral cavity includes the lips, the inside lining of the lips and cheeks (*buccal mucosa*), the teeth, the gums, the front two-thirds of the tongue, the floor of the mouth below the tongue, and the bony roof of the mouth (hard palate). The area behind the wisdom teeth (called the *retromolar trigone*) can be included as a part of the oral cavity, but it's often thought of as part of the oropharynx.

The oropharynx is the part of the throat just behind the mouth. It starts where the oral cavity stops. It includes the base of the tongue (the back third of the tongue), the soft palate (the back part of the roof of the mouth), the tonsils, and the side and back walls of the throat.



The oral cavity and oropharynx help you breathe, talk, eat, chew, and swallow. Minor salivary glands throughout the oral cavity and oropharynx make saliva that keeps your mouth and throat moist and helps you digest food.

Tumors and growths in the oral cavity and oropharynx

Many types of tumors (abnormal growths of cells) can develop in the oral cavity and oropharynx. They fit into 3 general categories:

- **Benign growths** are not cancer. They do not invade other tissues and do not spread to other parts of the body.
- **Pre-cancerous conditions** are harmless growths that can turn into cancer over time.
- **Cancer** tumors are growths that can grow into nearby tissues and spread to other parts of the body.

Benign (not cancer) tumors

Many types of benign tumors and tumor-like changes can start in the mouth or throat, such as these:

- Eosinophilic granuloma
- Fibroma
- Granular cell tumor
- Keratoacanthoma
- Leiomyoma
- Osteochondroma
- Lipoma
- Schwannoma
- Neurofibroma
- Papilloma
- Condyloma acuminatum
- Verruciform xanthoma
- Pyogenic granuloma
- Rhabdomyoma
- Odontogenic tumors (tumors that start in tooth-forming tissues)

These non-cancerous tumors start from different kinds of cells and have a variety of causes. Some of them may cause problems, but they're not likely to be life-threatening. The usual treatment for these types of tumors is surgery to remove them completely since they are unlikely to recur (come back).

Leukoplakia and erythroplakia (possible pre-cancerous conditions)

Leukoplakia and erythroplakia are terms used to describe certain types of tissue changes that can be seen in the mouth or throat:

- Leukoplakia is a white or gray patch.
- Erythroplakia is a flat or slightly raised, red area that often bleeds easily if it's scraped.
- Erythroleukoplakia is a patch with both red and white areas.

Your dentist or dental hygienist may be the first person to find these white or red patches. They may be cancer, they may be a pre-cancerous condition called *dysplasia*, or they could be a relatively harmless change.

Dysplasia is graded as mild, moderate, or severe, based on how abnormal the tissue looks under the microscope. Knowing the degree of dysplasia helps predict how likely it is to progress to cancer or go away on its own or after treatment. For example, severe dysplasia is more likely to become a cancer, while mild dysplasia is more likely to go away completely.

The most common causes of leukoplakia and erythroplakia are smoking and chewing tobacco. Poorly fitting dentures that rub against the tongue or the inside of the cheeks can also cause these changes. But sometimes, there's no clear cause. Dysplasia will often go away if the cause is removed.

A biopsy is the only way to know for certain if an area of leukoplakia or erythroplakia contains dysplastic (pre-cancerous) cells or cancer cells. (See [Tests for Oral Cavity and Oropharyngeal Cancers²](#).) But other tests may be used first to help determine if they might be cancers (and will need a biopsy) or to choose the best area to sample for a biopsy. These tests are described in [Can Oral Cavity and Oropharyngeal Cancers Be Found Early?³](#)

Most cases of leukoplakia do not turn into cancer. But some leukoplakias are either cancer when first found or have pre-cancerous changes that can progress to cancer if not properly treated.

Erythroplakia and erythroleukoplakia are less common, but are usually more serious. Most of these red lesions turn out to be cancer when they are biopsied or will develop into cancer later.

Still, it's important to note that most oral cancers do not develop from pre-existing lesions (either leukoplakia or erythroplakia).

Oral cavity and oropharyngeal cancers

The different parts of the oral cavity and oropharynx are made up of many types of cells.

Different cancers can start in each type of cell. These differences are important, because they can impact a person's treatment options and prognosis (outlook).

Squamous cell carcinomas

Almost all (more than 90%) of the cancers in the oral cavity and oropharynx are squamous cell carcinomas, also called *squamous cell cancers*. These cancers start in early forms of squamous cells, which are flat, scale-like cells that form the lining of the mouth and throat.

The earliest form of squamous cell cancer is called *carcinoma in situ*. This means that the cancer cells are only in the layer of cells called the *epithelium*. This is different from invasive squamous cell carcinoma, where the cancer cells have grown into deeper layers of the oral cavity or oropharynx.

Verrucous carcinoma is a type of squamous cell carcinoma that makes up less than 5% of all oral cancers. It's a low-grade (slow growing) cancer that rarely spreads to other parts of the body, but it can grow deeply into nearby tissue.

If not treated, areas of ordinary squamous cell cancer may develop inside some verrucous carcinomas. And some verrucous carcinomas may already have areas of ordinary squamous cell cancer in them that aren't seen in the biopsy sample. Cells from these areas of squamous cell carcinoma may then spread to other parts of the body.

For all of these reasons, verrucous carcinomas should be removed right away, along with a wide margin (edge) of surrounding normal tissue.

Other types of cancer in the oral cavity and oropharynx

Minor salivary gland carcinomas: these cancers can start in the glands in the lining of the mouth and throat. There are many types of minor salivary gland cancers, including adenoid cystic carcinoma, mucoepidermoid carcinoma, and polymorphous low-grade adenocarcinoma. To learn more about these cancers, as well as benign salivary gland tumors, see [Salivary Gland Cancer](#)⁴.

Lymphomas: the tonsils and base of the tongue contain immune system (lymphoid) tissue, where cancers called *lymphomas* can start. For more information about these cancers, see [Non-Hodgkin Lymphoma](#)⁵, [Non-Hodgkin Lymphoma in Children](#)⁶, and [Hodgkin Disease](#)⁷.

Cancers in other parts of the throat

Cancers can also start in other parts of the throat, but these cancers aren't covered here:

- Cancers of the nasopharynx (the part of the throat behind the nose and above the oropharynx) are covered in [Nasopharyngeal Cancer](#)⁸.
- Cancers that start in the larynx (voice box) or the hypopharynx (the part of the throat below the oropharynx) are covered in [Laryngeal & Hypopharyngeal Cancer](#)⁹.

Hyperlinks

1. www.cancer.org/cancer/cancer-basics/what-is-cancer.html
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Key Statistics for Oral Cavity and Oropharyngeal Cancers

The American Cancer Society's most recent estimates for oral cavity and oropharyngeal cancers in the United States for 2019 are:

- About 53,000 people will get oral cavity or oropharyngeal cancer.
- An estimated 10,860 people will die of these cancers.

These cancers are more than twice as common in men as in women. They are about equally common in blacks and in whites.

In recent years, the overall rate of new cases of [human papillomavirus \(HPV\)](#)¹-negative oral cavity and oropharyngeal cancers has been dropping. But there's been an ongoing rise in cases of oropharyngeal cancer linked to HPV infection in both men and women.

The death rate for these cancers has been decreasing over the last 30 years.

Oral cavity and oropharyngeal cancers occur most often in the following sites:

- The tongue
- The tonsils and oropharynx
- The gums, floor of the mouth, and other parts of the mouth

The rest are found in the lips, the minor salivary glands (which often occur in the roof of the mouth), and other sites.

The average age of most people diagnosed with these cancers is 62, but they can occur in young people. They are rare in children, but a little more than one-quarter occur in patients younger than 55.

The rates of these cancers vary among countries. For example, they are much more common in Hungary and France than in the United States and much less common in Mexico and Japan.

When patients newly diagnosed with oral and oropharyngeal cancers are carefully examined, a small portion will have another cancer in a nearby area such as the [larynx](#)² (voice box), the [esophagus](#)³ (the tube that carries food from the throat to the stomach),

or the [lung](#)⁴. Some who are cured of oral or oropharyngeal cancer will develop another cancer later in the lung, mouth, throat, or other nearby areas. For this reason, people with oral and oropharyngeal cancer will need to have follow-up exams for the rest of their lives. They also need to avoid using [tobacco](#)⁵ and [alcohol](#)⁶, which increase the risk for these second cancers.

For statistics related to survival, see [Survival Rates for Oral Cavity and Oropharyngeal Cancer by Stage](#)⁷.

Visit the [American Cancer Society's Cancer Statistics Center](#)⁸ for more key statistics.

Hyperlinks

1. www.cancer.org/cancer/cancer-causes/infectious-agents/hpv.html
2. www.cancer.org/cancer/laryngeal-and-hypopharyngeal-cancer.html
3. www.cancer.org/cancer/esophagus-cancer.html
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What's New in Oral Cavity and Oropharyngeal Cancer Research?

Research on oral and oropharyngeal cancers is taking place in many university hospitals, medical centers, and other institutions around the world. Each year, scientists find out more about what causes these diseases, how to prevent them, and how to better treat them. Most experts agree that treatment in a [clinical trial](#)¹ should be considered for any type or stage of cancer in the head and neck areas. This way people can get the best treatment available now and may also get the new treatments that are thought to be even better. The new and promising treatments discussed here are only available in clinical trials.

DNA changes

A great deal of research is being done to learn about the DNA changes that cause the cells in the oral cavity and oropharynx to become cancer.

One of the changes often found in DNA of oral cancer cells is a mutation of the *TP53* gene. The protein produced by this [gene](#)² (called p53) normally helps keep cells from growing too much and helps to destroy cells that are too damaged to be fixed. Changes in the *TP53* gene can lead to increased growth of abnormal cells and cancer.

Some studies suggest that tests to find these gene changes might help find oral and oropharyngeal cancers early. These tests may also be used to better find cancer cells that might have been left behind after [surgery](#)³ and to determine which tumors are most likely to respond to [chemo](#)⁴ or [radiation therapy](#)⁵. The use of p53 gene therapy as a treatment for these cancers is also being studied in [early phase clinical trials](#)⁶.

Discoveries about how changes in the DNA of cells in the mouth and throat cause these cells to become cancer are also being applied to experimental treatments intended to reverse these changes. [Another type of gene therapy](#)⁷ boosts the immune system so it can better find and kill cancer cells. These forms of treatment are still in very early stages of study, so it will be several years before we know if any of them are effective.

Prevention

Some studies are looking at drugs that might help [prevent oral cavity and oropharyngeal cancers](#)⁸ in people at high [risk](#)⁹ for them, such as those with [pre-cancerous conditions](#) or a history of one of these cancers. Erlotinib (Tarceva[®]), a drug that keeps the

epidermal growth factor receptor (EGFR) from signaling cells to grow, is one drug being tested. Metformin, a drug already used to treat diabetes, is also under study. This drug may help keep pre-cancerous changes from turning into cancers.

Several other types of drugs are now being tested to help prevent these cancers. Some early research has found that certain extracts of black raspberries might even help prevent these cancers. All of these drugs and compounds need further study.

Treatment

Oral cavity and oropharyngeal cancers that are linked with [HPV](#)¹⁰ tend to have a better outcome than those that are HPV negative (HPV-). Clinical trials are starting to look at these HPV+ and HPV- cancers separately. For instance, studies are being done to see if HPV+ cancers can be treated with less chemo and radiation without reducing survival. Researchers are also working on treatments aimed at HPV infections or that target HPV-infected cancer cells. Studies are also looking for better ways to treat HPV-cancers, too, as well as the best ways to use the treatments we already have.

A great deal of research is focusing on improving results from [chemotherapy](#)¹¹ (chemo) for people with these cancers. This includes figuring out which combinations of drugs work best and determining how best to use these drugs along with other forms of treatment. Researchers also continue to develop new chemo drugs that might be more effective against advanced oral and oropharyngeal cancers. They're also looking at whether drugs approved to treat other kinds of cancer might work for these cancers.

Doctors are always looking at newer ways of focusing [radiation](#)¹² on tumors more precisely to help them get more radiation to the tumor while limiting side effects to nearby areas. This is especially important for head and neck tumors like oral cavity and oropharyngeal cancers, where there are often many important structures very close to the tumor.

Clinical trials are studying [targeted therapies](#)¹³ that might block the action of substances (such as growth factors and growth factor receptors) that cause head and neck cancers to grow and spread. Drugs that target the epidermal growth factor receptor (EGFR) may help treat oral and oropharyngeal cancers. For example, the drug erlotinib (Tarceva[®]) has shown promising results in early phase trials. Drugs that block the growth of blood vessels tumors need to survive, such as bevacizumab (Avastin[®]), are now being studied for use against these cancers as well.

[PDT or photodynamic therapy](#)¹⁴ involves using a drug that the cancer cells absorb. The drug is then exposed to a special light which "turns it on" so it kills the cancer cells. This

treatment has been used since the 1980s, but there's been a renewed research interest in how it might be used to treat oral and oropharyngeal cancers. PDT is less damaging than surgery, and because there are many important structures very close to these tumors, it might be useful in early stage cancers and those that come back (recur) after treatment.

Hyperlinks

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Written by

The American Cancer Society medical and editorial content team
(www.cancer.org/cancer/acs-medical-content-and-news-staff.html)

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Oral Cavity and Oropharyngeal Cancer Causes, Risk Factors, and Prevention

Risk Factors

A risk factor is anything that affects your chance of getting a disease such as cancer. Learn more about the risk factors for oral cavity and oropharyngeal cancer.

- [Risk Factors for Oral Cavity and Oropharyngeal Cancers](#)
- [What Causes Oral Cavity and Oropharyngeal Cancers?](#)

Prevention

There's no way to prevent all oral cavity and oropharyngeal cancers. But there are things you can do that might help lower your risk. Learn more here.

- [Can Oral Cavity and Oropharyngeal Cancers Be Prevented?](#)

Risk Factors for Oral Cavity and Oropharyngeal Cancers

A risk factor is anything that changes a person's chance of getting a disease such as cancer. Different cancers have different risk factors. For example, exposing skin to strong sunlight is a risk factor for skin cancer. Smoking is a risk factor for many cancers.

There are different kinds of risk factors. Some, such as your age or race, can't be changed. Others may be related to personal choices such as smoking, drinking, or diet. Some factors influence risk more than others. But risk factors don't tell us everything. Having a risk factor, or even many, does not mean that a person will get the disease. Not having any risk factors doesn't mean that you won't get it, either.

Some people who have oral cavity or oropharyngeal cancer have few or no known risk factors, and others who have risk factors never develop the disease. Even if someone does have risk factors, it's impossible to know for sure how much they contributed to causing the cancer.

Tobacco and alcohol

Tobacco and alcohol use are 2 of the strongest risk factors for oral cavity and oropharyngeal cancers.

Tobacco use

Most people with oral cavity and oropharyngeal cancers use [tobacco](#)¹, and the risk of developing these cancers is related to how much and how long they smoked or chewed.

Smokers are many times more likely than non-smokers to develop these cancers. Tobacco smoke from cigarettes, cigars, or pipes can cause cancers anywhere in the mouth or throat. It can also cause cancers of the larynx (voice box), lungs, esophagus (swallowing tube), kidneys, bladder, and many other organs.

Pipe smoking is linked to a very high risk for cancer in the part of the lips that touch the pipe stem.

It's important for smokers who have been treated for oral cavity or oropharyngeal cancer to quit smoking, even if their cancer seems to be cured. Continuing to smoke greatly increases their risk of developing a [second cancer](#)² in the mouth, throat, larynx (voice box), or lung.

[Oral tobacco products](#)³ (snuff, dip, spit, chew, or dissolvable tobacco) are linked with cancers of the cheek, gums, and inner surface of the lips. Using oral tobacco products for a long time is linked to a very high risk. These products also cause gum disease, destruction of the bone sockets around teeth, and tooth loss. It's also important for people who have been treated for oral cavity or oropharyngeal cancer to give up all oral tobacco products.

Please call us for help quitting tobacco or see [How to Quit Smoking or Smokeless Tobacco](#)⁴ for more information.

Drinking alcohol

Drinking alcohol increases the risk of developing oral cavity and oropharyngeal cancers. About 7 out of 10 patients with oral cancer are heavy drinkers.

Drinking and smoking together

The risk of these cancers is even higher in people who both smoke and drink alcohol, with the highest risk in heavy smokers and drinkers. According to some studies, the risk of these cancers in heavy drinkers and smokers may be as much as 100 times higher than the risk in people who don't smoke or drink.

Betel quid and gutka

In Southeast Asia, South Asia, and certain other areas of the world, many people chew betel quid, which is made up of areca nut (betel nut), spices, lime, and other ingredients. Many people in these areas also chew gutka, a mixture of betel quid and tobacco. People who chew betel quid or gutka have an increased risk of cancer of the mouth.

Human papillomavirus (HPV) infection

Human papillomavirus (HPV) is a group of more than 150 types of viruses. They're called *papillomaviruses* because some of them cause a type of growth called a papilloma. Papillomas are not cancers, and are more commonly called *warts*.

HPV types are given numbers. Infection with certain types of HPV can cause some forms of cancer, including cancers of the penis, cervix, vulva, vagina, anus, mouth, and throat. The type linked to throat cancer (including cancer of the oropharynx) is HPV16.

Most people with HPV infections of the mouth and throat have no symptoms, and only a very small percentage develop oropharyngeal cancer. At this time the US Food and Drug Administration has not approved a test for HPV infection of the mouth and throat.

The number of oropharyngeal cancers linked to HPV has risen dramatically over the past few decades. And research has shown that these cancers are becoming more common in younger people with no history of alcohol abuse or tobacco use than they were in the past. HPV DNA (a sign of HPV infection) is found in about 2 out of 3

oropharyngeal cancers and in a much smaller fraction of oral cavity cancers. The reason for the rising rate of HPV-linked cancers is unclear, although some think that it could be because of changes in sexual practices in recent decades, in particular an increase in oral sex.

See [HPV \(human papillomavirus\)](#)⁵ to learn more about HPV and HPV prevention.

Gender

Oral and oropharyngeal cancers are twice as common in men than in women. This might be because men have been more likely to use tobacco and alcohol in the past.

Age

Cancers of the oral cavity and oropharynx usually take many years to develop, so they're not common in young people. Most patients with these cancers are older than 55 when the cancers are first found. But this may change as HPV-linked cancers become more common.

Ultraviolet (UV) light

Sunlight is the main source of UV light for most people. Cancers of the lip are more common in people who have outdoor jobs where they are exposed to sunlight for long periods of time.

Poor nutrition

Several studies have found that a diet low in fruits and vegetables is linked with an increased risk of cancers of the oral cavity and oropharynx.

Weakened immune system

Oral cavity and oropharyngeal cancers are more common in people who have a weak immune system. A weak immune system can be caused by certain diseases present at birth, the acquired immunodeficiency syndrome (AIDS), and certain medicines (such as those given after organ transplants).

Graft-versus-host disease

Graft-versus-host disease (GVHD) is a condition that sometimes occurs after a [stem cell transplant](#)⁶. During this medical procedure, blood stem cells from a donor are used to replace bone marrow that has been destroyed by disease, chemotherapy, or radiation. GVHD occurs when the donor stem cells recognize the patient's cells as foreign and launch an attack against them. GVHD can affect many tissues of the body, including those in the mouth. This increases the risk of oral cancer, which can occur as early as 2 years after GVHD.

Genetic syndromes

People with certain syndromes caused by [inherited defects \(mutations\) in certain genes](#)⁷ have a very high risk of mouth and throat cancer.

- **Fanconi anemia** is a condition that can be caused by inherited defects in several genes that help repair DNA. People with this syndrome often have blood problems at an early age, which may lead to leukemia or aplastic anemia. They also have a very high risk of cancer of the mouth and throat.
- **Dyskeratosis congenita** is a genetic syndrome that can cause aplastic anemia, skin rashes, and abnormal fingernails and toenails. People with this syndrome also have a very high risk of developing cancer of the mouth and throat at a young age.

Lichen planus

This disease occurs mainly in middle-aged people. Most often it affects the skin (usually as an itchy rash), but it sometimes affects the lining of the mouth and throat, appearing as small white lines or spots. A severe case may slightly increase the risk of oral cancer.

Unproven or controversial risk factors

Mouthwash

Some studies have suggested that mouthwash with a high alcohol content might be linked to a higher risk of oral and oropharyngeal cancers. But recent research has questioned these results. Studying this possible link is complicated by the fact that smokers and frequent drinkers (who already have an increased risk of these cancers) are more likely to use mouthwash than people who neither smoke nor drink.

Irritation from dentures

It's been suggested that long-term irritation of the lining of the mouth caused by poorly fitting dentures is a risk factor for oral cancer. But many studies have found no increased risk in denture wearers overall.

Poorly fitting dentures can tend to trap agents that have been proven to cause oral cancer, such as alcohol and tobacco particles, so denture wearers should have them checked by a dentist regularly to ensure a good fit. All denture wearers should remove their dentures at night and clean and rinse them thoroughly every day.

Oral health

Studies have suggested the the overall health of the mouth, teeth, and gums may impact oral cavity and oropharyngeal cancer risk because of changes in the normal bacteria in the mouth. Poor oral hygiene, which can lead to tooth loss, may also be linked to these cancers. Overall survival may also be affected. More research is needed, but regular dental visits, as well as brushing and flossing, may lessen these risks and have many other health benefits, too.

Hyperlinks

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What Causes Oral Cavity and Oropharyngeal Cancers?

Doctors and scientists can't say for sure what causes each case of [oral cavity or oropharyngeal cancer](#)¹. But they do know many of the [risk factors](#) and how some of them may lead to cells becoming cancerous.

Scientists believe that some risk factors, such as tobacco or heavy alcohol use, may cause these cancers by damaging the DNA of cells that line the inside of the mouth and throat.

DNA is the chemical in each of our cells that makes up our [genes](#)² — the instructions for how our cells function. We usually look like our parents because they are the source of our DNA. However, DNA affects more than how we look. Some genes called [proto-oncogenes](#)³ can help control when cells grow and divide. DNA changes can change these into genes that promote cell division that are called *oncogenes*. Some genes that slow down cell division or make cells die at the right time and are called *tumor suppressor genes*. DNA changes can turn off tumor suppressor genes, and lead to cells growing out of control. Cancers can be caused by DNA changes that create oncogenes or turn off tumor suppressor genes.

When tobacco and alcohol damage the cells lining the mouth and throat, the cells in this layer must grow more rapidly to repair this damage. The more often cells need to divide, the more chances there are for them to make mistakes when copying their DNA, which may increase their chances of becoming cancer.

Many of the chemicals found in tobacco can damage DNA directly. Scientists are not sure whether alcohol directly damages DNA, but they have shown that alcohol helps many DNA-damaging chemicals get into cells more easily. This may be why the combination of tobacco and alcohol damages DNA far more than tobacco alone.

This damage can cause certain genes (for example, those in charge of starting or stopping cell growth) to malfunction. Abnormal cells can begin to build up, forming a tumor. With additional damage, the cells may begin to spread into nearby tissue and to distant organs.

In [human papillomavirus](#)⁴ (HPV) infections, the virus causes cells to make 2 proteins known as E6 and E7. When these are made, they turn off some genes that normally help keep cell growth in check. Uncontrolled cell growth may in some cases lead to cancer. When HPV DNA is found in the tumor cells, especially in non-smokers who

drink little or no alcohol, HPV is thought to be the likely cause of the cancer.

Some people inherit DNA mutations (changes) from their parents that increase their risk for developing certain cancers. But [inherited oncogene or tumor suppressor gene mutations](#)⁵ are not believed to cause very many cancers of the oral cavity or oropharynx.

Some oral cavity and oropharyngeal cancers have no clear cause. Some of these cancers may be linked to other, as of yet unknown risk factors. Others may have no external cause — they may just occur because of random DNA changes (mutations) inside a cell.

Hyperlinks

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2. www.cancer.org/cancer/cancer-causes/genetics/genes-and-cancer/what-are-genes.html
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Can Oral Cavity and Oropharyngeal Cancers Be Prevented?

Avoid risk factors

Not all cases of [oral cavity and oropharyngeal cancer](#)¹ can be prevented, but the risk of developing these cancers can be greatly reduced by avoiding certain [risk factors](#).

Limit smoking and drinking

Tobacco and alcohol are among the most important risk factors for these cancers. Not starting to smoke is the best way to limit the risk of getting these cancers. [Quitting tobacco](#)² also greatly lowers your risk of developing these cancers, even after many years of use. The same is true of heavy drinking. Limit how much alcohol you drink, if you drink at all.

Avoid HPV infection

The risk of infection of the mouth and throat with the [human papillomavirus](#)³ (HPV) is increased in those who have oral sex and multiple sex partners. But HPV is very common and rarely causes symptoms, so having sex with even one other person can put you at risk.

These infections are also more common in smokers, which may be because the smoke damages their immune system or the cells that line the oral cavity.

Although HPV infection is linked to most cases of oropharyngeal cancer, most people with HPV infections of the mouth and throat do not go on to develop this cancer.

In recent years, [vaccines that reduce the risk of infection with certain types of HPV](#)⁴ have become available. These vaccines were originally meant to lower the risk of [cervical cancer](#)⁵, but they have been shown to lower the risk of other cancers linked to HPV as well, such as cancers of the penis, anus, vulva, and vagina. HPV vaccination also likely lowers the risk of mouth and throat cancers, but this has not yet been proven.

Since these vaccines are only effective if given before someone is infected with HPV, they're given when a person is young, before they're likely to become sexually active.

See our [HPV information](#)⁶ to learn more.

Limit exposure to ultraviolet (UV) light

[Ultraviolet radiation](#)⁷ is an important and avoidable risk factor for cancer of the lips, as well as for [skin cancer](#)⁸. If possible, limit the time you spend outdoors during the middle of the day, when the sun's UV rays are strongest. If you are out in the sun, wear a wide-brimmed hat and use sunscreen and lip balm with a sun protection factor (SPF) of at least 30.

Eat a healthy diet

A poor diet has been linked to oral cavity and oropharyngeal cancers, although it's not

exactly clear what substances in healthy foods might be responsible for reducing the risk of these cancers.

In general, eating a healthy diet is much better than adding vitamin supplements to an otherwise unhealthy diet. The American Cancer Society recommends a healthy diet that emphasizes 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. See the [American Cancer Society Guidelines on Nutrition and Physical Activity for Cancer Prevention](#)⁹ for our full guidelines.

Wear properly fitted dentures

Avoiding sources of oral irritation (such as dentures that don't fit properly) may help lower your risk for oral cancer.

Treat pre-cancerous growths

Areas of [leukoplakia or erythroplakia](#)¹⁰ in the mouth sometimes progress to cancer. Doctors often remove these areas, especially if a biopsy shows they contain areas of dysplasia (abnormal growth) when looked at under a microscope.

But removing areas of leukoplakia or erythroplakia doesn't always keep someone from getting oral cavity cancer. Studies have found that even when these areas are completely removed, people with certain types of erythroplakia and leukoplakia still have a higher chance of developing a cancer in some other area of their mouth.

This may be because the whole lining of the mouth has probably been exposed to the same cancer-causing agents that led to these pre-cancers (like tobacco). This means that the entire area may already have early changes that can lead to cancer. This concept is called *field cancerization*.

It's important for people who have had these areas removed to continue having check-ups to look for cancer and new areas of leukoplakia or erythroplakia.

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Written by

The American Cancer Society medical and editorial content team
(www.cancer.org/cancer/acs-medical-content-and-news-staff.html)

Our team is made up of doctors and oncology certified nurses with deep knowledge of cancer care as well as journalists, editors, and translators with extensive experience in medical writing.

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Oral Cavity and Oropharyngeal Cancer Early Detection, Diagnosis, and Staging

Detection and Diagnosis

Finding cancer early, when it's small and hasn't spread, often allows for more treatment options. Some early cancers may have signs and symptoms that can be noticed, but that's not always the case.

- [Can Oral Cavity and Oropharyngeal Cancers Be Found Early?](#)
- [Signs and Symptoms of Oral Cavity and Oropharyngeal Cancer](#)
- [Tests for Oral Cavity and Oropharyngeal Cancers](#)

Stages and Outlook (Prognosis)

After a cancer diagnosis, staging provides important information about the extent of cancer in the body and anticipated response to treatment.

- [Oral Cavity and Oropharyngeal Cancer Stages](#)
- [Survival Rates for Oral Cavity and Oropharyngeal Cancer](#)

Questions to Ask Your Cancer Care Team

Here are some questions you can ask your cancer care team to help you better understand your cancer diagnosis and treatment options.

- [What Should You Ask Your Doctor About Oral Cavity and Oropharyngeal Cancers?](#)
-

Can Oral Cavity and Oropharyngeal Cancers Be Found Early?

There's no routine screening test or plan for oral cavity and oropharyngeal cancers. Still, many pre-cancers and cancers in these areas can be found early (when they're small) during routine screening exams by a dentist, doctor, dental hygienist, or by self-exam.

Some early cancers have [symptoms](#) that cause people to seek medical or dental attention. But a lot of these cancers don't cause symptoms until they've grown or spread to other tissues. Or, they may cause symptoms much like those caused by problems other than cancer, such as a toothache or ear pain.

Some dentists and doctors recommend that you look at your mouth in a mirror every month to check for any changes, like white patches, sores, or lumps. This is very important if you use or have used tobacco, and/or if you routinely drink alcohol, as these put you at much higher [risk for these cancers](#)¹.

Regular dental check-ups that include an exam of the entire mouth are important in finding oral and oropharyngeal cancers (and pre-cancers) early.

Along with a clinical exam of the mouth and throat, some dentists and doctors may use special dyes and/or lights to look for abnormal areas, especially if you are at higher risk for these cancers. If an abnormal area is spotted, tests may also be used to help decide if they might be cancers (and need to be biopsied) or to choose the best spot to take tissue from for a biopsy. (See [Tests for Oral Cavity and Oropharyngeal Cancers](#) to learn more about biopsies.) Here are some of the tests most often used:

- One method uses a dye called *toluidine blue*. If the dye is spread over an abnormal area, it will turn blue.
- Another method uses laser light. When the light is reflected off abnormal tissue, it looks different from the light reflected off normal tissue.
- Another system uses a special light to look at the changed area after the mouth has been rinsed with a solution of acetic acid (the acid in vinegar).
- If an abnormal area is found, sometimes it can be tested by exfoliative cytology. To do this, the change tissue is scraped with a stiff brush (brush biopsy). The cells from the scraping are sent to a lab where they're checked under the microscope to see if there are pre-cancer or cancer cells.

Hyperlinks

1. www.cancer.org/cancer/oral-cavity-and-oropharyngeal-cancer/causes-risks-prevention/risk-factors.html

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Signs and Symptoms of Oral Cavity and Oropharyngeal Cancer

Possible signs and symptoms of oral cavity and oropharyngeal cancers include:

- A sore in the mouth that doesn't heal (the most common symptom)
- Pain in the mouth that doesn't go away (also very common)
- A lump or thickening in the cheek
- A white or red patch on the gums, tongue, tonsil, or lining of the mouth
- A sore throat or a feeling that something is caught in the throat that doesn't go away
- Trouble chewing or swallowing
- Trouble moving the jaw or tongue
- Numbness of the tongue or other area of the mouth
- Swelling of the jaw that causes dentures to fit poorly or become uncomfortable

- Loosening of the teeth or pain around the teeth or jaw
- Voice changes
- A lump or mass in the neck
- Weight loss
- Constant bad breath

Many of these signs and symptoms can also be caused by things other than cancer, or even by other cancers. Still, it's very important to see a doctor or dentist if any of these conditions lasts more than 2 weeks so that the cause can be found and treated, if needed.

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Tests for Oral Cavity and Oropharyngeal Cancers

A doctor or dentist may find some oral cavity and oropharyngeal cancers or pre-cancers during a routine exam, but many of these cancers are found because of [signs or symptoms](#) a person is having. A dentist or doctor should examine the problem area. Then, if cancer is suspected, tests will be needed.

Exams by a doctor

Medical history and physical exam

As a first step, the doctor will ask you questions about symptoms, [possible risk factors](#)¹, and any other medical problems you may have.

The doctor will examine you to look for possible signs of mouth or throat cancer or pre-cancer. These could be bumps or other changed areas on your head, face or neck, or problems with the nerves of the face and mouth. The doctor will look at the entire inside of your mouth, and might feel around in it with a gloved finger. Other tests may be used to look for changed areas in your mouth or throat, or to get a better sense of what an abnormal area might be. Some of these tests are described in [Can Oral Cavity and Oropharyngeal Cancers Be Found Early?](#)

Complete head and neck exam

If there is a reason to think you might have cancer, your doctor will refer you to a doctor who specializes in these cancers, such as an oral and maxillofacial surgeon or a head and neck surgeon (also known as an ear, nose, and throat [ENT] doctor or an otolaryngologist). This specialist will most likely do a complete head and neck exam, as well as other exams and tests.

During a complete head and neck exam, the specialist will pay special attention to the head and neck area, being sure to look and feel for any abnormal areas. This exam will include the [lymph nodes](#)² in your neck, which will be felt carefully for any signs of cancer.

Because the oropharynx is part of the throat deep inside the neck, some parts are not easy to see. The doctor may use mirrors or special fiber-optic scopes to look at these areas. Both of these exams can be done in the doctor's office. For either of them, the doctor may first spray the back of your throat with numbing medicine to help make the exam easier.

- **Indirect pharyngoscopy and laryngoscopy:** To do this, the doctor uses small mirrors on long, thin handles to look at your throat, the base of your tongue, and part of the larynx (voice box).
- **Direct (flexible) pharyngoscopy and laryngoscopy:** For this exam, the doctor puts a flexible fiber-optic scope (called an [endoscope](#)³) in through your mouth or nose to look at areas that can't easily be seen with mirrors, such as the region behind the nose (nasopharynx) and the larynx (voice box), or to get a clearer look at areas of change that were seen with the mirrors.

Panendoscopy

During a [panendoscopy](#)⁴, the doctor uses different types of endoscopes passed down the mouth or nose to do a laryngoscopy, esophagoscopy, and (at times) bronchoscopy. This lets the doctor thoroughly examine the oral cavity, oropharynx, larynx (voice box), esophagus (tube leading to the stomach), and the trachea (windpipe) and bronchi (breathing passageways in the lungs).

This exam is usually done in an operating room while you are under general anesthesia (drugs that put you into a deep sleep). The doctor uses a laryngoscope to look for tumors in the throat and voice box. Other parts of your mouth, nose, and throat are examined, too. If a tumor is found that's large or seems likely to have spread, the doctor may also use an esophagoscope to look into the esophagus or a bronchoscope to look into the trachea and bronchi.

Your doctor will look at these areas through the scopes to find any tumors, see how big they are, and see how far they may have spread to nearby areas. A small piece of tissue from any tumors or other abnormal areas may be taken out (biopsied) to be looked at under a microscope to see if they contain cancer. Biopsies can be done with special tools that are used through the scopes.

Biopsy

In a [biopsy](#)⁵, the doctor removes a small piece of tissue, called a sample, to be looked at under a microscope. A biopsy is the only way to know for sure that oral cavity or oropharyngeal cancer is present. A sample of tissue or cells is always needed to confirm a cancer diagnosis before treatment is started. Several types of biopsies may be used, depending on each case.

Exfoliative cytology

To do this, the doctor scrapes the changed area and smears the collected tissue onto a glass slide. The sample is then stained with a dye so the cells can be seen under the microscope. If any of the cells look abnormal, the area can then be biopsied.

The advantage of this test is that it's easy, and even only slightly abnormal-looking areas can be checked. This can lead to an earlier diagnosis and a greater chance of cure if there is cancer. But this method doesn't show all cancers. And sometimes it's not possible to tell the difference between cancer cells and abnormal cells that aren't cancer (dysplasia), so a biopsy would still be needed.

Incisional biopsy

For this type of biopsy, the doctor cuts a small piece of tissue from the area that looks abnormal. This is the most common type of biopsy used to check changes in the mouth or throat.

The biopsy can be done either in the doctor's office or in the operating room, depending on where the tumor is and how easy it is to get a good tissue sample. If it can be done in the doctor's office, the area around the tumor will be numbed before the biopsy is done. If the tumor is deep inside the mouth or throat, the biopsy might be done in the operating room while you are under general anesthesia (in a deep sleep). The surgeon uses special instruments through an [endoscope](#)⁶ to take out small tissue samples.

Fine needle aspiration (FNA) biopsy

For this test, the doctor uses a very thin, hollow needle attached to a syringe to pull out (aspirate) some cells from a tumor or lump. These cells are then looked at under a microscope to see if cancer is present.

[FNA biopsy](#)⁷ is not used to sample abnormal areas in the mouth or throat, but it's sometimes used for a neck lump (mass) that can be felt or seen on a CT scan. FNA can be helpful in several situations, such as:

- **Finding the cause of a new neck mass:** An FNA biopsy is sometimes used as the first test for someone with a newly found neck lump. It may show that the lump is a benign (not cancer) [lymph node](#)⁸ that has grown because of a nearby infection, such as a sinus or tooth infection. In this case, treatment of the infection is all that's needed. Or the FNA may find a benign, fluid-filled cyst that can be cured by surgery. But even when the FNA results are benign, if symptoms suggest cancer, more tests (such as pharyngoscopy and panendoscopy) are needed. If the FNA finds cancer, the doctor looking at the sample can usually tell what type of cancer it is. If the cells look like a squamous cell cancer, more exams will be done to search for the source of the cancer in the mouth and throat. If the FNA shows a different type of cancer, such as [lymphoma](#)⁹ or a cancer that has spread to a lymph node in the neck from another organ (like the [thyroid](#)¹⁰, [stomach](#)¹¹, or [lungs](#)¹²) more tests will be done to find it, and treatment for that type of cancer will be given.
- **Learning the extent of a known cancer:** FNA is often done after oral or oropharyngeal cancer has been diagnosed to find out if the cancer has spread to [lymph nodes](#)¹³ in the neck. This information will help the doctor decide the best treatment for the cancer.

- **Seeing if cancer has come back after treatment:** FNA may be used for people whose cancer has been treated by [surgery](#)¹⁴ and/or [radiation therapy](#)¹⁵, to find out if a new neck mass in the treated area is scar tissue or cancer that has come back.

Lab tests of biopsy samples

All biopsy samples are sent to a lab to be checked under a microscope by a pathologist, a doctor who is specially trained to diagnose cancer with lab tests. The doctor can usually tell cancer cells from normal cells, as well as what type of cancer it is, by the way the cells look. In some cases, the doctor may need to coat the cells with special stains to help tell what type of cancer it is.

HPV testing

For cancers of the throat, doctors have the biopsy samples tested to see if [HPV](#)¹⁶ infection is present. This is a key part of [staging](#) (finding out the extent of the cancer) and is considered when making [treatment](#)¹⁷ decisions. This information can also help the doctor predict the probable course of the cancer, because people whose cancers are linked to HPV tend to do better than those whose cancers are not.

Imaging tests

Imaging tests use x-rays, magnetic fields, or radioactive substances to create pictures of the inside of your body. Imaging tests are not used to diagnose oral cavity or oropharyngeal cancers, but they may be done for a number of reasons both before and after a cancer diagnosis, including:

- To help look for a tumor if one is suspected
- To learn how far cancer may have spread
- To find out if treatment is working
- To look for possible signs that the cancer has come back (recurred) after treatment

Chest x-ray

After diagnosis, an [x-ray](#)¹⁸ of your chest may be done to see if the cancer has spread to your lungs.

Computed tomography (CT)

A [CT scan](#)¹⁹ uses x-rays to make detailed, cross-sectional images of your body. Unlike a regular x-ray, a CT scan creates detailed images of the soft tissues and organs in the body. It can help your doctor see the size and location of a tumor, if it's growing into nearby tissues, and if it has spread to lymph nodes in the neck. The test also may be done to look for spread of cancer to the lungs.

Magnetic resonance imaging (MRI)

Like CT scans, [MRI scans](#)²⁰ show detailed images of soft tissues in the body. But MRI scans use radio waves and strong magnets instead of x-rays. Because it provides a very detailed picture, an MRI scan may be done to look for spread of the cancer in the neck. These scans can also be very useful in looking at other areas of the body, too, especially the brain and spinal cord.

Positron emission tomography (PET)

For a [PET scan](#)²¹, a form of radioactive sugar is put into the blood. Cancer cells use sugar at a higher rate than normal cells, so they will absorb more of the radioactive sugar. After about an hour, you will be moved onto a table in the PET scanner. A special camera is used to create pictures of areas of radioactivity in your body. The picture is not finely detailed like a CT or MRI scan, but it provides helpful information about your whole body.

If you have already been diagnosed with cancer, your doctor might use this test to see if the cancer has spread to lymph nodes or other parts of the body. A PET scan can also be useful if your doctor thinks the cancer may have spread but doesn't know where.

A PET scan is often combined with a CT scan using a machine that can perform both scans at the same time (PET/CT scan). This lets the doctor compare areas of higher radioactivity on the PET with the more detailed appearance of that area on the CT.

Barium swallow

A [barium swallow](#)²² can be used to see the lining of the upper part of the digestive system, especially the esophagus (the tube that connects the throat to the stomach). In this test, you drink a chalky liquid called *barium* which coats the walls of your throat and esophagus. A series of x-rays is taken as you swallow. Because people with oral and oropharyngeal cancers are at risk for [cancer of the esophagus](#)²³, your doctor may order this test to check for this cancer. It's also useful to see if the cancer is causing problems

with normal swallowing.

Other tests

Other [tests](#)²⁴ may be done as part of a work-up if a patient has been diagnosed with oral cavity or oropharyngeal cancer. These tests are not used to diagnose the cancer, but they may be done for other reasons, such as to see if a person is healthy enough for treatments such as [surgery](#)²⁵, [radiation therapy](#)²⁶, or [chemotherapy](#)²⁷.

Blood tests

No blood tests can diagnose cancer in the oral cavity or oropharynx. Still, your doctor may order routine blood tests to get an idea of your overall health, especially before treatment. Such tests can help diagnose malnutrition, low red blood cell counts ([anemia](#)²⁸), liver disease, and kidney disease. Blood tests may also suggest the cancer has spread to the liver or bone. When this happens, more tests are needed.

Other tests before surgery

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 called pulmonary function tests (PFTs).

Dental exam

If radiation therapy will be used as part of the treatment, you'll be asked to see a dentist before starting. The dentist will help with preventive dental care and may remove teeth, if needed, before radiation treatment is started.

If the cancer is in your jaw or the roof of your mouth, a dentist with special training (called a prosthodontist) might be asked to evaluate you. This dentist can make replacements for missing teeth or other structures of the oral cavity to help restore your appearance; comfort; and ability to chew, swallow, and speak after treatment. If part of the jaw or roof of the mouth (palate) will be removed with the tumor, the prosthodontist will work to ensure that the replacement artificial teeth and the remaining natural teeth fit together correctly. This can be done with dentures, other types of prostheses, or dental implants.

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Oral Cavity and Oropharyngeal Cancer Stages

After someone is diagnosed with oral cavity or oropharyngeal cancer, doctors will try to

figure out if it has spread, and if so, how far. This process is called *staging*. The stage of a cancer describes how much cancer is in the body. It helps determine how serious the cancer is and [how best to treat it](#)¹. Doctors also use a cancer's stage when talking about survival statistics.

The earliest stage oral cavity or oropharyngeal cancers are called stage 0 (carcinoma in situ), and then range from stages I (1) through IV (4). As a rule, the lower the number, the less the cancer has spread. A higher number, such as stage IV, means cancer has spread more. And within a stage, an earlier letter means a lower stage. Although each person's cancer experience is unique, cancers with similar stages tend to have a similar outlook and are often treated in much the same way.

How is the stage determined?

The staging system most often used for oral cavity or oropharyngeal cancers is the American Joint Committee on Cancer (AJCC) **TNM** system, which is based on 3 key pieces of information:

- The extent of the **tumor (T)**: How large is the main (primary) **tumor** and which, if any, tissues of the oral cavity or oropharynx it has spread to?
- The spread to nearby lymph **nodes (N)**: Has the cancer spread to nearby [lymph nodes](#)²?
- The spread (**metastasis**) to distant sites (**M**): Has the cancer spread to distant organs such as the lungs?

Numbers or letters after T, N, and M provide more details about each of these factors. Higher numbers mean the cancer is more advanced. Once a person's T, N, and M categories have been determined, this information is combined in a process called *stage grouping* to assign an overall stage. For more information see [Cancer Staging](#)³.

The staging system in the table below is based on the most recent AJCC system, effective January 2018. It uses the *pathologic stage* (also called the *surgical stage*). It's determined by examining the tissue removed during an operation. Sometimes, if surgery isn't possible right away or at all, the cancer will be given a *clinical stage* instead (which is not shown below). This is based on the results of a physical exam, endoscopy exam, biopsy, and imaging tests. The clinical stage will be used to help plan treatment. Sometimes, though, the cancer has spread further than the clinical stage estimates, and it may not predict the patient's outlook as accurately as a pathologic stage.

Oropharyngeal cancers that contain HPV DNA (called p16 positive) tend to have a

better outlook than those without HPV (p16 negative). Because p16 positive cancers have a better prognosis than p16 negative oropharyngeal cancers, separate staging systems are used. Both systems are described below.

Cancer staging can be complex, so ask your doctor to explain it to you in a way you understand.

Lip, oral cavity, and p16 negative oropharynx stages

AJCC stage	Stage grouping	Lip, oral cavity and p16 negative oropharynx stage description*
0	Tis	The cancer is still within the epithelium (the top layer of cells lining the oral cavity and oropharynx) and has not yet grown into deeper layers. It has not spread to nearby lymph nodes (N0) or distant sites (M0). This stage is also known as carcinoma in situ (Tis).
	N0	
	M0	
I	T1	The cancer is 2 cm (about ¾ inch) or smaller. It's not growing into nearby tissues (T1). It has not spread to nearby lymph nodes (N0) or to distant sites (M0).
	N0	
	M0	
II	T2	The cancer is larger than 2 cm but no larger than 4 cm (about 1½ inch). It's not growing into nearby tissues (T2). It has not spread to nearby lymph nodes (N0) or to distant sites (M0).
	N0	
	M0	
III	T3	The cancer is larger than 4 cm (T3). For cancers of the oropharynx, T3 also includes tumors that are growing into the epiglottis (the base of the tongue). It has not spread to nearby lymph nodes (N0) or to distant sites (M0).
	N0	
	M0	
	OR	
	T1, T2, T3	The cancer is any size and may have grown into nearby structures if oropharynx cancer(T1-T3) AND has spread to 1 lymph node on the same side as the primary tumor. The cancer has not grown outside of the lymph node and the lymph node is no larger than 3 cm (about 1¼ inch) (N1). It has not spread to
N1		
M0		

		distant sites (M0).
IVA	T4a N0 or N1 M0	<p>The cancer is any size and is growing into nearby structures such as:</p> <ul style="list-style-type: none"> • For lip cancers: nearby bone, the inferior alveolar nerve (the nerve to the jawbone), the floor of the mouth, or the skin of the chin or nose (T4a) • For oral cavity cancers: the bones of the jaw or face, deep muscle of the tongue, skin of the face, or the maxillary sinus (T4a) • For oropharyngeal cancers: the larynx (voice box), the tongue muscle, or bones such as the medial pterygoid, the hard palate, or the jaw (T4a). <p>This is known as <i>moderately advanced local disease</i> (T4a).</p> <p>AND either of the following:</p> <ul style="list-style-type: none"> • It has not spread to nearby lymph nodes (N0) • It has spread to 1 lymph node on the same side as the primary tumor, but has not grown outside of the lymph node and the lymph node is no larger than 3 cm (about 1¼ inch) (N1). <p>It has not spread to distant sites (M0).</p>
	OR	
	T1, T2, T3 or T4a N2 M0	<p>The cancer is any size and may have grown into nearby structures (T0-T4a). It has not spread to distant organs (M0). It has spread to one of the following:</p> <ul style="list-style-type: none"> • 1 lymph node on the same side as the primary tumor, but it has not grown outside of the lymph node and the lymph node is larger than 3 cm but not larger than 6 cm (about 2½ inches) (N2a) OR • It has spread to more than 1 lymph node on the same side as the primary tumor, but it has not grown outside of any of the lymph nodes and none are larger than 6 cm (N2b) OR • It has spread to 1 or more lymph nodes either on the opposite

		side of the primary tumor or on both sides of the neck, but has not grown outside any of the lymph nodes and none are larger than 6 cm (N2c).
IVB	Any T N3 M0	<p>The cancer is any size and may have grown into nearby soft tissues or structures (Any T) AND any of the following:</p> <ul style="list-style-type: none"> • It has spread to 1 lymph node that's larger than 6 cm but has not grown outside of the lymph node (N3a) OR • It has spread to 1 lymph node that's larger than 3 cm and has clearly grown outside the lymph node (N3b) OR • It has spread to more than 1 lymph node on the same side, the opposite side, or both sides of the primary cancer with growth outside of the lymph node(s) (N3b) OR • It has spread to 1 lymph node on the opposite side of the primary cancer that's 3 cm or smaller and has grown outside of the lymph node (N3b). <p>It has not spread to distant organs (M0).</p>
	OR	
	T4b Any N M0	The cancer is any size and is growing into nearby structures such as the base of the skull or other bones nearby, or it surrounds the carotid artery. This is known as <i>very advanced local disease</i> (T4b). It might or might not have spread to nearby lymph nodes (Any N). It has not spread to distant organs (M0).
IVC	Any T Any N M1	The cancer is any size and may have grown into nearby soft tissues or structures (Any T) AND it might or might not have spread to nearby lymph nodes (Any N). It has spread to distant sites such as the lungs (M1).

* The following additional categories are not described in the table above:

- **TX:** Main tumor cannot be assessed due to lack of information.
- **T0:** No evidence of a primary tumor.
- **NX:** Regional lymph nodes cannot be assessed due to lack of information.

p16 positive oropharynx stages

AJCC stage	Stage grouping	p16 positive oropharynx stage description*
I	T0, T1 or T2 N0 or N1 M0	The cancer is no larger than 4 cm (about 1 1/2 inches) (T0 to T2) AND any of the following: <ul style="list-style-type: none"> • It has not spread to nearby lymph nodes (N0) OR • It has spread to 1 or more lymph nodes on the same side as the primary cancer, and none are larger than 6 cm (N1). It has not spread to distant sites (M0).
II	T0, T1 or T2 N2 M0	The cancer is no larger than 4 cm (about 1 1/2 inches) (T0 to T2) AND it has spread to 1 or more lymph nodes on the opposite side of the primary cancer or both sides of the neck, and none are larger than 6 cm (N2). It has not spread to distant sites (M0).
	T3 or T4 N0 or N1 M0	The cancer is larger than 4 cm (about 1 1/2 inches) (T3) OR is growing into the epiglottis (the base of the tongue) (T3) OR is growing into the larynx (voice box), the tongue muscle, or bones such as the medial pterygoid plate, the hard palate, or the jaw (T4) AND any of the following: <ul style="list-style-type: none"> • It has not spread to nearby lymph nodes (N0) OR • It has spread to 1 or more lymph nodes on the same side as the primary cancer, and none are larger than 6 cm (N1). It has not spread to distant sites (M0).
III	T3 or T4 N2 M0	The cancer is larger than 4 cm (about 1 1/2 inches) (T3) OR is growing into the epiglottis (the base of the tongue) (T3) OR is growing into the larynx (voice box), the tongue muscle, or bones such as the medial pterygoid plate, the hard palate, or the jaw (T4) AND it has spread to 1 or more lymph nodes on the opposite side of the primary cancer or both sides of the neck, and none are larger than 6 cm (N2). It has not spread to distant sites (M0).
IV	Any T Any N	The cancer is any size and may have grown into nearby structures (Any T) AND it might or might not have spread to nearby lymph nodes (Any N). It has spread to distant sites such as the lungs or bones (M1).

	M1	
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* The following additional categories are not described in the table above:

- **TX:** Main tumor cannot be assessed due to lack of information.
- **T0:** No evidence of a primary tumor.
- **NX:** Regional lymph nodes cannot be assessed due to lack of information.

Recurrent (relapsed) cancer

This is not an actual stage in the TNM system. Recurrent (relapsed) cancer means that the cancer has come back (recurred) after treatment. Recurrent oral cavity or oropharyngeal cancer may return in the mouth or throat (local recurrence), in nearby lymph nodes (regional recurrence), or in another part of the body, such as the lungs (distant recurrence).

Talk with your doctor if you have any questions about the stage of your cancer or how it affects your treatment.

Hyperlinks

1. www.cancer.org/cancer/oral-cavity-and-oropharyngeal-cancer/treating.html
2. www.cancer.org/cancer/cancer-basics/lymph-nodes-and-cancer.html
3. www.cancer.org/treatment/understanding-your-diagnosis/staging.html

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Survival Rates for Oral Cavity and Oropharyngeal Cancer

Survival rates can give you an idea of what percentage of people with the same type and stage of cancer are still alive a certain amount of time (usually 5 years) after they were diagnosed. They can't tell you how long you will live, but they may help give you a better understanding of how likely it is that your treatment will be successful.

Keep in mind that survival rates are estimates and are often based on previous outcomes of large numbers of people who had a specific cancer, but they can't predict what will happen in any particular person's case. These statistics can be confusing and may lead you to have more questions. Talk with your doctor about how these numbers may apply to you, as he or she is familiar with your situation.

What is a 5-year relative survival rate?

A **relative survival rate** compares people with the same type and stage of cancer to people in the overall population. For example, if the **5-year relative survival rate** for a specific stage of cancer is 90%, it means that people who have that cancer are, on average, about 90% as likely as people who don't have that cancer to live for at least 5 years after being diagnosed.

Where do these numbers come from?

The American Cancer Society relies on information from the SEER* database, maintained by the National Cancer Institute (NCI), to provide survival statistics for different types of cancer.

The SEER database tracks 5-year relative survival rates for oral cavity and oropharyngeal cancers in the United States, based on how far the cancer has spread. The SEER database, however, does not group cancers by [AJCC TNM stages](#) (stage 1, stage 2, stage 3, etc.). Instead, it groups cancers into localized, regional, and distant stages:

- **Localized:** There is no sign the cancer has spread outside the organ where it started.
- **Regional:** The cancer has spread to nearby structures or lymph nodes.
- **Distant:** The cancer has spread to distant parts of the body such as the lungs.

5-year relative survival rates for oral cavity and oropharyngeal cancer

(Based on people diagnosed with oral cavity or oropharyngeal cancer between 2008 and 2014.)

Lip

SEER Stage	5-Year Relative Survival Rate
Local	92%
Regional	61%
Distant	24%
All SEER stages combined	88%

Tongue

SEER Stage	5-Year Relative Survival Rate
Local	81%
Regional	67%
Distant	39%
All SEER stages combined	66%

Floor of the mouth

SEER Stage	5-Year Relative Survival Rate
Local	78%
Regional	39%
Distant	19%
All SEER stages combined	53%

Other cancers

For cancers of the oropharynx and tonsil, the relative 5-year survival rate was 69%, but survival by stage is not available.

For cancers of the gums and other parts of the mouth, the relative survival was 59%, but survival by stage is not available.

Understanding the numbers

- **These numbers apply only to the stage of the cancer when it is first diagnosed.** They do not apply later on if the cancer grows, spreads, or comes back after treatment.
- **These numbers don't take everything into account.** Survival rates are grouped based on how far the cancer has spread, but your age, overall health, how well the cancer responds to treatment, and other factors will also affect your outlook. Currently, these survival rates are not based on if the cancer is [p16 positive or negative](#).
- **People now being diagnosed with oral cavity or oropharyngeal cancer may have a better outlook than these numbers show.** Treatments improve over time, and these numbers are based on people who were diagnosed and treated at least five years earlier.

*SEER= Surveillance, Epidemiology, and End Results

Hyperlinks

1. https://seer.cancer.gov/csr/1975_2015/

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What Should You Ask Your Doctor About Oral Cavity and Oropharyngeal Cancers?

As you cope with cancer and cancer treatment, we encourage you to have honest, open discussions with your doctor. Ask any question, no matter how small it might seem. Nurses, social workers, and other members of your treatment team may also be able to answer many of your questions. Here are some questions to get you started.

- What [kind of oral cavity or oropharyngeal cancer](#)¹ do I have?
- Where is my cancer located?
- Has my cancer spread beyond the main (primary) site?
- What is the [stage](#) of my cancer? What does the stage mean?
- Will I need other [tests](#) before we can decide on treatment?
- Are there other doctors I need to see?
- How much experience do you have treating this type of cancer?
- What are my [treatment choices](#)²? Which do you recommend? Why?
- What's the goal of the treatment?
- What are the chances my cancer be cured with treatment?
- How quickly do we need to decide on treatment?
- What should I do to be ready for treatment?
- How long will treatment last? What will it be like? Where will it be done?
- How would treatment affect my daily activities?
- What risks and side effects can I expect? How long are they likely to last?
- Will this treatment affect the way I look? If so, what are my options for reconstruction?
- What are our options if the treatment doesn't work or if the cancer comes back (recurs)?
- What type of follow-up will I need [after treatment](#)³?
- Where can I find more information and support?

Along with these sample questions, be sure to write down some of your own. For instance, you might want more information about recovery times so you can plan your work or activity schedule. Or you may want to ask about [second opinions](#)⁴ or about [clinical trials](#)⁵ for which you may qualify. You can find more information about communicating with your health care team in [The Doctor-Patient Relationship](#)⁶.

Hyperlinks

1. www.cancer.org/cancer/oral-cavity-and-oropharyngeal-cancer/about/what-is-oral-cavity-cancer.html
2. www.cancer.org/cancer/oral-cavity-and-oropharyngeal-cancer/treating.html
3. www.cancer.org/cancer/oral-cavity-and-oropharyngeal-cancer/after-treatment/follow-up.html
4. www.cancer.org/treatment/finding-and-paying-for-treatment/choosing-your-treatment-team/seeking-a-second-opinion.html
5. www.cancer.org/treatment/treatments-and-side-effects/clinical-trials.html
6. www.cancer.org/treatment/understanding-your-diagnosis/talking-about-cancer/the-doctor-patient-relationship.html

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Written by

The American Cancer Society medical and editorial content team
(www.cancer.org/cancer/acs-medical-content-and-news-staff.html)

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Treating Oral Cavity and Oropharyngeal Cancer

How are oral cavity and oropharyngeal cancers treated?

The main treatment options for people with oral cavity and oropharyngeal cancers are:

- [Surgery for Oral Cavity and Oropharyngeal Cancer](#)
- [Radiation Therapy for Oral Cavity and Oropharyngeal Cancer](#)
- [Chemotherapy for Oral Cavity and Oropharyngeal Cancer](#)
- [Targeted Therapy for Oral Cavity and Oropharyngeal Cancer](#)
- [Palliative Treatment for Oral Cavity and Oropharyngeal Cancer](#)

Common treatment approaches

Different treatments may be used either alone or in combination, depending on the stage and location of the tumor. In general, surgery is the first treatment for cancers of the oral cavity, and may be followed by radiation or combined chemotherapy and radiation. Oropharyngeal cancers are usually treated with a combination of chemotherapy and radiation.

- [Treatment Options for Oral Cavity and Oropharyngeal Cancer by Stage](#)

Who treats oral cavity and oropharyngeal cancer?

Based on the stage and location of the tumor, you may have different types of doctors on your treatment team. These doctors may include:

- An **otolaryngologist** (also known as an ear, nose, and throat, or ENT doctor): a

surgeon who treats certain diseases of the head and neck.

- An **oral and maxillofacial surgeon**: a dental surgeon who treats diseases of the mouth, teeth, and jaws.
- A **radiation oncologist**: a doctor who treats cancer with radiation therapy.
- A **medical oncologist**: a doctor who treats cancer with medicines such as chemotherapy or targeted therapy.

Many other specialists may be involved in your care as well, including nurse practitioners, nurses, nutrition specialists, social workers, speech therapists, dentists, psychologists, and other health professionals. Treating cancers in the mouth and throat can affect how you eat, look, and breathe. A cancer care team will work with you to limit changes to your body and adjust to changes that take place while using the best treatments available.

- [Health Professionals Associated With Cancer Care¹](#)

Making treatment decisions

It's important to discuss all of your treatment options, including treatment goals and possible side effects, with your doctors to help make the decision that best fits your needs. It's also very important to ask questions if there is anything you're not sure about.

When you choose a treatment plan, consider your overall health, the type and stage of the cancer, the chances of curing the disease, and the possible impact of the treatment on important functions like speech, chewing, and swallowing.

If time permits, it is often a good idea to seek a second opinion. A second opinion can give you more information and help you feel more confident about the treatment plan you choose.

- [What Should You Ask Your Doctor About Oral Cavity and Oropharyngeal Cancers?²](#)
- [Seeking a Second Opinion³](#)

Thinking about taking part in a clinical trial

Clinical trials are carefully controlled research studies that are done to get a closer look at promising new treatments or procedures. Clinical trials are one way to get state-of-the-art cancer treatment. In some cases they may be the only way to get access to

newer treatments. They are also the best way for doctors to learn better methods to treat cancer. Still, they're not right for everyone.

If you would like to learn more about clinical trials that might be right for you, start by asking your doctor if your clinic or hospital conducts clinical trials.

- [Clinical Trials⁴](#)

Considering complementary and alternative methods

You may hear about alternative or complementary methods that your doctor hasn't mentioned to treat your cancer or relieve symptoms. These methods can include vitamins, herbs, and special diets, or other methods such as acupuncture or massage, to name a few.

Complementary methods refer to treatments that are used along with your regular medical care. Alternative treatments are used instead of a doctor's medical treatment. Although some of these methods might be helpful in relieving symptoms or helping you feel better, many have not been proven to work. Some might even be harmful.

Be sure to talk to your cancer care team about any method you are thinking about using. They can help you learn what is known (or not known) about the method, which can help you make an informed decision.

- [Complementary and Alternative Medicine⁵](#)

Help getting through cancer treatment

Your cancer care team will be your first source of information and support, but there are other resources for help when you need it. Hospital- or clinic-based support services are an important part of your care. These might include nursing or social work services, financial aid, nutritional advice, rehab, or spiritual help.

The American Cancer Society also has programs and services – including rides to treatment, lodging, and more – to help you get through treatment. Call our National Cancer Information Center at 1-800-227-2345 and speak with one of our trained specialists.

- [Find Support Programs and Services in Your Area⁶](#)

Choosing to stop treatment or choosing no treatment at all

For some people, when treatments have been tried and are no longer controlling the cancer, it could be time to weigh the benefits and risks of continuing to try new treatments. Whether or not you continue treatment, there are still things you can do to help maintain or improve your quality of life.

Some people, especially if the cancer is advanced, might not want to be treated at all. There are many reasons you might decide not to get cancer treatment, but it's important to talk to your doctors and you make that decision. Remember that even if you choose not to treat the cancer, you can still get supportive care to help with pain or other symptoms.

- [If Cancer Treatments Stop Working](#)⁷
- [Palliative or Supportive Care](#)⁸

The treatment information given here is not official policy of the American Cancer 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.

Surgery for Oral Cavity and Oropharyngeal Cancer

Several types of operations can be used to treat oral cavity and oropharyngeal cancers. Depending on [where the cancer is](#)¹ and its [stage](#)², different operations may be used to remove the cancer. Surgery is often the first treatment used for these cancers. It's most commonly used for early stage cancers, those that are small and haven't spread.

After cancer is removed, reconstructive surgery can be done to help restore the appearance and function of the areas affected by the cancer or cancer treatment.

Tumor resection

In a tumor resection, the entire tumor and a margin (edge) of normal-looking tissue around it is removed (resected). The margin of normal tissue is taken out to reduce the chance of any cancer cells being left behind.

The main (primary) tumor is removed using a method based on its size and location. For example, if a tumor is in the front of the mouth, it might be relatively easy to remove it through the mouth. But a larger tumor (especially when it has grown into the oropharynx) may need to be removed through an incision (cut) in the neck or by cutting the jaw bone with a special saw to get to the tumor. (This is called a *mandibulotomy*.)

Based on the location and size of the tumor, one of the operations listed here may be needed to remove it:

Mohs micrographic surgery (for some cancers of the lip)

Some cancers of the lip may be removed by *Mohs surgery*, also known as *micrographic surgery*. The tumor is removed in very thin slices. Each slice is looked at right away under the microscope to see if there are cancer cells. Slices are removed and examined until no cancer cells are seen.

This method can reduce the amount of normal tissue removed with the tumor and limit the change in appearance the surgery causes. It requires a surgeon trained in the technique and may take more time than a standard tumor resection.

Glossectomy (removal of the tongue)

Glossectomy may be needed to treat cancer of the tongue. For smaller cancers, only part of the tongue (less than 1/3) may need to be removed (partial glossectomy). For larger cancers, the entire tongue may need to be removed (total glossectomy).

Mandibulectomy (removal of the jaw bone)

For a mandibulectomy (or mandibular resection), the surgeon removes all or part of the jaw bone (mandible). This operation may be needed if the tumor has grown into the jaw bone. If a tumor near the jaw is hard to move when the doctor examines it, it often means that the cancer has grown into the jaw bone.

If the jaw bone looks normal on imaging tests and there's no evidence the cancer has spread there, the bone may not need to be cut all the way through. In this operation, also known as a *partial-thickness mandibular resection* or *marginal mandibulectomy*, the surgeon removes only part or a piece of jaw bone.

If the x-ray shows the tumor has grown into the jaw bone, a large part of the jaw will need to be removed in an operation called a *segmental mandibulectomy*. The removed piece of the mandible can then be replaced with a piece of bone from another part of the body, such as the fibula (the smaller of the lower leg bones), hip bone, or the shoulder blade. A metal plate or a piece of bone from a deceased donor may also be used to repair the bone.

Maxillectomy

If cancer has grown into the hard palate (front part of the roof of the mouth), all or part of the involved bone (maxilla) will need to be removed. This operation is called a *maxillectomy* or *partial maxillectomy*.

The hole in the roof of the mouth this operation creates can be filled with a special denture called a *prosthesis*. This is created by a prosthodontist, a dentist with special training.

Robotic surgery

Increasingly, trans-oral robotic surgery (TORS) is being used to remove cancers of the throat (including the oropharynx).

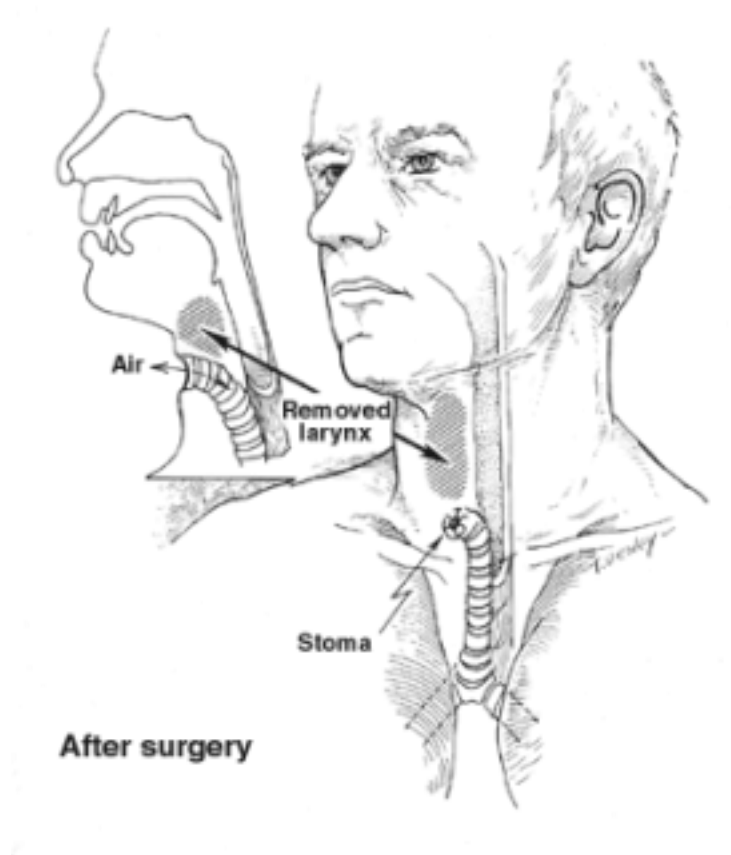
Because the more standard, open surgeries for throat cancer can cause a number of problems, these cancers have often been treated with [chemotherapy](#) combined with [radiation](#) (called *chemoradiation*) over the past decade. But newer robotic surgeries may allow surgeons to completely remove throat cancers with fewer side effects. Patients whose cancers are totally removed with surgery might be able to avoid further treatment with radiation and/or chemotherapy. Since these procedures are newer, it's important to have them done by surgeons (and at treatment centers) experienced in this approach.

Laryngectomy (removal of the voice box)

Very rarely, surgery to remove large tumors of the tongue or oropharynx may require removing tissue that a person needs to swallow normally. As a result, food may enter the windpipe (trachea) and reach the lungs, where it can cause pneumonia. When there's a high risk of this, the voice box (larynx) may also be removed during the same operation as the one to remove the cancer. Removal of the larynx is called a *laryngectomy*.

When the voice box is removed, the windpipe is attached to a hole (stoma) made in the

skin in the front of the neck. You breathe and cough through this stoma (instead of breathing through the mouth or nose). This is called a *tracheostomy* or *trach* (trake).



Losing your voice box will mean that normal speech is no longer possible, but people can learn other ways to speak. See [Laryngeal and Hypopharyngeal Cancer](#)³ to find out more about voice restoration.

Neck dissection

Cancers of the oral cavity and oropharynx often spread to the [lymph nodes](#)⁴ in the neck. Removing these lymph nodes (and other nearby tissues) is called a *neck dissection* or *lymph node dissection* and is done at the same time as the surgery to remove the main tumor. The goal is to remove lymph nodes proven to contain cancer. Sometimes doctors recommend an *elective lymph node dissection*. This may be done if there's no proof that the cancer has spread to the lymph nodes, but there's a high chance that it has based on tumor size.

In some early stage mouth and lip cancers, a [sentinel lymph node biopsy](#)⁵ might be

done to test the lymph nodes for cancer before removing them. This should only be done by doctors and at treatment centers with a lot of experience in the technique.

There are several types of neck dissection procedures, and they differ in how much tissue is removed from the neck. The amount of tissue removed depends on the primary cancer's size and how much it has spread to lymph nodes.

- In a *partial* or *selective* neck dissection only a few lymph nodes are removed.
- For a *modified radical* neck dissection, most lymph nodes on one side of the neck between the jaw bone and collarbone are removed, as well as some muscle and nerve tissue.
- In a *radical* neck dissection, nearly all nodes on one side, as well as even more muscles, nerves, and veins are removed.

The most common side effects of any neck dissection are numbness of the ear, weakness when raising the arm above the head, and weakness of the lower lip. These side effects are caused when nerves that supply these areas are damaged during the operation. After a selective neck dissection, the nerve might only be injured and can heal over time. Nerves heal slowly, but in this case, the weakness of the shoulder and lower lip may go away after a few months. If a nerve is removed as part of a radical neck dissection or because of involvement with tumor, the weakness will be permanent.

After any neck dissection procedure, physical therapy can help improve neck and shoulder movement.

Reconstructive surgery

Operations may be needed to help restore the structure of areas affected by more extensive surgeries to remove the cancer.

For small tumors, the narrow edge of normal tissue removed along with the tumor is usually small enough that reconstructive surgery isn't needed. But removing larger tumors may cause defects in the mouth, throat, or neck that will need to be repaired. Sometimes a thin slice of skin, taken from the thigh or other area, can be used to repair a small defect. This is called a *skin graft*.

To repair a larger defect, more tissue may be needed. A piece of muscle with or without skin may be rotated from an area close by, such as the chest (pectoralis major pedicle flap) or upper part of the back (trapezius pedicle flap).

Thanks to advances in microvascular surgery (sewing together small blood vessels under a microscope), there are many more options for reconstructing the oral cavity and oropharynx. Tissue from other areas of the body, such as the intestine, arm muscle, abdominal (belly) muscle, or lower leg bone, may be used to replace parts of the mouth, throat, or jaw bone.

Before you have extensive head and neck surgery, talk to the surgeon about your options for reconstructive surgery.

Surgery to save or restore body function

Tracheostomy

A tracheostomy or trach is a stoma (hole) made through the skin in the front of the neck and attached to the trachea (windpipe). It's done to help a person breathe.

If a lot of swelling is expected in the airway after the cancer is removed, the doctor may want to do a short-term tracheotomy (using a small plastic tube) to allow the person to breathe more easily until the swelling goes down. It stays in place for a short time, and is then removed (or reversed) when it's no longer needed.

If the cancer is blocking the throat and is too big to remove completely, an opening may be made to connect a lower part of the windpipe to a stoma (hole) in the front of the neck. This is done to bypass the tumor and allow the person to breathe more comfortably. This is called a permanent *tracheostomy*.

A permanent tracheostomy is also needed after a total laryngectomy.

Feeding tubes

Cancers in the oral cavity and oropharynx may keep you from swallowing enough food to maintain good nutrition. This can make you weak and make it harder to complete treatment. Sometimes the treatment itself can make it hard to eat enough.

A **gastrostomy tube (G-tube)** is a feeding tube that's put through the skin and muscle of your abdomen (belly) and right into your stomach. Sometimes this tube is placed during an operation, but often it's put in endoscopically. While you are sedated (using drugs to put you in a deep sleep), the doctor puts a long, thin, flexible tube with a camera on the end (an endoscope) down the throat to see inside the stomach. The feeding tube is then guided through the endoscope and to the outside of the body. When the feeding tube is placed through endoscopy, it's called a **percutaneous**

endoscopic gastrostomy, or PEG tube. Once in place, it can be used to put liquid nutrition right into the stomach. As long as they can still swallow normally, people with these tubes can eat normal food, too.

PEGs can be used for as long as needed. Sometimes these tubes are used for a short time to help keep you healthy and fed during treatment. They can be removed when you can eat normally.

If the swallowing problem is likely to be only short-term, another option is to place a **nasogastric feeding tube (NG tube)**. This tube goes in through the nose, down the esophagus, and into the stomach. Again, special liquid nutrients are put in through the tube. Some people dislike having a tube coming out of their nose, and prefer a PEG.

In any case, the patient and family are taught how to use the tube. After you go home, home health nurses usually visit to make sure you are comfortable with tube feedings.

Dental extraction and implants

When radiation treatment is planned, a dental evaluation must be done. Depending on the radiation plan and condition of your teeth, some or even all of the teeth may need to be removed before radiation can start. The teeth may be removed either by the head and neck surgeon or an oral surgeon. If left in and exposed to radiation, teeth that are broken or infected (abscessed) are very likely to cause problems such as infections and areas of necrosis (bone death) in the jaw.

If part of the jaw bone (mandible) is removed and reconstructed with bone from another part of the body, the surgeon might place dental implants (hardware to which prosthetic teeth can be attached) in the bone. This can be done either at the same time the mandible is reconstructed or at a later date.

Surgery risks and side effects

All surgery carries risk, including blood clots, infections, complications from anesthesia, and pneumonia. These risks are generally low but are higher with more complex operations.

If the surgery is not too complex, the main side effect may be some [pain](#)⁶ afterward, which can be treated with medicines.

Surgery for cancers that are large or hard to reach may be very complicated, in which case side effects may include infection; wound breakdown; problems with eating,

breathing, and speaking; or on very rare occasions death during or shortly after the procedure. Surgery also can be disfiguring, especially if bones in the face or jaw need to be removed. The surgeon's skill is very important in minimizing these side effects, while removing all of the cancer, so it's important to choose a surgeon with a lot of experience in these types of cancer.

Impact of glossectomy: Most people can still speak if only part of the tongue is removed, but they often notice that their speech isn't as clear as it once was. The tongue is important in swallowing, so this may also be affected. Speech therapy can often help with these problems.

When the entire tongue is removed, patients lose the ability to speak and swallow. With reconstructive surgery and a good rehabilitation program including speech therapy, some people may regain the ability to swallow and speak well enough to be understood.

Impact of laryngectomy: Laryngectomy, the surgery that removes the voice box, leaves a person without the normal means of speech. There are several ways to restore one's voice. See [Laryngeal and Hypopharyngeal Cancer](#)⁷ to find out more about voice restoration.

After a laryngectomy, the person breathes through a stoma (tracheostomy) placed in the front of the lower neck. Having a stoma means that the air you breathe in and out will no longer pass through your nose or mouth, which would normally help moisten, warm, and filter the air (removing dust and other particles). The air reaching the lungs will be dryer and cooler. This can irritate the lining of the breathing tubes and cause thick or crusty mucus to build up.

It's important to learn how to take care of your stoma. You will need to use a humidifier over the stoma as much as possible, especially right after the operation, until the airway lining has a chance to adjust to the drier air now reaching it. You will also need to learn how to suction out and clean your stoma to help keep your airway open. Your doctors, nurses, and other health care professionals can teach you how to care for and protect your stoma, which includes precautions to keep water from entering the windpipe while showering or bathing, as well as keeping small particles out of the windpipe.

Impact of facial bone removal: Some cancers of the head and neck are treated with operations that remove part of the facial bone structure. Because the changes that result are so visible, they can have a major effect on how people view themselves. They can also affect speech and swallowing.

It's important to talk with your doctor about these changes before the surgery. This can help you prepare for them. You can also get an idea about what options might be

available afterward. Recent advances in facial prostheses (man-made replacements) and in reconstructive surgery now give many people a more normal look and clearer speech. These things can be a great help to a person's self-esteem.

More information about Surgery

For more general information about surgery as a treatment for cancer, see [Cancer Surgery](#)⁸.

To learn about some of the side effects listed here and how to manage them, see [Managing Cancer-related Side Effects](#)⁹.

Hyperlinks

1. www.cancer.org/cancer/oral-cavity-and-oropharyngeal-cancer/about/what-is-oral-cavity-cancer.html
2. www.cancer.org/cancer/oral-cavity-and-oropharyngeal-cancer/detection-diagnosis-staging/staging.html
3. www.cancer.org/cancer/laryngeal-and-hypopharyngeal-cancer.html
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Radiation Therapy for Oral Cavity and Oropharyngeal Cancer

Radiation therapy uses high-energy x-rays or particles to destroy cancer cells or slow their rate of growth. Radiation therapy can be used in many ways to treat and oropharyngeal cancers:

- It can be used as the main treatment for small cancers.
- People with larger cancers may need both [surgery](#) and radiation therapy or a combination of radiation therapy and [chemotherapy](#) or a [targeted drug](#).
- After surgery, radiation therapy can be used, either alone or with chemotherapy, as an additional (adjuvant) treatment to try to kill any cancer cells that might not have been removed during surgery. This is called *adjuvant radiation therapy*. Most experts agree that radiation used this way should be started within 6 weeks of surgery.
- Radiation may be used (along with chemotherapy) to try to shrink some larger cancers before surgery. This is called *neoadjuvant therapy*. In some cases this makes it possible to use less extensive surgery and remove less tissue.
- Radiation therapy can also be used to help ease symptoms of advanced cancer, such as pain, bleeding, trouble swallowing, and problems caused by bone metastases (cancer that has spread to bones).

External beam radiation therapy

The most common way to give radiation for these cancers is to carefully focus a beam of radiation from a machine outside the body. This is called *external beam radiation therapy* or *EBRT*. To reduce the risk of side effects, doctors carefully figure out the exact dose needed and aim the beam as accurately as they can to hit the tumor.

Before your treatments start, the radiation team will take careful measurements to determine the correct angles for aiming the radiation beams and the proper dose of radiation. Radiation therapy is much like getting an x-ray, but the radiation is stronger. The procedure itself is painless. Each treatment lasts only a few minutes, although the setup time — getting you into place for treatment — takes longer.

Treatments are usually given 5 days a week for 6 to 7 weeks. But sometimes other schedules are used, for instance:

Hyperfractionation refers to giving the total radiation dose in a larger number of doses, for example giving 2 smaller doses per day instead of 1 large dose a day.

Accelerated fractionation means giving 2 or more doses each day so that the radiation treatment is completed faster (3 weeks instead of 6 weeks, for instance).

Hyperfractionation and accelerated fractionation schedules may reduce the risk of cancer coming back in or near the place it started (called *local recurrence*) and might help some people live longer. The drawback is that treatments given on these schedules also tend to have more severe side effects.

Radiation is commonly given using techniques that help doctors focus the radiation more precisely, such as such as [three-dimensional conformal radiation therapy \(3D-CRT\)](#)¹ and [intensity modulated radiation therapy \(IMRT\)](#)². These use the results of imaging tests, like MRI, and special computer programs to precisely map the cancer's location. Radiation beams are then shaped and aimed at the tumor from several directions, which makes the treatments less likely to damage normal nearby tissues than older ways of giving external beam radiation.

Brachytherapy

Another way to deliver radiation is by [placing radioactive materials right into or near the cancer](#)³. This is called *internal radiation*, *interstitial radiation*, or *brachytherapy*. The radiation travels only a very short distance, which limits its effects on nearby normal tissues.

Brachytherapy is not used often to treat oral cavity or oropharyngeal cancers because newer external radiation approaches, such as IMRT, are now very precise. When brachytherapy is used, it's most often combined with external radiation to treat early lip or mouth cancers.

Different types of brachytherapy may be used. In one form, hollow catheters (thin tubes) are placed into or around the tumor during surgery. They're left in place for several days while the patient stays in the hospital. Radioactive materials are put into the tubes for a short time each day.

In another form, small radioactive pellets (about the size and shape of a grain of rice) are put right into the tumor. The pellets give off low levels of radioactivity for several weeks and, over time, lose their strength. The pellets themselves are just left in place and rarely cause any problems.

Possible side effects of radiation therapy

Radiation of the mouth and throat area can cause several short-term side effects, including:

- Skin changes like a sunburn or suntan in the treated area that slowly fades away
- Hoarseness
- Loss of sense of taste
- Redness and soreness or even pain in the mouth and throat

Sometimes open sores develop in the mouth and throat, making it hard to eat and drink during treatment. Liquid feeding through a tube placed into the stomach may be needed. (See [Surgery for Oral Cavity and Oropharyngeal Cancer](#) for more on tube feedings.)

Radiotherapy may also cause long-lasting or permanent side effects:

Damage to the salivary glands: Permanent damage to the salivary (spit) glands can cause a dry mouth. This can lead to problems eating and swallowing.

The lack of saliva can also lead to tooth decay (cavities). People treated with radiation to the mouth or neck need to practice careful oral hygiene to help prevent this problem. Fluoride treatments may also help.

Newer radiotherapy techniques such as IMRT may help reduce this side effect. A drug called amifostine (Ethyol[®]) can also help reduce this side effect by limiting radiation damage to normal tissues. It's given into a vein over 15 minutes just before each radiation treatment. Amifostine has side effects, such as low blood pressure, nausea, and vomiting, that can make it hard to tolerate.

Damage to the jaw bone: This problem, known as *osteoradionecrosis of the jaw*, can be a serious side effect of radiation treatment. This is more common after tooth infection, extraction, or trauma, and it can be hard to treat. The main symptom is pain in the jaw. In some cases, the bone actually breaks. Sometimes the fractured bone heals by itself, but often the damaged bone will have to be repaired with surgery.

To help prevent this problem, people getting radiation to the mouth or throat area need to see a dentist to have any problems with their teeth treated before radiation is started. In some cases, teeth may need to be removed.

Damage to the pituitary or thyroid gland: If the pituitary or thyroid gland is exposed to

radiation, their production of hormones may decrease over time. This can lead to problems with metabolism that may need to be corrected with medicine.

Side effects tend to be worse if [chemotherapy](#) is given at the same time as radiation (chemoradiation). Both the radiation and the chemotherapy side effects are worse, which can make this treatment hard to tolerate. For this reason, it's important that anyone getting chemoradiation be in relatively good health before starting treatment, that they understand the possibility of serious side effects, and that they're treated at a medical center with a lot of experience with this approach.

More information about radiation therapy

To learn more about how radiation is used to treat cancer, see [Radiation Therapy](#)⁴.

To learn about some of the side effects listed here and how to manage them, see [Managing Cancer-related Side Effects](#)⁵.

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/radiation/external-beam-radiation-therapy.html
2. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/radiation/external-beam-radiation-therapy.html
3. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/radiation/internal-radiation-therapy-brachytherapy.html
4. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/radiation.html
5. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html

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Chemotherapy for Oral Cavity and Oropharyngeal Cancer

Chemotherapy (chemo) is the use of anti-cancer drugs to treat cancer. For oral cavity and oropharyngeal cancers, the drugs are given into a vein or taken by mouth, which allows them to enter the bloodstream and reach cancer that has spread throughout the body.

How is chemo used to treat oral cavity and oropharyngeal cancers?

Chemo may be used in several different situations:

- Chemo (typically combined with [radiation therapy](#)) may be used instead of [surgery](#) as the main treatment for some cancers. (This is called chemoradiation.)
- Chemo (combined with radiation therapy) may be given after surgery to try to kill any small deposits of cancer cells that may have been left behind. This is known as *adjuvant chemotherapy*.
- Chemo (sometimes with radiation therapy) may be used to try to shrink some larger cancers before surgery. This is called *neoadjuvant* or *induction chemotherapy*. In

some cases this makes it possible to use less radical surgery and remove less tissue. This can lead to fewer serious side effects from surgery.

- Chemo (with or without radiation therapy) can be used to treat cancers that are too large or have spread too far to be removed by surgery. The goal is to slow the growth of the cancer for as long as possible and to help relieve any symptoms the cancer is causing.

Which chemo drugs are used?

The chemo drugs used most often for cancers of the oral cavity and oropharynx are:

- Cisplatin
- Carboplatin
- 5-fluorouracil (5-FU)
- Paclitaxel (Taxol[®])
- Docetaxel (Taxotere[®])
- Hydroxyurea

Other drugs that are used less often include

- Methotrexate
- Bleomycin
- Capecitabine

A chemo drug may be used alone or combined with other drugs. Combining drugs can often shrink tumors better, but tend to cause more side effects. A commonly used combination is cisplatin and 5-FU. This combination works better than either drug alone in shrinking cancers of the oral cavity and oropharynx. Another combination often used is cisplatin, 5-FU, plus docetaxel.

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

For cancers of the head and neck (such as oral cavity and oropharyngeal cancers), chemo is often given at the same time as radiation (called *chemoradiation*). Cisplatin alone is the preferred chemo drug when given along with radiation. Some doctors prefer to give the radiation and chemo before surgery. But for some people, the side effects can be too severe.

For people whose cancers are too advanced for surgery but not widespread, getting chemo and radiation together might produce a better outcome than radiation alone. But this combined approach can be hard to tolerate, especially for people in poor health.

Possible side effects of chemotherapy

Chemo drugs attack cells that are dividing quickly, which is why they work against cancer cells. But other cells in the body, such as those in the bone marrow, the lining of the mouth and intestines, and the hair follicles divide quickly and are also affected. This can lead to side effects.

The side effects of chemo depend on the type and dose of drugs given and how long they are taken. Side effects can include:

- Hair loss
- Mouth sores
- Loss of appetite
- Nausea and vomiting
- Diarrhea
- Low blood counts

Chemo can affect the blood-producing cells of the bone marrow, leading to low blood cell counts. This can lead to:

- Increased chance of infections (due to low white blood cell counts)
- Easy bruising or bleeding (due to low blood platelet counts)
- Fatigue (due to low red blood cell counts)

Along with the risks above, some side effects are seen more often with certain chemo drugs. For example, 5-FU often causes diarrhea. This might need to be treated with drugs like loperamide. Cisplatin, docetaxel, and paclitaxel can cause nerve damage (called *neuropathy*). This can lead to numbness and tingling in the hands and feet. This often improves once treatment is stopped, but for some people it can last a long time. Cisplatin can also cause kidney damage. To help prevent this, intravenous (IV) fluid is given before and after each dose.

Although most side effects get better over time once treatment is stopped, some can last a long time or even be permanent. If your doctor plans treatment with chemo be sure to discuss the drugs that will be used and the possible side effects. Once chemo is started, tell your health care team if you notice any changes or have any side effects.

There are ways to prevent or treat many of the side effects of chemo. For example, many drugs are available to help prevent or treat nausea and vomiting.

More information about chemotherapy

For more general information about how chemotherapy is used to treat cancer, see [Chemotherapy](#)¹.

To learn about some of the side effects listed here and how to manage them, see [Managing Cancer-related Side Effects](#)².

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/chemotherapy.html
2. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html

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Targeted Therapy for Oral Cavity and Oropharyngeal Cancer

As researchers have learned more about the changes in cells that cause oral cavity and oropharyngeal cancer, they have developed newer drugs that specifically target these changes. Targeted drugs work differently from standard [chemotherapy](#) (chemo) drugs. They often have different (and often less severe) side effects.

Cetuximab (Erbix[®]) is a man-made version of an immune system protein, called a [monoclonal antibody](#)¹. It targets a protein on the surface of certain cells called epidermal growth factor receptor (EGFR) that helps cells grow and divide. Oral cavity and oropharyngeal cancer cells often have higher than normal amounts of EGFR. By blocking EGFR, cetuximab can help slow or stop cell growth.

Cetuximab may be combined with [radiation therapy](#) for some earlier stage cancers. For more advanced cancers, it may be combined with standard chemo drugs such as cisplatin, or it may be used by itself.

Cetuximab is given by infusion into a vein (IV), usually once a week. A rare but serious side effect of cetuximab is an allergic reaction during the first infusion, which could cause problems with breathing and low blood pressure. You may be given medicine before treatment to help prevent this.

Side effects of targeted therapy

Many people develop skin problems such as an acne-like rash on the face and chest during treatment, which in some cases can lead to infections. Cetuximab can make your skin very sensitive to the sun, so you'll need to protect your skin while getting treatment and for at least months after treatment. Other side effects may include headache, tiredness, fever, and diarrhea.

More information about targeted therapy

To learn more about how targeted drugs are used to treat cancer, see [Targeted Cancer Therapy](#)².

To learn about some of the side effects listed here and how to manage them, see [Managing Cancer-related Side Effects](#)³.

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/immunotherapy/monoclonal-antibodies.html
2. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/targeted-therapy.html
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Palliative Treatment for Oral Cavity and Oropharyngeal Cancer

Many treatments for oral cavity and oropharyngeal cancer are intended to remove or to destroy the cancer cells or slow their growth. But maintaining a patient's quality of life is

another important goal of treatment. This is true for people being treated to try to cure the cancer and for people whose cancer is too advanced to be cured. If the goal of treatment is a cure, palliative treatments can help ease symptoms from the cancer treatment itself. If the cancer is advanced, palliative treatment might play an even larger role, helping to keep the person comfortable and maintain a good quality of life for as long as possible.

Pain is a significant concern for many people with cancer. It can almost always be treated with milder drugs like ibuprofen or acetaminophen or, if needed, with stronger medicines like morphine or drugs like it (known as *opioids*). For more on pain, what can be done about it, and how to keep track of it, see [Cancer Pain](#)¹.

Nutrition is another important concern for people with oral cavity or oropharyngeal cancers. Both the cancer and its treatment can make it hard to swallow. If this affects how a person eats or drinks, a feeding tube may be needed. (See [Surgery for Oral and Oropharyngeal Cancer](#).) This tube will most likely be needed for a short time during treatment, but in some cases it may need to be left in longer. For more about what to eat during cancer treatment, see [Nutrition for People with Cancer](#)².

There are many other ways your doctor can help you maintain your quality of life and help control your symptoms. But you have to tell your doctor how you're feeling and what symptoms you're having. Some people don't like to disappoint their doctors by telling them they're not feeling well. Others just don't want to complain. This does no one any good. Your doctor wants to know how you really feel. Talking about the symptoms you're having lets your doctor give treatments that can relieve the symptoms. Getting treatment that works can help you feel better and let you focus on the things that are important to you.

For more information on palliative care, see [Palliative or Supportive Care](#)³.

To learn more about side effects and how to manage them, see [Managing Cancer-related Side Effects](#)⁴.

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/pain.html
2. www.cancer.org/treatment/survivorship-during-and-after-treatment/staying-active/nutrition.html
3. www.cancer.org/treatment/treatments-and-side-effects/palliative-care.html
4. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html

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Treatment Options for Oral Cavity and Oropharyngeal Cancer by Stage

This information is based on AJCC Staging systems prior to 2018 which were primarily based on tumor size and lymph node status. Since the [updated staging system for oropharyngeal cancer](#)¹ now also includes the p16 status of the tumor, the stages may be higher or lower than previous staging systems. Whether or not treatment strategies will change with this new staging system are yet to be determined. You should discuss your stage and treatment options with your physician.

The type of treatment your doctor will recommend depends on where the tumor is and how far the cancer has spread. Here are common ways to treat different stages of oral cavity and oropharyngeal cancer. But each situation is different. Your doctor may have reasons for suggesting a treatment option not mentioned here.

Most experts agree that treatment in a [clinical trial](#)² should be considered for any type or stage of cancer in the head and neck areas. This way people can get the best treatment available now and may also get the new treatments that are thought to be even better.

Stage 0 (carcinoma in situ)

Although cancer in this stage is on the surface layer and has not started to grow into deeper layers of tissue, it can do so if not treated. The usual treatment is [surgery](#) (usually Mohs surgery, surgical stripping, or thin resection) to remove the top layers of tissue along with a small margin (edge) of normal tissue. Close follow-up is important to watch for signs that the cancer has come back. Carcinoma in situ that keeps coming back after surgery may need to be treated with [radiation therapy](#).

Nearly all people with this stage survive a long time without the need for more intense treatment. Still, it's important to note that continuing to smoke increases the risk that a [new cancer](#)³ will develop.

Stages I and II

Most patients with stage I or II oral cavity and oropharyngeal cancer do well when treated with [surgery](#) and/or [radiation therapy](#). [Chemotherapy](#) (chemo) given along with radiation (called *chemoradiation*) is another option. It can be used alone, but it's most often used after surgery to treat any cancer cells that may be left behind. Both surgery and radiation work well in treating these cancers. The choice depends on your preferences and the expected side effects, including how the treatment might affect how you look and how you swallow and speak.

Lip

Surgery is preferred for small cancers that can be removed. Radiation alone may also be used as the first treatment. In this case, surgery might be needed later if radiation doesn't completely get rid of the tumor.

Large or deep cancers often require surgery. If needed, reconstructive surgery can help correct the defect in the lip.

If the tumor is thick, it increases the risk that the cancer might have spread to lymph nodes in the neck, so the surgeon may remove them (called lymph node dissection) so they can be checked for cancer spread.

Oral cavity

For cancers of the floor of the mouth, front of the tongue, inside of the cheek, gums, and hard palate, surgery is the main treatment. Lymph nodes in the neck may be removed (called lymph node dissection) to check them for cancer spread. If it looks like the cancer hasn't been completely removed or if it has a high risk of coming back based on how the cancer cells look under the microscope (grade), radiation (often combined with chemo) may be added.

Radiation can be used instead of surgery as the main treatment for some people. This is most often done for people who can't have surgery because of other medical problems.

Oropharynx

For cancers of the back of the tongue, soft palate, and tonsils, the main treatment is radiation therapy aimed at the cancer and the lymph nodes in the neck. Surgery can be used as the main treatment (instead of radiation). This would include removing lymph nodes in the neck (lymph node dissection). If any cancer remains after surgery, chemoradiation is often used.

Stages III, IV, and IVA

Oral cavity cancers

These stage III and IVA cancers in the floor of the mouth, front of the tongue, inside of the cheek, gums, and hard palate include bigger cancers, those that have grown into nearby tissues, and/or those that have spread to nearby lymph nodes in the neck. They're often treated with a combination of [surgery](#) and [radiation](#). Surgery is often done first and includes taking out some of the neck lymph nodes (lymph node dissection).

Oropharyngeal cancers

These are cancers in the back of the tongue, soft palate, and tonsils that are larger cancers, have grown into nearby tissues, and/or have spread to nearby lymph nodes in the neck. These cancers are often treated with chemoradiation, although radiation and [cetuximab](#) may be used in some cases. The effect of combining radiation with both [chemo](#) and cetuximab is also being studied. Any cancer that remains after chemoradiation is removed with surgery. If the cancer has spread to neck lymph nodes, they may also need to be removed (a lymph node dissection) after chemoradiation is done.

Another option is to treat first with surgery to remove the cancer and neck lymph nodes. This is often followed by radiation or chemoradiation to lower the chance of the cancer coming back.

The choice of treatment is influenced by where the cancer is, how much it has spread, the expected side effects, patient preferences, and the patient's current health status.

Some doctors give chemo as the first treatment, followed by chemoradiation, and then surgery if needed. Not all doctors agree with this approach, though.

Stages IVB and IVC

These are [HPV-negative cancers](#)⁴ that have already spread into nearby tissues, structures, and maybe [lymph nodes](#)⁵. Stage IVC cancers have spread to other parts of the body, such as the lungs. These cancers are usually treated with [chemo](#), [cetuximab](#), or both. Other treatments such as [radiation](#) may also be used to help [relieve symptoms](#) from the cancer or to help prevent new problems.

[Clinical trials](#)⁶ are looking at different ways of combining radiation and chemo with or without cetuximab or other new agents to improve survival and quality of life, and

reduce the need for radical or deforming surgery to treat these advanced cancers in the mouth and throat.

Recurrent oral cavity or oropharyngeal cancer

When cancer come backs after treatment, it's called [recurrent cancer](#)⁷. Recurrence can be local (in or near the same place the cancer first started), regional (in nearby [lymph nodes](#)⁸), or distant (spread to other organs such as the lungs or bone). Treatment options for recurrent cancers depend on the location and size of the cancer, what treatments have already been used, and the person's general health.

If the cancer comes back in the same area and [radiation therapy](#) was used as the first treatment, [surgery](#) is often the next treatment, if the cancer can be removed completely and the patient is healthy enough for surgery. Usually, external beam radiation therapy cannot be repeated in the same site except in certain cases. But internal radiation (brachytherapy) can often be used to control the cancer if it has come back in the place it started. If surgery was used first, more surgery, radiation therapy, [chemo](#), [cetuximab](#), or a combination of these may be options.

If the cancer comes back in the lymph nodes in the neck, the nodes are often removed with surgery (lymph node dissection). This may be followed by radiation.

If the cancer comes back in a distant area, chemo (and/or cetuximab) is the preferred treatment. This may shrink or slow the growth of some cancers for a while and help relieve symptoms, but these cancers are very hard to cure.

If chemo is no longer working, a newer option might be treatment with an [immunotherapy](#)⁹ drug such as pembrolizumab (Keytruda) or nivolumab (Opdivo). These drugs can help the body's own immune system attack the cancer.

If further treatment is recommended, it's important to talk to your doctor so that you understand what the goal of treatment is — whether it's to try to cure the cancer or to [keep it under control](#)¹⁰ for as long as possible and relieve symptoms. This can help you weigh the pros and cons of each treatment. Because these cancers are hard to treat, [clinical trials](#)¹¹ of newer treatments may be a good option for some people.

Hyperlinks

1. <https://author-prod.cancer.org/content/cancer/en/cancer/oral-cavity-and-oropharyngeal-cancer/detection-diagnosis-staging/staging.html>
2. www.cancer.org/treatment/treatments-and-side-effects/clinical-trials.html

3. www.cancer.org/cancer/oral-cavity-and-oropharyngeal-cancer/after-treatment/second-cancers.html
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10. www.cancer.org/treatment/survivorship-during-and-after-treatment/when-cancer-doesnt-go-away.html
11. www.cancer.org/treatment/treatments-and-side-effects/clinical-trials.html

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Written by

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After Oral Cavity and Oropharyngeal Cancer Treatment

Living as a Cancer Survivor

For many people, cancer treatment often raises questions about next steps as a survivor.

- [Living as an Oral Cavity and Oropharyngeal Cancer Survivor](#)

Cancer Concerns After Treatment

Treatment may remove or destroy the cancer, but it's very common to worry or have questions about cancer coming back or treatment no longer working.

- [Second Cancers After Oral Cavity or Oropharyngeal Cancer](#)
-

Living as an Oral Cavity and Oropharyngeal Cancer Survivor

For many people with oral cavity or oropharyngeal cancer, treatment can remove or destroy the cancer. The end of treatment can be both stressful and exciting. You may be relieved to finish treatment, but yet it's hard not to worry about cancer coming back. This is very common if you've had cancer.

For other people, the [cancer might never go away](#)¹ completely. Some people may get regular treatment with chemotherapy or targeted therapy or other treatments to try and help keep the cancer in check. Learning to live with cancer that does not go away can be difficult and very stressful.

Life after cancer means returning to some familiar things and also making some new choices.

Follow-up care

After you have completed treatment, your doctors will still want to watch you closely. It's very important to go to all of your follow-up appointments. During these visits, your doctors will ask questions about any problems you are having and will examine you. Your doctor may also order [lab tests](#)² or [imaging tests](#)³ (such as MRI or CT scans) to look for signs of cancer return (called [cancer recurrence](#)⁴). Your health care team will discuss which tests should be done and how often based on the type and [stage](#)⁵ of your cancer, the type of [treatment](#)⁶ you had, and the response to that treatment.

People with cancer of the oral cavity or oropharynx may develop recurrences or [new cancers](#) in the head and neck area or the lungs. With improvements in surgery and radiation therapy, the ability to control the main (primary) cancer has greatly improved. But development of second cancers in the head and neck or lungs remains an important risk. Because of this, you will be followed closely after treatment. Recurrences happen most often in the first 2 years after treatment, so you will be examined every few months during the first 2 years and then less often after that.

If you were treated with radiation to the neck, blood tests to look at thyroid function may be needed about every 6 months.

Many studies have found that some people's quality of life tends to get worse in the first few months after treatment. But after that, for people who have given up smoking and drinking alcohol, things tend to get better. Within a year, many people are feeling reasonably well and happy.

Almost any cancer treatment can have side effects. Some may last for a few weeks to several months, but others can last the rest of your life. Don't hesitate to tell your cancer care team about any symptoms or side effects that bother you so they can help you manage them. Keep in mind that it's very important to report any new symptoms to your doctor right away, because they may prompt your doctor to do tests that could help find recurrent cancer as early as possible, when the likelihood of successful treatment is greatest.

Problems with eating and nutrition

Cancers of the mouth and throat and their treatments can sometimes cause problems such as loss or change in taste, 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. Some may even need a feeding tube placed into the stomach, at least for a short time during and after treatment. You may want to consult with a nutritionist to help find ways to meet your nutritional needs. If a dry mouth is making it hard to eat, your doctor may recommend a saliva substitute. This can help you maintain your weight and nutritional intake. Again, talk to your doctor about any problems you're having. There are often ways to help.

Speech and swallowing therapy

Oral cavity or oropharyngeal cancers and their treatments may affect a person's speech and ability to swallow. A speech therapist can often help with these. These experts are knowledgeable about speech and swallowing problems. They can help you learn to manage these problems and do the things you want and need to do.

Ask your doctor for a survivorship care plan

Talk with your doctor about developing a survivorship care plan for you. This plan might include:

- A suggested schedule for follow-up exams and tests
- A schedule for other tests you might need in the future, such as early detection (screening) tests for other types of cancer, or tests to look for long-term health effects from your cancer or its treatment
- A list of possible late- or long-term side effects from your treatment, including what to watch for and when you should contact your doctor
- Diet and physical activity suggestions
- Reminders to keep your appointments with your primary care provider (PCP), who will monitor your general health care

Keeping health insurance and copies of your medical records

Even after treatment, it's very important to keep health insurance. Tests and doctor

visits cost a lot, and even though no one wants to think of their cancer coming back, this could happen.

At some point after your cancer treatment, you might find yourself seeing a new doctor who doesn't know about your medical history. It's important to keep copies of your medical records to give your new doctor the details of your diagnosis and treatment. Learn more in [Keeping Copies of Important Medical Records](#)⁷.

Can I lower my risk of oral cavity or oropharyngeal cancer progressing or coming back?

If you have (or have had) oral cavity or oropharyngeal cancer, you probably want to know if there are things you can do that might lower your risk of the cancer growing or coming back, such as exercising, eating a certain type of diet, or taking nutritional supplements. Unfortunately, it's not yet clear if there are things you can do that will help.

Adopting healthy behaviors such as [not smoking](#)⁸, [eating well](#)⁹, [getting regular physical activity](#)¹⁰, and [staying at a healthy weight](#)¹¹ might help, but no one knows for sure. However, we do know that these types of changes can have positive effects on your health that can extend beyond your risk of oral cavity or oropharyngeal cancer or other cancers.

About dietary supplements

So far, no [dietary supplements](#)¹² (including vitamins, minerals, and herbal products) have been shown to clearly help lower the risk of oral cavity or oropharyngeal cancer progressing or coming back. This doesn't mean that no supplements will help, but it's important to know that none have been proven to do so.

Dietary supplements are not regulated like medicines in the United States – they do not have to be proven effective (or even safe) before being sold, although there are limits on what they're allowed to claim they can do. If you're thinking about taking any type of nutritional supplement, talk to your health care team. They can help you decide which ones you can use safely while avoiding those that might be harmful.

If the cancer comes back

If the cancer does come back (recur) at some point, your treatment options will depend on where the cancer is located, what treatments you've had before, and your health. For more information on how recurrent cancer is treated, see [Treatment Options for Oral](#)

[Cavity and Oropharyngeal Cancer by Stage](#)¹³.

For more general information, you may also want to see [Understanding Recurrence](#)¹⁴.

Could I get a second cancer after treatment?

People who've had oral cavity or oropharyngeal cancer can still get other cancers. In fact, oral cavity or oropharyngeal cancer survivors are at higher risk for getting some other types of cancer. Learn more in [Second Cancers After Oral Cavity or Oropharyngeal Cancer](#).

Getting emotional support

Some amount of feeling depressed, anxious, or worried is normal when cancer is a part of your life. Some people are affected more than others. But everyone can benefit from help and support from other people, whether friends and family, religious groups, support groups, professional counselors, or others. Learn more in [Life After Cancer](#)¹⁵.

Hyperlinks

1. www.cancer.org/treatment/survivorship-during-and-after-treatment/when-cancer-doesnt-go-away.html
2. www.cancer.org/treatment/understanding-your-diagnosis/tests/understanding-your-lab-test-results.html
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Second Cancers After Oral Cavity or Oropharyngeal Cancer

Cancer survivors can be affected by a number of health problems, but often their greatest concern is facing cancer again. If oral cavity or oropharyngeal cancer comes back after treatment it is called a [recurrence](#)¹. But some cancer survivors may develop a new, unrelated cancer later. This is called a *second cancer*. No matter what type of cancer you have had, it's still possible to get another (new) cancer, even after surviving the first.

Being treated for cancer doesn't mean you can't get another cancer. People who have had cancer can still get the same types of cancers that other people get. In fact, some types of cancer and cancer treatments can be linked to a higher risk of certain second cancers.

Second cancers linked to oropharyngeal cancer

Patients who have had cancers of the oropharynx can get any type of second cancer, but they have an increased risk of:

- [Lung cancer](#)²
- [Esophagus cancer](#)³
- [Cancers of the larynx and hypopharynx](#)⁴
- Cancer of the oral cavity (including tongue and mouth)
- Another cancer of the oropharynx (this is different than the first cancer coming

back)

- [Pancreas cancer](#)⁵
- [Cancer of the bile ducts](#)⁶
- [Anal cancer](#)⁷
- [Cancer of the cervix](#)⁸
- [Colon cancer](#)⁹
- [Rectal cancer](#)¹⁰
- [Stomach cancer](#)¹¹
- [Chronic myeloid leukemia \(CML\)](#)¹²
- [Hodgkin lymphoma](#)¹³
- [Thyroid cancer](#)¹⁴

Second cancers linked to oral cancer

Survivors of cancer of the oral cavity can get any second cancer, but they have an increased risk of:

- [Lung cancer](#)¹⁵
- [Esophagus cancer](#)¹⁶
- [Cancers of the larynx and hypopharynx](#)¹⁷
- Another cancer of the oral cavity (this is different than the first cancer coming back)
- Cancer of the oropharynx
- [Stomach cancer](#)¹⁸
- [Liver cancer](#)¹⁹
- [Colon cancer](#)²⁰
- [Rectal cancer](#)²¹
- [Cancer of the cervix](#)²²

What you can do

Quit smoking

Many of these cancers are linked to tobacco use. In fact, lung cancer, a cancer strongly linked to smoking tobacco, is the most common second cancer in those with a history of mouth or throat cancer.

While it's not easy to do, quitting tobacco can decrease your risk of many health problems, including another cancer. Smokers who quit have a lower risk of lung, esophagus, larynx, hypopharynx, and oral cavity and oropharynx than those who continue to smoke.

See [Stay Away from Tobacco](#)²³ to learn more about quitting tobacco.

Follow-up after treatment

After completing treatment for cancer of the oral cavity or oropharynx, you should still see your doctor regularly. Your doctor may order tests to look for signs that the cancer has come back or spread. These tests are also useful in finding some second cancers, particularly a new lung cancer or cancer in the mouth or throat. Experts don't recommend any other tests to look for second cancers in people who don't have [symptoms](#)²⁴. Let your doctor know about any changes or problems you notice, because they could be caused by the cancer coming back or by a new disease or second cancer.

Survivors of oral cavity and oropharyngeal cancers should follow the [American Cancer Society guidelines for the early detection of cancer](#)²⁵.

To be in good health, survivors should also:

- Get to and stay at a [healthy weight](#)²⁶
- Adopt a [physically active lifestyle](#)²⁷
- Eat a [healthy diet](#)²⁸, with an focus on plant foods
- Limit [alcohol](#)²⁹ to no more than 1 drink per day for women or 2 per day for men

These steps can also lower the risk of some cancers.

See [Second Cancers in Adults](#)³⁰ to learn more about the causes of second cancers.

Hyperlinks

1. www.cancer.org/treatment/survivorship-during-and-after-treatment/understanding-recurrence.html
2. www.cancer.org/cancer/lung-cancer.html
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