TREATMENT UPDATE:

Head and Neck Cancer

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Treatment Update: Head and Neck Cancer

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With improved treatments and a team of specialists, people with head and neck cancer can have a better quality of life.

Each year, an estimated 66,000 adults in the United States develop head and neck cancer. These cancers can occur in the oral cavity (mouth and front of the tongue), larynx (voice box), oropharynx (base of tongue or tonsils), salivary glands, nasopharynx, nasal cavity or sinuses. Most head and neck cancers develop in squamous cells—the thin, flat cells that form the inside the lining of many parts of the head and neck.

Men are about twice as likely as women to develop head and neck cancer. The leading cause for the past several decades has been tobacco use, including cigarettes, cigars, pipes, chewing tobacco and snuff. Alcohol use also raises the risk of head and neck cancer.

Over the past two decades there has been a rapid rise of head and neck cancers related to the human papillomavirus (HPV) infection. These most commonly occur in the back of the tongue and tonsils, and many are asymptomatic. They are commonly diagnosed when a person has a lump in the neck that does not go away, or swelling in the tonsils or back of tongue.

Most types of head and neck cancer can be treated effectively, especially when found early. In many cases, an early diagnosis is made by a dentist or physician who finds a red or white patch or swelling in the mouth or throat, or an enlarged lymph node in the neck. Lymph notes are small structures that remove waste and help fight infection.

The person is then referred to a specialist for a scan and a biopsy if necessary. This is how cancer is diagnosed and staged (see Frequently Asked Questions section).

Treatment Options

The primary treatment approaches for head and neck cancer are surgery, radiation therapy, chemotherapy, targeted therapy and immunotherapy. Depending on the type of cancer and its stage (whether it has spread beyond its original location), these treatments can be given alone or in combination.

A multi-disciplinary approach is essential in the treatment of head and neck cancer. The treatment team should include a minimum of a medical oncologist, a head and neck surgeon, a radiation oncologist, a dentist and a speech therapist. Many cancer treatment centers provide nutrition, social worker and nurse navigator services as part of the support team.

Surgery

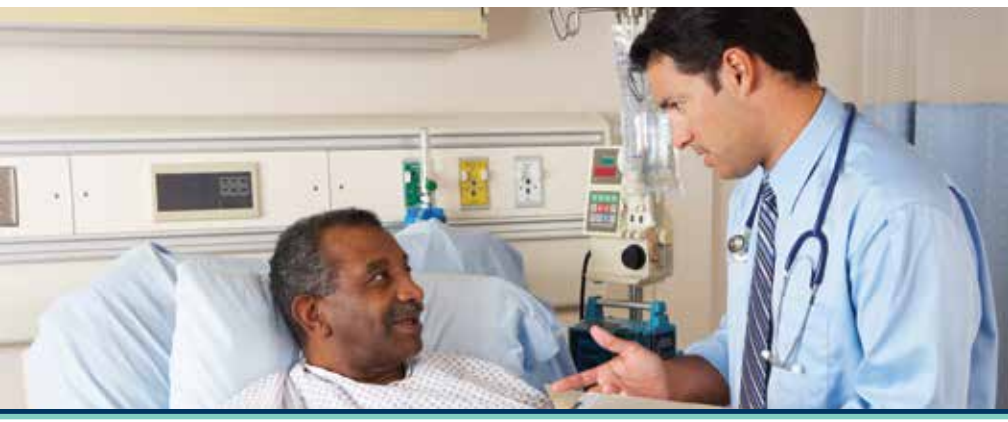
Types of surgery for head and neck cancer include:

- **Robotic-assisted surgery** is a minimally invasive treatment option for some head and neck cancers, especially those involving the tonsils and base of the tongue. Using tiny instruments mounted on robotic arms and guided by 3-D images on a computer monitor, the surgeon can access hard-to-reach areas of the throat.
- **Laser surgery** is an approach to treat early-stage tumors, especially those located in the larynx. An endoscope (a thin, lighted tube) with a laser on its tip is inserted into the throat. The laser is used to vaporize or cut out the tumor.
- **Excision is a type of surgery** in which the entire tumor and some surrounding healthy tissue is removed to be sure all tumor cells are removed.
- **Lymph node dissection** can be performed if it is suspected that the cancer may have spread. The surgeon removes lymph nodes in the neck, which are then examined under a microscope for signs of cancer. The number of lymph nodes that are found to have cancer cells is important in the staging process.
- **Reconstructive surgery** to maintain function and appearance may be performed if the surgery involves the removal of a significant amount of tissue. Muscle, bone and nerves from other parts of the body can be transplanted to rebuild the affected area, such as the tongue or throat.

There are specific types of surgery depending on the location of the tumor, including:

- **Transoral robotic surgery (TORS)** allows tumors of the throat to be removed through the mouth without incisions through the neck.
- For tongue cancers, **partial glossectomy** refers to removal of part of the tongue.
- In a **cordectomy**, all or part of the vocal cords are removed. This procedure is performed on small tumors associated with glottic cancer (cancer that involves the vocal cords).
- In a **laryngectomy**, all or part of the larynx (voice box) is removed, depending on the extent of the laryngeal cancer. If a total laryngectomy is performed, normal speech is no longer possible.
- If the cancer is in the palate or maxillary sinus (one of four sinuses located near the nose), part or all of the palate or upper jawbone may be removed in what is called a **maxillectomy**.

More than one operation may be needed depending on the type of cancer and its stage (the size of the tumor and how far it has spread from its original location). Surgery may reveal more cancer or more extensive cancer than realized, so additional treatments may be needed. These can be individual treatments or combinations of radiation, chemotherapy, targeted therapy or immunotherapy.



Radiation

Radiation is the use of high-powered energy beams to kill cancer cells.

- **External beam radiation (EBRT)** is the most common type of radiation used in the treatment of head and neck cancer. EBRT uses a machine to aim high-dose photon or x-ray radiation at the cancer.
- **Intensity-modulated radiation therapy (IMRT)** is a form of EBRT that directs a beam (or multiple beams) of radiation through the skin to the tumor. Unlike standard EBRT, IMRT allows a higher dose of radiation to be directed to the tumor, while minimizing the amount of radiation received by healthy tissue.
- **Brachytherapy**, also called internal radiation therapy, is sometimes used in the treatment of head and neck cancer that is in a well-defined location. It uses instruments which direct a source of radiation to or near the cancer.
- **Proton beam radiation** is a type of radiation delivered by protons (heavy particles) instead of photon beams. Its use is currently being tested in head and neck cancer, often as a secondary treatment.

Most cases of head and neck cancer that is locally advanced (spread from where it started to nearby tissue or lymph nodes) or metastatic (spread to other parts of the body) are treated with a combination of radiation plus chemotherapy or radiation plus a targeted therapy. In some cases, these drugs are used alone, not in combination with radiation.

Chemotherapy

Chemotherapy uses anti-cancer drugs that enter the bloodstream and kill cancer cells. The chemotherapy most often used to treat head and neck cancer is cisplatin (Platinol). It can be used alone or in combination with other chemotherapy drugs, including fluorouracil (Adrucil), docetaxel (Docefrez, Taxotere), paclitaxel (Abraxane, Onxol) and carboplatin (Paraplatin).

Targeted Therapy

Targeted therapies are designed to target the specific cell mechanisms that are important for the growth and survival of tumor cells.

Cetuximab (Erbitux) is a drug that targets the epidermal growth factor receptor (EGFR), a protein on the surface of certain cancer cells that helps them grow and divide. Head and neck cancer cells often have higher-than-normal amounts of EGFR. By blocking EGFR, cetuximab can slow or stop the growth of cancer. This treatment is given with radiation for head and neck cancer that has spread to more distant parts of the body. It may also be given with or without chemotherapy for metastatic head and neck cancer.

Larotrectinib (Vitrakvi) focuses on a specific genetic change (mutation) in NTRK genes. While uncommon, this mutation does occur in a number of types of cancer, including head and neck cancer. Larotrectinib is approved by the U.S. Food and Drug Administration (FDA) as a treatment for metastatic head and neck cancer that cannot be removed with surgery and has worsened after other treatments.

In the future, finding additional genetic changes in head and neck cancers will help doctors further tailor treatments.

Immunotherapy

Our immune system is constantly working to keep us healthy. It recognizes and fights against danger, such as infections, viruses and growing cancer cells. In general terms, immunotherapy uses our own immune system as a treatment against cancer.

Pembrolizumab (Keytruda) and nivolumab (Opdivo) are immunotherapies approved by the FDA for the treatment of recurrent or metastatic head and neck cancer. Pembrolizumab can be used by itself if the tumor expresses a certain amount of PD-L1, a protein that prevents the immune system from attacking cancer cells. It can also be used in combination with chemotherapy regardless of the tumor's PD-L1 level. Nivolumab can be used if the cancer continued to grow or spread during treatment with platinum-based chemotherapy, such as carboplatin.

The Importance of Clinical Trials

Clinical trials are the standard by which we measure the worth of new treatments and the quality of life of patients as they receive those treatments. For this reason, doctors and researchers urge people with cancer to take part in clinical trials.

Your doctor can guide you in making a decision about whether a clinical trial is right for you. Here are a few things that you should know:

- Often, people who take part in clinical trials gain access to and benefit from new treatments.
- Before you participate in a clinical trial, you will be fully informed as to the risks and benefits of the trial, including any possible side effects.
- Most clinical trials are designed to test a new treatment against a standard treatment to find out whether the new treatment has any added benefit.
- You can stop taking part in a clinical trial at any time for any reason.

Treatment Side Effects

All cancers and cancer treatments can cause side effects that can be temporary or permanent. It's important that you report any side effects you experience to your health care team so they can help you manage them. Report them right away—don't wait for your next appointment. Doing so will improve your quality of life and allow you to stick with your treatment plan. It's important to remember that not all people experience all side effects, and people may experience side effects not listed here.

Mucositis (Mouth Sores)

Radiation treatments and some types of chemotherapy can cause sores inside the mouth and on the lining of the throat. Your health care team may recommend treatments as outlined below. There may also be a clinical trial available to you to evaluate new medications to prevent mucositis. Your health care team may be able to provide information about such trials. There are also clinical trials websites in the Resource section.

- **Coating agents.** These medications coat the entire lining of your mouth, forming a film to protect the sores and minimize pain.
- **Topical or systemic painkillers.** These are medications that can be applied directly to your mouth sores or taken by mouth to decrease the pain caused by the sores.
- **Over-the-counter treatments.** These include rinsing with baking soda or salt water or using "magic mouthwash," a term given to a solution to treat mouth sores. Magic mouthwash usually contains at least three of these ingredients: an antibiotic, an antihistamine or local anesthetic, an antifungal, a corticosteroid and/or an antacid.

Dry Mouth

Dry mouth is mainly caused by radiation directed to the salivary glands. There are a number of things you can do to keep your mouth moist during and after radiation treatment:

- **Stay hydrated.** Sip water or suck on ice chips throughout the day.
- **Avoid caffeine and alcohol.** These can lead to dehydration and increase the effect of dry mouth.
- **Moisten your food.** This will make it easier to chew and swallow. You can use sauces, broth, milk or melted butter.
- **Avoid bread and foods that are breaded.** These foods tend to absorb moisture from the mouth.
- **Don't smoke.** Smoking or using chewing tobacco can worsen dry mouth.

There are products designed to treat dry mouth, many of which are available over-the-counter. Talk to your health care team about whether any of these may be right for you. There may also be clinical trials available to you to test agents that prevent or decrease the symptoms of dry mouth.

Damage to the Lower Jaw

A rare condition called osteoradionecrosis can occur in people who have had high-dose radiation to the lower jaw. Over time, the ability of the lower jaw to fight infection is reduced by the radiation, and this may lead to bone complications. Talk to your health care team about your risk for this side effect and make sure your dentist is aware that you are receiving radiation treatments to the jaw.

Changes to the Voice and Ability to Swallow

Treatments for head and neck cancer can lead to changes in the voice and the ability to swallow. How these changes affect each person depends on where the tumor is, the types of treatments given and the success of surgery to repair the tissues (reconstruction).

People with head and neck cancer should be evaluated by a speech therapist before treatment begins to measure their ability to speak and swallow. An early evaluation will help your health care team better manage any symptoms that occur. Additionally, swallowing exercises designed to target the muscle groups affected by the cancer treatment can be effective in preventing swallowing problems.

Side Effects of Chemotherapy

Side effects specific to chemotherapy depend on the type and dose of drugs given and the length of time they are used, and can include:

- Hair loss
- Increased risk of infection (from having too few white blood cells)
- Easy bruising or bleeding
- Nausea/vomiting
- Taste change
- Poor appetite
- Hearing loss
- Change in kidney function
- Changes in memory or thinking
- Peripheral neuropathy (numbness or tingling in hands and feet)

Side Effects of Radiation Therapy

In addition to the side effects listed earlier, radiation can cause changes to the skin. The changes can include dryness, swelling, peeling, redness and (rarely) blistering. If a reaction occurs, contact your health care team so the appropriate treatment can be prescribed. It's especially important to contact your health care team if there is any open skin or painful area, as this could indicate an infection. Infections can be treated with an oral antibiotic or topical antibiotic cream.

Other temporary side effects of radiation during treatment can include taste changes, tiredness, excessive mucus production, poor appetite and weight loss. Talking to a nutritionist and nutritional support are important to address these side effects.

Side Effects of Targeted Therapy

Targeted therapy doesn't have the same effect on the body as do chemotherapy drugs, but it can still cause side effects. Side effects of targeted therapies can include diarrhea, liver problems (such as hepatitis and elevated liver enzymes), skin rash (depending on the drug), nerve damage, high blood pressure and problems with blood clotting and wound healing.

Side Effects of Immunotherapy

Immunotherapy travels through the bloodstream, helping to prompt an immune response. Because it can trigger an attack on healthy cells as well as cancer cells, certain side effects may be experienced, including fatigue, muscle pain, fever, cough, lowered levels of thyroid hormone, decreased appetite, digestive tract symptoms and skin rash.

General Side Effects

Some side effects may occur across treatment approaches. This section provides tips and guidance on how to manage these side effects should they occur.

Managing Digestive Tract Symptoms

Nausea and vomiting

- Avoid food with strong odors, as well as overly sweet, greasy, fried or highly seasoned food.
- Eat meals that are chilled, which often makes food more easily tolerated.
- Nibble on dry crackers or toast. These bland foods are easy on the stomach.
- Having something in your stomach when you take medication may help ease nausea.
- If your doctor has prescribed anti-nausea medication, follow their instructions precisely.

Diarrhea

- Drink plenty of water. Ask your doctor about using drinks such as Gatorade which provide electrolytes. Electrolytes are body salts that must stay in balance for cells to work properly.
- Over-the-counter medicines such as loperamide (Imodium A-D and others) and prescription drugs are available for diarrhea but should be used only if necessary. If the diarrhea is bad enough that you need medicine, discuss it with a member of your health care team.
- Choose fiber-dense foods such as whole grains, fruits and vegetables, all of which help form stools.
- Avoid food high in refined sugar and those sweetened with sugar alcohols such as sorbitol and mannitol.

Managing loss of appetite

- Eating small meals throughout the day is an easy way to take in more protein and calories, which will help maintain your weight. Try to include protein in every meal.
- To keep from feeling full early, avoid liquids with meals or take only small sips (unless you need liquids to help swallow). Drink most of your liquids between meals.
- Keep high-calorie, high-protein snacks on hand such as hard-boiled eggs, peanut butter, cheese, ice cream, granola bars, liquid nutritional supplements, puddings, nuts, canned tuna or trail mix.
- If you are struggling to maintain your appetite, talk to your health care team about whether appetite-building medication could be right for you.

Managing Fatigue

Fatigue (extreme tiredness not helped by sleep) is one of the most common side effects of many cancer treatments. If you are taking a medication, your doctor may lower the dose of the drug, as long as it does not make the treatment less effective. If you are experiencing fatigue, talk to your doctor about whether taking a smaller dose is right for you.

There are a number of other tips for reducing fatigue:

- Take short walks or do some light exercise, if possible.
- Try easier or shorter versions of the activities you enjoy.
- Ask your family or friends to help you with tasks you find difficult or tiring.
- Save your energy for things you find most important.

Fatigue can be a symptom of other illnesses, such as anemia, diabetes, thyroid problems, heart disease, rheumatoid arthritis and depression. So be sure to ask your doctor if they think any of these conditions may be contributing to your fatigue.

Communicating With Your Health Care Team

As you manage your head and neck cancer, it's important to remember that you are a consumer of health care. The best way to make decisions about health care is to educate yourself about your diagnosis and get to know the members of your health care team, including doctors, nurse practitioners, physician assistants, nurses, dietitians, social workers and patient navigators.

Here are some tips for improving communication with your health care team:

Start a health care journal. Having a health care journal or notebook (either on paper or in a digital format) will allow you to keep all of your health information in one place. You may want to write down the names and contact information of the members of your health care team, as well as any questions for your doctor.

Prepare a list of questions. Before your next medical appointment, write down your questions and concerns. Because your doctor may have limited time, ask your most important questions first and be as specific as possible.

Bring someone with you to your appointments or have them be present during telehealth sessions. Even if you have a journal and a prepared list of questions or concerns, it's always helpful to have support when you go to your appointments. The person you bring may also think of questions to ask your doctor or remember details about your symptoms or treatment that you may have forgotten.

Write down your doctor's answers. Taking notes will help you remember your doctor's responses, advice and instructions. You can also ask the person who accompanies you to take notes for you. If you have a mobile device, ask if you can use it to take notes. Keeping notes will help you review the information later.

Record your visit if your doctor allows it. Recording the conversation with your doctor gives you a chance to hear specific information again or share it with family members or friends.

Incorporate other health care professionals into your team. In addition to fully engaging with the multi-disciplinary team involved your head and neck cancer treatment:

- Your primary care physician should be kept updated about your treatment and any test results.
- Your local pharmacist is a great source of knowledge about the medications you are taking. Have all of your prescriptions filled at the same pharmacy to avoid the possibility of harmful drug interactions.
- Make sure your multi-disciplinary team knows of any other medical conditions you have or any pain you are experiencing so they can consult with your primary care physician or specialists as needed.

Remember, there is no such thing as over-communication.

Cancer*Care*'s Free Support Services and Programs

It can be very difficult to receive a diagnosis of head and neck cancer, and adjusting to the necessary changes in your life can be challenging.

Cancer*Care*® can help. We are a national nonprofit organization providing free, professional services to anyone affected by cancer. Our licensed oncology social workers can provide support and education, help in navigating the complicated health care system and offer information on support groups and other resources.

To learn more about how Cancer*Care* helps, call us at 800-813-HOPE (4673) or visit www.cancercare.org.

You will likely also build your own personal support network composed of family and friends. In doing so, it's best to take some time to think about the people in your life and how they are best suited to help. Match the task to their strengths—ask a family member who loves to shop to pick up something for you at the store, or ask a friend who's a good listener to come over for a chat.

Frequently Asked Questions

Q: What is the AJCC TNM staging system?

A: Created and updated by the American Joint Committee on Cancer (AJCC) and the Union for International Cancer Control (UICC), the AJCC staging system describes the amount and spread of cancer in a person's body, using the initials TNM:

- **T** describes the size of the tumor and any spread of cancer into nearby tissue.
- **N** describes the spread of cancer to nearby lymph nodes.
- **M** describes metastasis (spread of cancer to other parts of the body).

Specific definitions for T, N and M differ based in the type of cancer that is staged using this system.

Q: I know maintaining oral health is important. Do you have any tips for me?

A: Treatments for head and neck cancer can affect the health of the teeth, gums, lining of the mouth and salivary glands. Ideally, people with head and neck cancer should see a dentist at least two weeks before starting any treatment. If an extraction is needed, ideally it should be done before starting radiation therapy. The goal is to prevent or reduce treatment side effects.

A number of steps can be taken to maintain oral health before, during and after treatment:

Pre-radiation fluoride treatment. Radiation directed at the salivary glands can affect these organs, which in turn can cause tooth decay (cavities) over time. People about to undergo radiation treatment of the mouth can be given high doses of fluoride to reduce damage to the teeth and gums.

Denture check. Dentures should be evaluated for proper fit before cancer treatment. Adjustments can be made to reduce the risk of injury to the gums and tissues during treatment.

Mouth care. Head and neck radiation can cause tooth decay, gum disease, mouth sores, dry mouth, taste changes and jawbone stiffness. To help manage these side effects, it's important to keep the mouth moist and clean while receiving radiation.

Rinses. Rinse your mouth several times a day with one-quarter teaspoon of baking soda and one-eighth teaspoon of salt dissolved in one cup of warm water. It also helps to rinse frequently with plain water. To keep your mouth healthy, avoid spicy or crunchy foods, tobacco and alcohol (including mouthwashes that contain alcohol).

Post-treatment plan. Even after you finish treatment, especially radiation, it's important to see your dentist and have dental cleaning regularly. If you notice soreness or an area of the gum that isn't healing, report it to your dentist and your health care team as soon as possible. Your dentist should confer with your radiation oncologist before any major dental procedures, such as tooth extraction.

Q: Do you have any guidance for pain management?

A: It's useful to keep a "pain journal" that can be shared with your health care team. The journal should include information on:

- Where the pain occurs
- When the pain occurs
- How long it lasts
- How strong it is on a scale of 1 to 10, with 1 being the least amount of pain and 10 the most intense
- What makes the pain feel better and what makes it feel more intense

There are a number of options for pain relief, including prescription and over-the-counter medications. It's important to talk to a member of your health care team before taking any over-the-counter medication to determine if they are safe and will not interfere with your treatments.

Physical therapy, acupuncture and massage may also be of help in managing your pain. Consult with a member of your health care team before beginning any of these activities.

Resources

CancerCare®
800-813-HOPE (800-813-4673)
www.cancercare.org

American Cancer Society
800-227-2345
www.cancer.org

Cancer.Net
Patient information from the American Society of Clinical Oncology
888-651-3038
www.cancer.net

National Cancer Institute
800-422-6237
www.cancer.gov

Cancer Support Community
888-793-9355
www.cancersupportcommunity.org

National Coalition for Cancer Survivorship
877-622-7937
www.canceradvocacy.org

American Head and Neck Society
310-437-0559
www.ahns.info

Head and Neck Cancer Alliance
866-792-4622
www.headandneck.org

Support for People with Oral and Head and Neck Cancer
800-377-0928
www.spohnc.org

The Oral Cancer Foundation
949-723-4400
www.oralcancerfoundation.org

Medicine Assistance Tool
www.medicineassistancetool.org

CLINICAL TRIALS WEBSITES

ClinicalTrials.gov
www.clinicaltrials.gov

EmergingMed
www.emergingmed.com

National Cancer Institute
www.cancer.gov

This booklet was made possible through an independent grant from Merck & Co., Inc.

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