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
- Immunotherapy for Oral Cavity and Oropharyngeal Cancer
- Palliative Treatment for Oral Cavity and Oropharyngeal Cancer

Common treatment approaches

Different treatments might 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.

- 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.
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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 Trials

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 Integrative Medicine

Help getting through cancer treatment

People with cancer need support and information, no matter what stage of illness they may be in. Knowing all of your options and finding the resources you need will help you make informed decisions about your care.

Whether you are thinking about treatment, getting treatment, or not being treated at all, you can still get supportive care to help with pain or other symptoms. Communicating with your cancer care team is important so you understand your diagnosis, what treatment is recommended, and ways to maintain or improve your quality of life.

Different types of programs and support services may be helpful, and can be 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.

- Palliative Care

Surgery is often the first treatment used for these cancers. Several types of operations can be done to treat oral cavity and oropharyngeal cancers, depending on where the cancer is located and its stage[1]. It's most commonly used for small, early-stage cancers that haven't spread.

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

Studies have shown that people with head and neck cancer who are treated at facilities that perform a lot of head and neck cancer surgeries, tend to live longer. Because of

slices. Each slice is looked at right away under the microscope to see if it has cancer cells. Slices are removed and examined until no cancer cells are seen.

With this method, the amount of normal tissue removed with the tumor is reduced and the change in appearance caused by the surgery is limited. 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 might 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 lower leg, 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**.

This operation makes a hole in the roof of the mouth which can be filled with a special denture called a **prosthesis**. This is created by a prosthodontist, a dentist with special training. Other options to close this gap include a skin graft or a piece of muscle from the forearm or thigh.

Robotic surgery

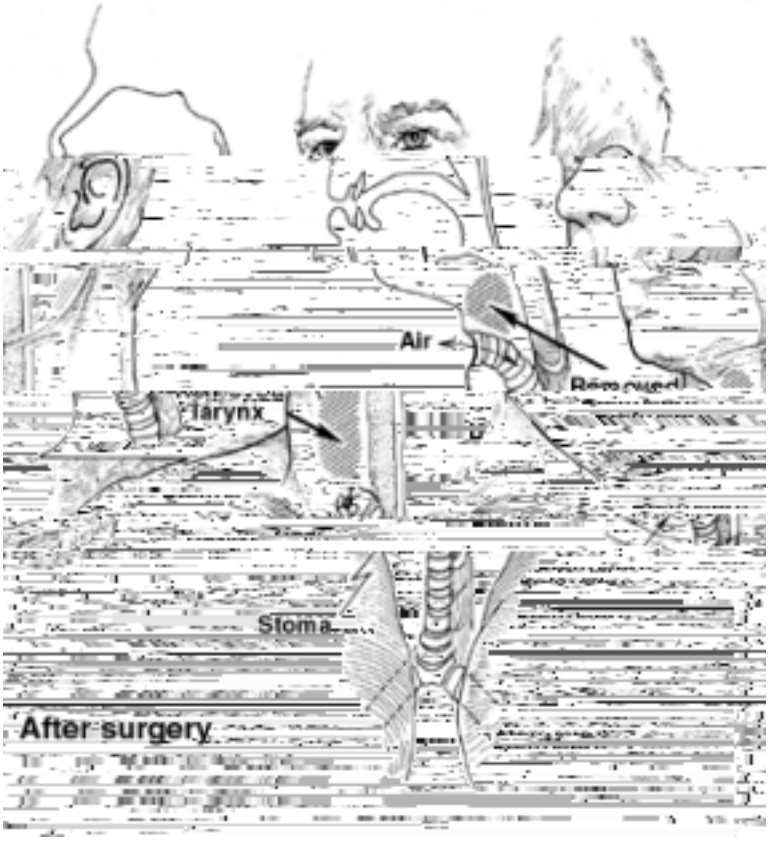
More and more, **trans-oral robotic surgery (TORS)** is being used to remove cancers of the back of the throat and mouth that might otherwise need a mandibulectomy for the surgeon to reach the tumor. The surgeon sits at a control panel in the operating room and with the help of an attached camera moves robotic arms with small tools on them to cut out the tumor.

Because the more standard, open surgeries for throat cancer can result in more extensive operations, newer robotic surgeries may allow surgeons to completely remove throat cancers with fewer side effects. Since these procedures are newer, it's important to have them done by surgeons and at treatment centers that are experienced in this approach.

Laryngectomy (removal of the voice box)

Very rarely, surgery to remove large tumors at the base 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**.



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 dissectionorlymph 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 at treatment centers by doctors 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.

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 stay well nourished. 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 tube.

In any case, the patient and family are taught how to use the tube. After you go home, home health nurses may 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/detection-diagnosis-staging/staging.html
2. www.cancer.org/healthy/stay-away-from-tobacco.html
3. www.cancer.org/cancer/laryngeal-and-hypopharyngeal-cancer/after-treatment/follow-up.html
4. www.cancer.org/treatment/understanding-your-diagnosis/lymph-nodes-and-cancer.html
5. www.cancer.org/treatment/understanding-your-diagnosis/tests/testing-biopsy-and-cytology-specimens-for-cancer/biopsy-types.html
6. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/pain.html
7. www.cancer.org/cancer/laryngeal-and-hypopharyngeal-cancer.html
8. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/surgery.html
9. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html

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Radiation Therapy for Oral Cavity and Oropharyngeal Cancer

Studies have shown that people who are treated at centers that treat a lot of head and neck cancers with radiation, tend to live longer. And because of the complicated types

Quit smoking before oral and oropharyngeal cancer treatment

If you smoke, it is important to quit. Smoking during radiation treatment can cause more side effects and a poor response to radiation, which can raise your risk of the cancer coming back (recurrence). Smoking after treatment also increases the chance of getting a new cancer. **Quitting smoking for good (before treatment starts, if possible) is the best way to improve your chances for successful treatment.** It is never too late to quit. For help, see How To Quit Using Tobacco[2].

External beam radiation used for oral and oropharyngeal cancers

External beam radiation therapy[3] (EBRT) is the type of radiation therapy most often used to treat oral cavity or oropharyngeal cancer or its spread to other organs. It focuses radiation from a source outside the body onto the cancer.

Before EBRT, a somewhat flexible but sturdy mesh head and neck mask might be made to hold your head, neck, and shoulders in the exact same position for each treatment. Some people might feel a bit confined while this mask is on and might need to ask for medicine to help them relax during the treatment. Sometimes, the mask can be adjusted so that it is not too constricting. Discuss your options with your radiation oncologist. You might also be fitted for a bite block that you hold in your mouth during treatment

Treatment is much like getting an x-ray, but the radiation dose is stronger. The procedure itself is without pain and each treatment lasts only a few minutes. The setup time (getting you into place for treatment) often takes longer.

Different types of EBRT

There are also more advanced EBRT techniques that help doctors focus the radiation more precisely.

Three-dimensional conformal radiation therapy (3D-CRT) uses special computers to precisely map the location of the tumor. Several radiation beams are then shaped and aimed at the tumor from different directions, which makes it less likely to damage normal tissues.

Intensity modulated radiation therapy (IMRT) is a form of 3D-CRT. It uses a computer-driven machine that actually moves around the patient as it delivers radiation. Along with shaping the beams and aiming them at the tumor from several angles, the intensity (strength) of the beams can be adjusted to limit the dose reaching nearby

normal tissues. This may let the doctor deliver a higher dose to the tumor.

Proton beam radiation therapy focuses beams of protons instead of x-rays on the cancer. Unlike x-rays, which go through the patient and release radiation both before and after they hit the tumor, protons only travel a certain distance, so the tissues behind the tumor are exposed to very little radiation. Even the tissues in front of the tumor see less radiation than the tumor itself. This means that proton beam radiation can deliver radiation to the cancer while doing less damage to nearby normal tissues. Because there are so many critical structures close by, proton beam radiation can be used to treat certain tumors of the oral cavity or oropharynx. Proton therapy can be a safe option in certain cases when using x-rays is not.

Proton therapy is not widely available in the United States. The machines needed to make protons are very expensive. Proton therapy might also not be covered by all insurance companies at this time.

Different treatment schedules for EBRT

Standard EBRT for oral cavity or oropharyngeal cancers is usually given in daily fractions (doses) 5 days a week for about 7 weeks. But sometimes other schedules might be used:

- **Hyperfractionation** radiation is a slightly lower radiation dose given more than once a day (for example, twice a day for 7 weeks).
- **Accelerated fractionation** radiation is the standard dose of radiation given each day but over a shorter time (5 to 6 weeks) instead of the usual 7 weeks (for example, radiation is given 6 days a week over 5 weeks instead of the standard 5 days a week for 7 weeks).
- **Hypofractionation** radiation is a slightly higher radiation dose given each day to lessen the number of treatments (for example, a higher radiation dose is given each day for 6 weeks, not the standard 7 weeks).

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

Brachytherapy[4] is rarely used to treat oral cavity or oropharyngeal cancers as a first treatment, but it might be used if the cancer recurs (comes back).

Possible side effects of radiation therapy for oral cavity or oropharyngeal cancer

If you are going to get radiation therapy, it's important to ask your doctor about the possible side effects so you know what to expect.

Radiation to the mouth and throat area can cause several short-term side effects[5] depending on where the radiation is aimed and can include:

- Skin changes like a sunburn or suntan in the treated area
- Hoarseness
- Loss of taste
- Redness, soreness, or even pain in the mouth and throat
- Dry mouth
- Trouble swallowing
- Feeling tired
- Open sores in the mouth and throat

Long-lasting or permanent side effects of radiation therapy

Poor nutrition and trouble swallowing: Many people treated with radiation to the oral cavity and throat area have painful sores in the mouth and throat that can make it very hard to eat and drink. This can lead to weight loss and poor nutrition. The sores heal with time after the radiation ends, but some people continue to have problems swallowing long after treatment ends because of the tightening of the muscles caused by radiation. **Ask your speech pathologist about swallowing exercises you can do to help keep those muscles working and increase your chance of eating normally after treatment.** Liquid feeding through a tube placed into the stomach might be needed. (See Surgery for Oral Cavity and Oropharyngeal Cancer for more on tube feedings.)

Dry mouth: Damage to the salivary (spit) glands from radiation can cause a dry mouth that doesn't get better with time. This can lead to discomfort and problems eating and swallowing, as well as damage to the jaw bone.

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 and see their dentist regularly. Fluoride treatments may also help.

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.

Thyroid problems: Radiation might damage your thyroid gland. Your doctor will do blood tests regularly to see how well your thyroid is working. You may need treatment if it's been damaged and is not working well.

Lymphedema: Some people treated with radiation therapy might be at risk of developing lymphedema in the head and neck areas that were treated. These areas can become swollen and firm. This can be worse if the person also had surgery. Sometimes, medicines, physical therapy, or massage therapy might be helpful.

Damage to the carotid artery: Radiation to the neck area might increase a person's risk of stroke many years after treatment. This might be because of health problems that were already present before radiation such as narrowing of the artery or an increase in plaques which can both decrease blood flow. People who smoke are also damaging their arteries. Because of this some doctors might order regular ultrasounds for you after treatment, to keep an eye on the arteries.

More information about radiation therapy

To learn more about how radiation is used to treat cancer, see Radiation Therapy[6].

To learn about some of the side effects listed here and how to manage them, see Managing Cancer-related Side Effects[7].

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html
2. www.cancer.org/healthy/stay-away-from-tobacco/guide-quitting-smoking.html
3. www.cancer.org/treatment/treatments-and-side-effects/treatment-

types/radiation.html
4. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/radiation/internal-radiation-therapy-brachytherapy.html
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Adjuvant chemotherapy is given **after surgery**

Chemotherapy is given in cycles: one drug or a combination of drugs given on a set schedule, followed by a rest period. Common schedules of chemo cycles can be once a

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

- Hair loss
- Mouth sores
- Loss of appetite or weight loss
- Nausea and vomiting
- Diarrhea
- Nail changes
- Skin changes

Chemo can affect the blood-producing cells of the bone marrow, which can lead to:

- Increased chance of infections[3] (from low white blood cell counts)
- Easy bruising or bleeding (from low blood platelet[4] counts)
- Fatigue (from low red blood cell counts)[5]

Along with the risks above, some side effects are seen more often with certain chemo drugs. For example, 5-FU often causes diarrhea[6]. This might need to be treated with drugs like loperamide. Cisplatin, docetaxel, and paclitaxel can cause nerve damage[7] (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.

Most side effects tend to get better over time once treatment is stopped. Some, such as neuropathy 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. In some cases, the doses of the chemo drugs may need to be reduced or treatment may need to be delayed or stopped to help keep the problem from getting worse.

More information about chemotherapy

For more general information about how chemotherapy is used to treat cancer, see Chemotherapy[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/healthy/stay-away-from-tobacco/guide-quitting-smoking.html
2. www.cancer.org/treatment/treatments-and-side-effects/planning-managing/tubes-lines-ports-catheters.html
3. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/low-blood-counts/neutropenia.html
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7. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/peripheral-neuropathy.html
8. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/chemotherapy.html
9. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html

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Targeted Therapy for Oral Cavity and Oropharyngeal Cancer

What is targeted drug therapy?

Targeted drug therapy is the use of medicines that target or are directed at proteins on cancer cells that help them grow, spread, and live longer. Targeted drug therapy can be used to treat oral cavity and oropharyngeal cancers by destroying cancer cells or slowing their growth. Their side effects are different from chemotherapy[1] (sometimes less severe) and many are taken as a pill.

Some targeted drugs, for example, monoclonal antibodies, work in more than one way to control cancer cells and may also be considered immunotherapy[2] because they boost the immune system.

Drug that targets cancer cells with EGFR changes

Epidermal growth factor receptor (EGFR) is a protein that helps cancer cells grow. Drugs that target EGFR can be used to treat some oral cavity or oropharyngeal

cancers.

Cetuximab for oral cavity or oropharyngeal cancers

Cetuximab (Erbitux) is a monoclonal antibody, which is a man-made version of an immune system protein. It targets the epidermal growth factor receptor (EGFR) protein on the surface of certain cells 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 cancer cell growth.

types/immunotherapy.html
3. www.cancer.org/treatment/understanding-your-diagnosis/advanced-cancer/what-is.html
4. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/fatigue.html
5. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/stool-or-urine-changes/diarrhea.html
6. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/infusion-immune-reactions.html
7. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/targeted-therapy.html
8. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html

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Leeman JE, Katabi N, Wong RJ, Lee NY and Romesser PB. Ch. 65 - Cancer of the Head and Neck. In: Niederhuber JE, Armitage JO, Doroshow JH, Kastan MB, Tepper JE, eds. *Abeloff'sClinical Oncology*

Immunotherapy can be used to treat oral cavity and oropharyngeal cancers. Immunotherapy is the use of medicines to help boost a person's own immune system to find and destroy cancer cells more effectively. It typically works on specific proteins involved in the immune system to enhance the immune response. It has different (sometimes less severe) side effects than chemotherapy[1].

Some immunotherapy drugs, for example, monoclonal antibodies, work in more than one way to control cancer cells and may also be considered targeted drug therapy[2] because they block a specific protein on the cancer cell to keep it from growing.

Immune checkpoint inhibitors for oral cavity and oropharyngeal cancers

An important part of the immune system is its ability to keep itself from attacking normal cells in the body. To do this, it uses "checkpoints," proteins on immune cells that need to be turned on (or off) to start an immune response. Cancer cells sometimes use these checkpoints to avoid being attacked by the immune system.

Drugs that target these checkpoints (called **checkpoint inhibitors**) can be used to treat some people with oral cavity or oropharyngeal cancer.

PD-1 inhibitors

Pembrolizumab (Keytruda)-r 0 0 0 rg /s6d8pyPembrolizumab (Kem0 0 rg /GS1135 gs (PD-rpmsg

loss of appetite, constipation, joint pain, and itching.

Other, more serious side effects occur less often.

Infusion reactions: Some people might have an infusion reaction[4] while getting these drugs. This is like an allergic reaction, and can cause fever, chills, flushing of the face, rash, itchy skin, feeling dizzy, wheezing, and trouble breathing. It's important to tell your doctor or nurse right away if you have any of these symptoms while getting these drugs.

Autoimmune reactions: These drugs work by removing one of the safeguards of the body's immune system. Sometimes the immune system starts attacking other parts of the body, which can cause serious or even life-threatening problems in the lungs, intestines, liver, hormone-making glands, kidneys, nerves, skin, or other organs.

It's very important to report any new side effects during or after treatment with any of these drugs to your health care team promptly. If serious side effects do occur, you might need to stop treatment and take high doses of corticosteroids to suppress your immune system.

More information about immunotherapy

To learn more about how drugs that work on the immune system are used to treat cancer, see Cancer Immunotherapy[5].

To learn about some of the side effects listed here and how to manage them, see Managing Cancer-related Side Effects[6].

Hyperlinks

6. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html

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Leeman JE, Katabi N, Wong, RJ, Lee NY, and Romesser PB. Chapter 65 - Cancer of the Head and Neck. In: Niederhuber JE, Armitage JO, Doroshow JH, Kastan MB, Tepper JE, eds. *Abeloff's Clinical Oncology*. 6th ed. Philadelphia, Pa: Elsevier; 2020.

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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. For patients, maintaining their quality of life for as long as possible 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.

Supportive care can help ease physical symptoms from the cancer or its treatment, can help people cope with feelings they might have related to the diagnosis, and can also support caregivers. Supportive care works best if it is added to a person's care early on in their diagnosis, especially for those people with advanced cancer[1]. Some studies show it may even help people live longer.

Pain management and oral cavity and oropharyngeal cancer

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**). Sometimes, procedures like surgery, a nerve block, or radiation might be options to lessen pain. For more on pain, what can be done about it, and how to keep track of it, see Cancer Pain[2].

Nutrition and oral cavity and oropharyngeal cancer

Keeping healthy through 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 and to eat or drink. If this is the case, a feeding tube may be needed. (See Surgery for Oral and Oropharyngeal Cancer.) This tube will most likely be needed during treatment, but in some cases it might need to be left in longer. For more about what to eat during cancer treatment, see Nutrition for People with Cancer[3].

There are many other ways your cancer care team can help you maintain your quality of life and help control your symptoms. But you have to tell your team 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 is not helpful to you or your treatment goals. Tell your doctor how you really feel. Talking about the symptoms you're having lets your doctor give treatments or medicines that can help relieve them which can help you handle treatment better. You will probably feel better and be able to focus on the things that are important to you.

More information about palliative care

To learn more about how palliative care can be used to help control or reduce symptoms caused by cancer, see Palliative Care[4].

To learn about some of the side effects of cancer or treatment and how to manage them, see Managing Cancer-related Side Effects[5].

and/or radiation therapy. Chemotherapy (chemo) given along with radiation (called **chemoradiation**) is another option. Both surgery and radiation work equally 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.

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 possibility that the cancer might have spread to lymph nodes in the neck. If abnormal lymph nodes are felt or seen on an imaging test, the surgeon might remove them (called lymph node dissection) so they can be checked for cancer spread.

Oral cavity

For cancersof 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 might be removed (called lymph node dissection) to check them for cancer spread. If it looks like surgery hasn't completely removed the cancer or if there is a high chance of it coming back, radiation alone or chemoradiation might 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.

Stages III and IVA oral cavity cancer

These cancersin 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. Surgery is usually done first and includes taking out some of the neck lymph nodes (lymph node

Stage IVB cancers 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.

understand what the goal of treatment is — whether it's to try to cure the cancer or to keep it under control[8] for as long as possible and to relieve symptoms. This can help you weigh the risks and benefits of each treatment.

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/clinical-trials.html
2. www.cancer.org/cancer/head-neck-cancer.html
3. www.cancer.org/cancer/oral-cavity-and-oropharyngeal-cancer/after-treatment/second-cancers.html
4. www.cancer.org/healthy/stay-away-from-tobacco/guide-quitting-smoking.html
5. www.cancer.org/treatment/understanding-your-diagnosis/lymph-nodes-and-cancer.html
6. www.cancer.org/treatment/survivorship-during-and-after-treatment/long-term-health-concerns/recurrence.html
7. www.cancer.org/treatment/understanding-your-diagnosis/lymph-nodes-and-cancer.html
8. www.cancer.org/treatment/survivorship-during-and-after-treatment/long-term-health-concerns/cancer-as-a-chronic-illness.html

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National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines

Treatment Options for 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 now also includes the p16 (HPV) status of the tumor[1] , the stages may be higher or lower than previous staging systems. Treatment strategies are slowly changing with this new staging system so you should discuss your stage and treatment options with your physician.

Treatment for oropharyngeal cancer is based largely on the stage (extent) of the cancer and if it is caused by an HPV infection (p16-positive), but other factors can also be important.

Most experts agree that treatment in a clinical trial[2] should be considered for any cancer in the head and neck areas. This way, people might have a chance to get new treatments that may be better than standard ones.

Stage 0 (carcinoma in situ) oropharyngeal cancer

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 any 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 live a long time without the need for more treatment. Still, it's important to note that continuing to smoke increases the risk that a new cancer will develop. If you're thinking about quitting smoking and need help, talk to your doctor, or call the American Cancer Society at 1-800-227-2345 for information and support.

Early-stage oropharyngeal cancer

Early-stage oropharyngeal cancers (back of the tongue, soft palate, and tonsils) typically include **most stage I and II (p16/HPV-positive and p16/HPV-negative) cancers**. The main treatment options include radiation therapy aimed at the cancer and the lymph nodes in the neck or surgery of the main tumor along with removal of the

lymph nodes in the neck (lymph node dissection). After surgery, if any cancer remains or if there is a high chance of the cancer coming back, chemoradiation is often used. Sometimes, if imaging or a biopsy shows the lymph nodes in the neck have cancer, then chemoradiation might be the first treatment.

Locally advanced oropharyngeal cancer

Locally advanced oropharyngeal cancers are larger cancers in the back of the tongue, soft palate, and tonsils that have grown into nearby tissues, and/or have spread to nearby lymph nodes in the neck. In general, this would include **most stage III, IVA, and IVB p16/HPV-negative cancers** and **most stage I, II and III p16/HPV-positive cancers** in the TNM system.

Most locally advanced oropharyngeal cancers (p16/HPV-positive or p16/HPV-negative) are treated with chemoradiation. Surgery might also be an option if the surgeon thinks that the cancer can be removed safely. The choice of treatment is often guided by where the cancer is, how much it has spread, the expected side effects, patient preferences, and the patient's current health status.

Any cancer that is still present after chemoradiation is often 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. Sometimes, chemo might be given as the first treatment, followed by radiation alone or chemoradiation, and then surgery if needed.

Metastatic oropharyngeal cancer

Metastatic oropharyngeal cancers (back of the tongue, soft palate, and tonsils) include **stage IVC p16/HPV-negative cancers** and **stage IV p16/HPV-positive cancers** that have spread to other parts of the body, such as the lungs[3]. These cancers are usually treated with chemo, cetuximab, or both. Immunotherapy, alone or with chemo,68.37 m 3whe . 0 rg /GS

what treatments have already been used, and the person's general health. Because these cancers can be hard to treat, clinical trials of newer treatments may be a good option for some people.

Treatment options for recurrent oropharyngeal cancer are the same as for recurrent oral cavity cancer.

Hyperlinks

1. www.cancer.org/cancer/oral-cavity-and-oropharyngeal-cancer/detection-diagnosis-staging/how-diagnosed.html
2. www.cancer.org/treatment/treatments-and-side-effects/clinical-trials.html
3. www.cancer.org/treatment/understanding-your-diagnosis/advanced-cancer/lung-metastases.html
4. www.cancer.org/treatment/understanding-your-diagnosis/advanced-cancer/what-is.html
5. www.cancer.org/treatment/understanding-your-diagnosis/advanced-cancer/lung-metastases.html
6. www.cancer.org/treatment/understanding-your-diagnosis/advanced-cancer/bone-metastases.html

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