Treating Oral Cavity and Oropharyngeal Cancer

General treatment information

After the cancer is found and staged, your doctor will discuss treatment choices with you. 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, and other health professionals.

It is important to discuss all of your treatment options, including 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. You can find some good questions to ask in the section What Should You Ask Your Doctor About Oral Cavity and Oropharyngeal Cancer? If time permits, it is often a good idea to get a second opinion. A second opinion can provide you with more information and help you feel confident about your chosen treatment plan.

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

- Surgery
Radiation therapy
Chemotherapy
Targeted therapy
Palliative treatment

These 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.

It is important to take time and think about all of your choices. 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.

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 are 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. You can also call our clinical trials matching service at 1-800-303-5691 for a list of studies that meet your medical needs, or see Clinical Trials to learn more.

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 dangerous.

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. See Complementary and Alternative Medicine to learn more.

**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, support groups, 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 on call 24 hours a day, every day.

The next few sections describe the various types of treatments and how they are used for oral cavity and oropharyngeal cancers. This is followed by a description of the most common approaches used for these cancers, based on their stage and where they started.

*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 and its stage, different operations may be used to remove the cancer.

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

In a tumor resection, the entire tumor and an area of normal-appearing tissue around it is removed (resected). The area of normal tissue is removed to reduce the chance of any cancer cells being left behind.

The main (primary) tumor is removed using a method determined by its size and location. For example, if a tumor is in the front of the mouth, it can be removed relatively easily through the opening of the mouth. But sometimes a larger tumor (especially when it has grown into the oropharynx) needs to be removed through an incision in the neck or by cutting the jaw bone with a special saw to provide access to the tumor (mandibulectomy).

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. More 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 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 the area, it often means that the cancer has grown into the jaw bone.
If the jaw bone looks normal on imaging studies and there is 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 of a piece of jaw bone.

If the x-ray shows the tumor has grown into the jaw bone, a whole portion of the mandible will need to be removed in an operation called a **segmental mandibulectomy**. The removed piece of the jaw 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. Depending on the situation, sometimes a metal plate or a piece of bone from a deceased donor may need to be used instead.

**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 resect cancers of the throat (including the oropharynx). Since 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. However, newer robotic surgeries allow surgeons to remove pharynx cancers completely with fewer side effects. Patients whose cancers are removed completely with surgery might be able to avoid further treatment with radiation and/or chemotherapy. Since these procedures are newer, it is 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 also 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 this is a significant risk, sometimes the voice box (larynx) is 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 for the patient to breathe through (instead of breathing through the mouth or nose). This is known as a tracheostomy (see picture).

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

Neck dissection

Cancers of the oral cavity and oropharynx often spread to the lymph nodes in the neck. Removal 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 or likely to contain cancer.

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, as well as some muscle and nerve tissue are removed.
- 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 by injury during the operation to certain nerves that supply these areas. After a selective neck dissection, the nerve might only be injured. If so, the weakness of the shoulder and lower lip usually goes away after a few months. But 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 therapists can teach the patient exercises to improve neck and shoulder movement.

**Reconstructive surgery**

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

For small tumors, the narrow zone of normal tissue removed along with the tumor is usually small enough that reconstructive surgery is not 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 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, it is a good idea to ask the surgeon about your options for reconstructive surgery.

**Tracheotomy/tracheostomy**

A tracheotomy is an incision (hole) made through the skin in the front of the neck and into the trachea (windpipe). It is done to help a person breathe. It may be used in different circumstances.

If a lot of swelling is expected in the airway after the cancer is removed, the doctor may want to do a temporary 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 later when it is no longer needed.

If the cancer is blocking the throat and is too large 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 to bypass the tumor and allow the person to breathe more comfortably. This is known as a *tracheostomy*.

A permanent tracheostomy is also needed after a total laryngectomy.

**Gastrostomy tube**

Cancers in the oral cavity and oropharynx may prevent 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 is placed through the skin and muscle of your abdomen directly into your stomach. Sometimes this tube is placed during an operation, but often it is placed endoscopically. While the patient is sedated, the doctor puts a long, thin, flexible tube with a camera on the end (an endoscope) down the throat to see directly into the stomach. When the feeding tube is placed through endoscopy, it is called a *percutaneous endoscopic gastrostomy*, or *PEG tube*. Once in place, it can be used to deliver nutrition directly into the stomach.

Patients are fed special liquid nutrients that are dripped through the tube. As long as they can still swallow normally, patients with these tubes can also eat normal food as well.

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

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

In either case, the patient and family are taught how to use the tube. After the patient goes home, home health nurses usually visit to make sure the patient is 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 the patient’s teeth, some or even all of the teeth may need to be removed before radiation can be given. 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 complicated operations.

If the surgery is not too complex, the main side effect may be some pain afterward, which can be treated with medicines if needed.

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 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 very 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 patients 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 our document [Laryngeal and Hypopharyngeal Cancer](#) 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 may irritate the lining of the breathing tubes and cause thick or crusty mucus to build up.

It is 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 soon 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 by 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 before the surgery about what these changes might be to help prepare you for them. He or she can also give you 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. Ears and noses can be made out of plastic, tinted to match the skin, and attached to the face. All of these things can be a great help to a person’s self-esteem.
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 several situations for oral and oropharyngeal cancers:

- It can be used as the main treatment for small cancers.
- Patients with larger cancers may need both surgery and radiation therapy or a combination of radiation therapy and chemotherapy or a targeted drug (see Targeted Therapy for Oral Cavity and Oropharyngeal Cancer).
- After surgery, radiation therapy can be used, either alone or with chemotherapy, as an additional (adjuvant) treatment to try to kill any small deposits of cancer that may not have been removed during surgery. This is known as adjuvant radiation therapy.
- 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 radical surgery and remove less tissue.
- Radiation therapy can also be used to relieve symptoms of more advanced cancer, such as pain, bleeding, trouble swallowing, and problems caused by bone metastases.

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 known as external beam radiation therapy. 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 carefully outlined target.

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. Other schedules for radiation doses have been studied in clinical trials.

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 larger dose.

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 may help some patients live longer. The drawback is that treatments given on these schedules also tend to have more severe side effects.

Radiation is often given using techniques that help doctors focus the radiation more precisely, such as such as three-dimensional conformal radiation therapy (3D-CRT) and intensity modulated radiation therapy (IMRT). These use the results of imaging tests such as 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 tissues than older ways of giving external beam radiation.

**Brachytherapy**

Another way to deliver radiation is by placing radioactive materials directly into or near the cancer. This method 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 is 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 and are left in place for several days while the patient stays in the hospital. Radioactive materials are then inserted 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 placed directly into the tumor. The pellets give off low levels of radioactivity for several weeks and eventually lose their strength. The pellets themselves are left in place permanently 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 on the head and neck 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. This is known as a *gastrostomy* or *G tube*. (See the Surgery for Oral Cavity and Oropharyngeal Cancer section.)

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 is injected under the skin or into a vein a few minutes 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 treated surgically.

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 are more severe if chemotherapy is given at the same time as radiation (chemoradiation). Both the radiation and 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 are treated at a medical center with a lot of experience with this approach.

More information on radiation therapy can be found in the Radiation Therapy section of our website, or in our document A Guide to Radiation Therapy.

- References
See all references for Oral Cavity and Oropharyngeal Cancers

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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 to organs beyond the head and neck. It 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.
- 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) 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) can 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.

Of these, 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®)

Other drugs that are used less often include

- Methotrexate
- Ifosfamide (Ifex®)
- Bleomycin

A chemo drug may be used alone or combined with other drugs. Combining drugs can often shrink tumors more effectively, but will likely cause more side effects. A commonly used combination is cisplatin and 5-FU. This combination is more effective 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 period of treatment followed by a rest period to allow the body time to recover. Each chemotherapy cycle typically 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 (known as *chemoradiation*). Cisplatin alone is usually the preferred chemo drug when given along with radiation. Some doctors prefer to give the radiation and chemo before surgery. However, the side effects can be severe and may be too much for some patients.

In patients whose cancers are too advanced for surgery but not widespread, chemo and radiation given 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 are also affected. This can lead to some side effects.

The side effects of chemo depend on the type and dose of drugs given and how long they are taken. These 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 is often 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 it can last a long time in some people. Cisplatin can also kidney damage. To help prevent this, the patient is given fluid intravenously (IV) before and after each dose.

Although most side effects improve 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 have any side effects. There are ways to prevent or
treat many of the side effects of chemo. For example, many good drugs are available to
help prevent or treat nausea and vomiting.

More information on chemotherapy can be found in the Chemotherapy section of our
website.

- References
See all references for Oral Cavity and Oropharyngeal Cancers

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**Targeted Therapy for Oral Cavity and Oropharyngeal Cancer**

As researchers have learned more about the changes in cells that cause 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 less severe) side effects.

Cetuximab (Erbitux®) is a monoclonal antibody (a man-made version of an immune
system protein) that targets epidermal growth factor receptor (EGFR), a protein on the
surface of certain cells that helps them grow and divide. Oral cavity and oropharyngeal
cancer cells often have more than normal amounts of EGFR. By blocking EGFR,
cetuximab can 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. 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. Other side effects may include headache, tiredness, fever, and diarrhea.

Several other drugs that target EGFR are now being studied as well, some of which are already being used to treat other cancers. (See What’s New in Oral Cavity and Oropharyngeal Cancer Research and Treatment?)

More information on targeted therapy can be found in our document Targeted Therapy.

- References
See all references for Oral Cavity and Oropharyngeal Cancers

Palliative Treatment for Oral Cavity and Oropharyngeal Cancer

Most of this document discusses ways to remove or to destroy cancer cells or to 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 may play an even larger role, helping to keep the person comfortable and maintain quality of life for as long as possible.

Pain is a significant concern for many patients with cancer. It can almost always be treated effectively with milder drugs like ibuprofen or acetaminophen or, if needed, with stronger medicines like morphine or similar drugs (known as opioids). Taking these drugs does not mean a person will become addicted. Many studies have shown that people with cancer who take opioids for pain as their doctor directed typically do not become addicted. For more information on pain, what can be done about it, and how to keep track of it, see the Cancer Pain section of our website.
Nutrition is another important concern for people with head and neck cancers such as oral cavity or oropharyngeal cancers. Both the cancer and its treatment may make it hard to swallow. If this affects how a person eats or drinks, they may need to have a feeding tube placed. (This was discussed in 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 information on what to eat during cancer treatment, see the Nutrition for People with Cancer section of our website.

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

For more information on palliative care and getting help with side effects, see the Palliative or Supportive Care section of our website.

- References
  See all references for Oral Cavity and Oropharyngeal Cancers

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Treatment Options for Oral Cavity and Oropharyngeal Cancer by Stage

The type of treatment your doctor will recommend depends on the tumor site and how far the cancer has spread. This section lists the options usually considered for each stage of oral cavity or oropharyngeal cancer. These are general comments about treatment, because the approach to each site may be different. Your doctor may have reasons for suggesting a treatment option not mentioned here.
**Stage 0 (carcinoma in situ)**

Although cancer in this stage has not become invasive (started to grow into deeper layers of tissue), it can do so if not treated. The usual treatment is to remove the top layers of tissue along with a small margin of normal tissue. This is known as **surgical stripping** or **thin resection**. Close follow-up to see if any cancer has come back (recurrence) is important. Carcinoma in situ that keeps coming back after resection may require **radiation therapy**.

Nearly all patients at this stage survive a long time without the need for more intensive treatment. But it is important to note that continuing to smoke increases the risk that a new cancer will develop.

**Stages I and II**

Most patients with stage I or II oral cavity and oropharyngeal cancer can be successfully treated with either **surgery** or **radiation therapy**. **Chemotherapy** (chemo) may be given with radiation, especially to treat any cancer left after surgery. Both surgery and radiation work well in treating these cancers. The choice of treatment is influenced by the expected side effects, including how the treatment might affect your appearance and ability to speak and swallow.

**Lip:** Small cancers are often removed with surgery, with Mohs surgery as an option. Radiation alone may also be used as the first treatment. Surgery may be needed later if radiation doesn't completely get rid of the tumor. Large or deep cancers often require surgery. If needed, special reconstructive surgery can help correct the defect in the lip.

If the tumor is thick, this increases the risk that the cancer may have spread to lymph nodes in the neck, so the surgeon may remove them (lymph node dissection) to 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 (lymph node dissection) to check for cancer spread. If the cancer does not appear to have been completely removed by surgery or if has a high risk of coming back based on how the cancer cells look under the microscope, radiation (often combined with chemo) may be added.

Radiation can be used instead of surgery as the main treatment in some patients. This
is most often used in patients who can’t have surgery because of 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) in some cases. This would mean removing lymph nodes in the neck as well (lymph node dissection). If any cancer remains after surgery, radiation (often with chemo) is often used.

**Stages III and IVA**

**Oral cavity cancers** (cancers of floor of the mouth, front of the tongue, inside of the cheek, gums, and hard palate): Stages III and IVA include larger cancers, those that have grown into nearby tissues, and those that have spread to nearby lymph nodes in the neck. These cancers are often treated with a combination of surgery and radiation. Surgery is often done first and includes removal of neck lymph nodes (lymph node dissection).

**Oropharyngeal cancers** (cancers of the back of the tongue, soft palate, and tonsils): Stages III and IVA include larger cancers, those that have grown into nearby tissues, and those that have spread to nearby lymph nodes in the neck. These cancers are often treated with a combination of radiation and chemo (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, and the patient’s current health status.

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

**Stage IVB**

Cancers that have already spread to other parts of the body 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 problems from occurring.

Clinical trials 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 resection of advanced oral cavity and oropharyngeal cancers.

**Recurrent oral cavity or oropharyngeal cancer**

When cancer comes back after treatment, it is called recurrent cancer. Recurrence can be local (in or near the same place it started), regional (in nearby lymph nodes), or distant (spread to bone or organs such as the lungs). Treatment options for recurrent cancers depend on the location and size of the cancer, what treatments have already been used, and on 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 selected cases. However, 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 considered.

If the cancer comes back in the lymph nodes in the neck, these 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 form of treatment. This may shrink or slow the growth of some cancers for a while and help relieve symptoms, but these cancers are very difficult to cure.

If chemo is no longer working, a newer option might be treatment with an immunotherapy 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 is to try to cure the cancer or to keep it under control 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 of newer treatments may be a good option for some people.