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Nasopharyngeal Cancer

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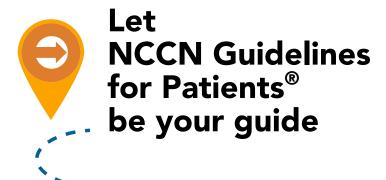






Nasopharyngeal Cancer

It's easy to get lost in the cancer world



- ✓ Step-by-step guides to the cancer care options likely to have the best results
 - ✓ Based on treatment guidelines used by health care providers worldwide
 - ✓ Designed to help you discuss cancer treatment with your doctors

About



NCCN Guidelines for Patients® are developed by the National Comprehensive Cancer Network® (NCCN®)



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An alliance of 28 leading cancer centers across the United States devoted to patient care, research, and education

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- For providers of cancer care all over the world
- Expert recommendations for cancer screening, diagnosis, and treatment

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- Present information from the NCCN Guidelines in an easyto-learn format
- For people with cancer and those who support them
- Explain the cancer care options likely to have the best results

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These NCCN Guidelines for Patients® are based on the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Head and Neck Cancers (Version 3.2019, September 16, 2019).

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Head and Neck Cancer Alliance

As an organization that works to advance prevention, detection, treatment and rehabilitation of oral, head and neck cancers, the Head and Neck Cancer Alliance strongly supports and endorses these NCCN Guidelines for Patients. headandneck.org



Oral Cancer Foundation

The foundation is pleased to support and endorse the NCCN Guidelines for Patients. These guidelines provide another tool for patients to make sound science-based decisions from as they navigate the treatment options and journey through the cancer experience. As an organization that works to provide vetted information to patients and caregivers, sponsor research, advocate for issues that impact this patient population, and provide real time support for them from both an emotional support and science based treatment perspective, we understand that sound factual knowledge is empowering. It ultimately is a key component of decision making that yields better long-term outcomes. We appreciate having another powerful tool in the armamentarium available to them. oralcancerfoundation.org



Support for People with Oral and Head and Neck Cancer (SPOHNC)

SPOHNC is honored to support and endorse the new NCCN Guidelines for Patients. Together we can help to raise awareness, educate and support patients with the necessary tools that will guide them while choosing their treatment options and managing their care. Together we are committed to offering oral, head and neck cancer patients and their loved ones the best support services available to live a better quality of life from diagnosis through recovery. spohnc.org

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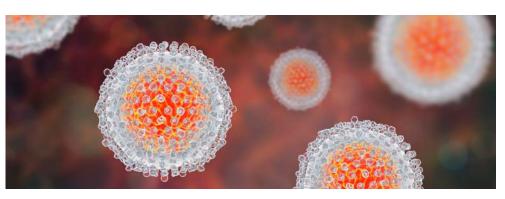
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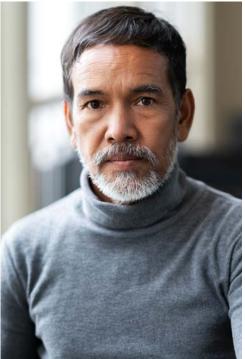












NCCN Guidelines for Patients®: Nasopharyngeal Cancer, 2019

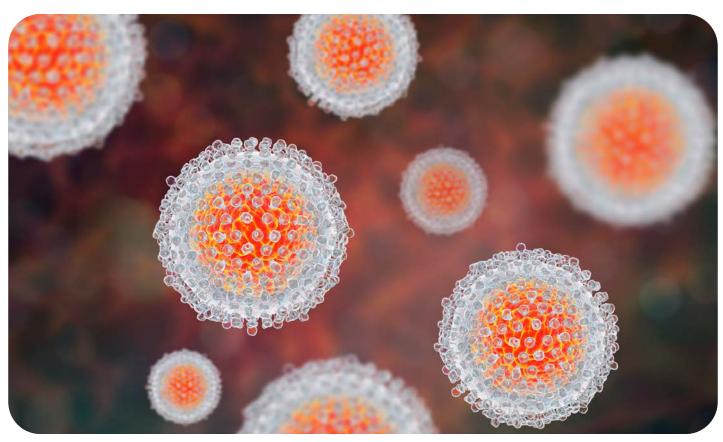
Nasopharyngeal Cancer

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Nasopharyngeal cancer is a type of throat cancer. Read this chapter to learn where this cancer grows and what puts people at risk for this cancer.

The throat

Before learning about nasopharyngeal cancer, it is helpful to know about the throat. The throat is also called the pharynx.

Pharynx

The pharynx is a tube-like structure within the head. It starts behind the nose and ends at the voice box (larynx). Food passes from the mouth through the pharynx on its way to the stomach.

Air also passes from either the mouth or nose through the pharynx on its way to the lungs.

The pharynx has 3 parts, which are the:

- > nasopharynx,
- > oropharynx, and
- hypopharynx.

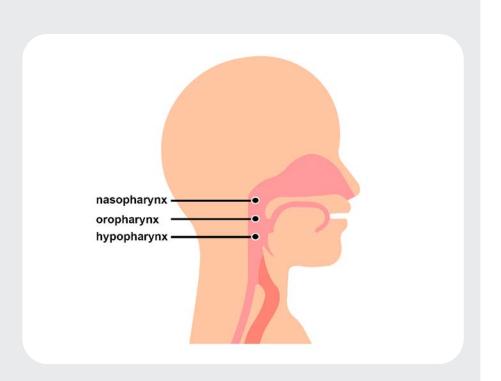
The nasopharynx is behind the nose. The oropharynx is below the nasopharynx. The hypopharynx is below the oropharynx and just behind the voice box. **See Figure 1**.

Lymph

Throughout your body—including your throat—is a clear fluid called lymph. Lymph contains food and water for your cells. It also contains germ-fighting blood cells. Lymph drains from

Figure 1 The throat

The throat is also called the pharynx. It has three parts. Behind the nose is the nasopharynx. Below the nasopharynx is the oropharynx then the hypopharynx.



1

body tissues into channels that transport it to the bloodstream.

As lymph travels, it passes through lymph tissue. Lymph tissue removes germs from lymph. Lymph nodes are small structures that contain lymph tissue. They are found throughout the body. There are many lymph nodes in the left and right sides of the neck. **See Figure 2**.

The tonsils are larger clusters of lymph tissue. There is a tonsil on the left and right side of the throat. There are similar clusters of lymph tissue in the nasopharynx and at the back of the tongue.

Head and neck cancer

Head and neck cancer is a group of cancers. It includes cancers of the inner lip, mouth, throat, voice box, nose, and sinuses. These cancers are referred to as upper aerodigestive tract cancers.

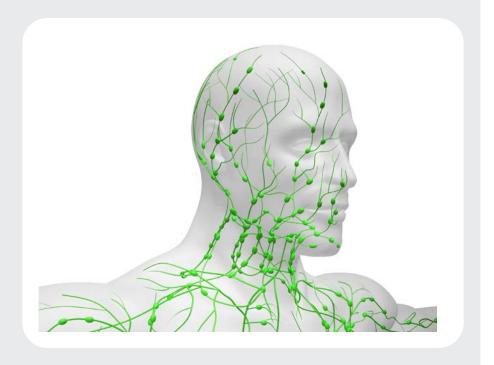
Nasopharyngeal carcinoma

This book is about treatment for nasopharyngeal carcinoma. Almost all nasopharyngeal cancers are carcinomas. Carcinomas are cancers of cells that line the inner or outer surfaces of the body.

Nasopharyngeal carcinoma forms from cells that line the nasopharynx. The cancer cells can grow into nearby tissue, such as the skull. They often spread to lymph nodes behind the ears and in the neck.

Figure 2 Lymph nodes

Throughout your body is a clear fluid called lymph. It drains from tissues into vessels that carry it back to the bloodstream. As lymph travels, it passes through small structures called lymph nodes. Lymph nodes remove germs from lymph. Lymph vessels and nodes are depicted in green in the figure.



Nasopharyngeal cancer basics

Risk factors | Treatment types

There are three classes of nasopharyngeal carcinoma:

Nonkeratinizing carcinoma

- Keratinizing squamous cell carcinoma
- Basaloid squamous cell carcinoma

Nasopharyngeal cancers are further grouped by how they look under a microscope.

- Well differentiated cancers look like normal tissue.
- Poorly differentiated cancers look less like normal tissue.
- Undifferentiated cancers don't look like normal tissue.

Nonkeratinizing carcinomas can be undifferentiated. Among nasopharyngeal cancers, the undifferentiated type is the most common. It is also called a lymphoepithelioma.

Risk factors

A risk factor is anything that increases your chance of cancer. Worldwide, several risk factors are linked to nasopharyngeal cancer.

- In some parts of the world, nasopharyngeal cancer is commonly linked to alcohol and tobacco use.
- In other areas, it is linked to often eating salt-cured foods.
- There is a very strong link between nasopharyngeal cancer and the Epstein-Barr virus.

Most people who have the Epstein-Barr virus do not get nasopharyngeal cancer. In Asia and

Africa, the cause of nasopharyngeal cancer for most people appears to be an interaction of the virus with other factors. In the United States, the virus is a less common cause.

Treatment types

This section briefly describes treatments for nasopharyngeal cancer. Not everyone receives the same treatment. Your doctor will tailor treatment to you based on tests described in in **Part 2**. Treatment options based on cancer features are listed in **Part 3**.

Clinical trial

One treatment choice may be a clinical trial. Clinical trials are strongly supported by NCCN. NCCN believes that you will receive the best management if treated in a clinical trial.

A clinical trial is a type of research that studies a promising test or treatment in people. It gives people access to health care that otherwise couldn't usually be received. Clinical trials of treatment often include new treatments added to standard treatments. Ask your treatment team if there is an open clinical trial that you can join.

Radiation therapy

Radiation therapy uses high-energy x-rays or particles to treat nasopharyngeal cancer. It damages cancer cells. The cancer cells either die or stop making new cancer cells.

External beam radiation therapy (EBRT) is used for treatment. A large machine makes radiation beams that are shaped to the form of the tumor. The highest radiation dose is aimed at the cancer. A much lower dose is given to

nearby tissue. NCCN experts recommend the following techniques:

- Intensity-modulated radiation therapy (IMRT) is the preferred technique. It delivers x-ray beams that very closely match the shape of the target and spares more normal tissue.
- Three-dimensional conformal radiation therapy (3D-CRT) delivers an x-ray beam that matches the shape of the target but may not be as focused as IMRT.
- Proton therapy treats cancer with proton beams. Proton beams deliver radiation mostly within the tumor. NCCN experts advise to get proton therapy only when x-ray beams would damage too much normal tissue.

Chemotherapy

Chemotherapy is a treatment with drugs that stop the cell life cycle. As a result, cancer cells cannot make new cells. Chemotherapy can also cause cells to destroy themselves.

Cisplatin, carboplatin, 5-fluorouracil (5-FU), and gemcitabine are commonly used to treat nasopharyngeal cancer. There are other drugs that are less often used but can work.

Chemotherapy may be received with radiation therapy. It improves the results of radiation. When received at the same time, it is called chemoradiation. Chemotherapy may also be received alone. Chemotherapy by itself may be received first or last in a series of treatment.

Targeted therapy

Targeted therapy is a treatment with drugs that stop some of the ways by which cancer

cells grow. Cetuximab is a targeted therapy that stops growth signals from a structure called EGFR that is on cancer cells. It also allows immune cells to destroy the cancer cells. It is given with carboplatin to treat some nasopharyngeal cancers.

Immunotherapy

T cells are a type of white blood cell. They help fight disease, including cancer. But, they are unable to attack cancer cells that have a protein called PD-L1.

Immune checkpoint inhibitors are a type of immunotherapy. These drugs include pembrolizumab and nivolumab. They allow T cells to attack cancer cells with PD-L1. They are routinely used to treat some advanced throat cancers but are also being tested for other uses.

Surgery

Surgery is a treatment that removes tumors or entire organs with cancer. It is not a common treatment for tumors in the nasopharynx. More often, surgery that removes lymph nodes in the neck is done. This type of surgery is called a neck dissection.

Review

- > The nasopharynx is the part of the throat that is behind the nose.
- Most nasopharyngeal cancers form from cells that line the surface of the upper throat.
- There is a strong link between nasopharyngeal cancer and the Epstein-Barr virus.
- Not everyone receives the same treatment for nasopharyngeal cancer. Your treatment will be partly based on test results.

2 Testing for nasopharyngeal cancer

- 13 General health tests
- 14 Distress screening
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- 18 Other tests
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Valid tests are needed to identify nasopharyngeal cancer and plan treatment. This chapter describes tests and other health care that you may receive before treatment.

Doctors plan treatment using many sources of information. These sources include the health care listed in Guide 1. Another source is you. Tell your doctor your concerns and goals for treatment. Together, you can share in the decision-making process. Read **Part 4** to learn more about making treatment decisions.

General health tests

Medical history

Your doctor will want to know about any health problems and their treatment during your lifetime. Be prepared to talk about:

- Illnesses
- Injuries
- Health conditions
- Symptoms
- Medications
- Tobacco use (now and in the past)

If you use tobacco products, it is important to quit. They can limit how well cancer treatment works. Ask your treatment team about counseling and medicines that can help you quit.

Guide 1. Health care before treatment

Tests and services

Medical history

Physical exam including head and neck exam

Smoking treatment if needed

Distress screening

Nasopharyngoscopy

MRI with contrast from skull base to collarbone; your doctor may also order CT with contrast of skull base and neck

FDG PET/CT, chest CT with contrast, or both

Biopsy

Your doctor may order Epstein-Barr virus testing

Speech or swallowing exam if needed

Nutrition assessment if needed

Dental exam and x-rays if needed

Hearing or vision tests if needed

Hormone tests if needed

Medications

It may help to bring a list of old and new medicines to your doctor's office.

Family history

Some cancers and other health problems can run in families. Thus, your doctor will ask about the medical history of your close blood relatives. Such family includes your siblings, parents, and grandparents. Be prepared to tell who has had what diseases and at what ages.

Physical exam

A physical exam is a study of your body. It is done to look for signs of disease. It is also used to help assess what treatments may be options.

During this exam, expect the following to be checked:

- Your body temperature
- Your blood pressure
- Your pulse and breathing rate
- Your weight
- How your lungs, heart, and gut sound
- How your eyes, skin, nose, ears, and mouth look
- > The size or hardness of your organs
- Level of pain when you are touched

Head and neck exam

An exam of your head and neck is key to planning treatment. Your doctor will carefully inspect your throat, mouth, nose, and ears. Your doctor will feel for lumps under your jaw and along your neck.

To look inside your head, your doctor may use a device. One type of device is a small mirror like what your dentist uses to look inside your mouth. Your doctor may also examine your throat with a fiberoptic endoscope.

Distress screening

Distress is an unpleasant experience of a mental, physical, social, or spiritual nature. It can affect how you feel, think, and act. It can include feelings of:

- Sadness
- Fear
- Helplessness
- Worry
- Anger
- Guilt

Everyone with cancer has some distress at some point in time. It is to be expected.

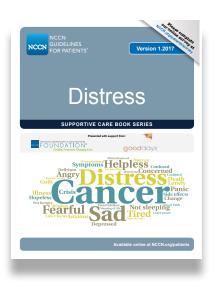
Feeling distressed may be a minor problem or it may be more serious. You may be so distressed that you can't do the things you used to do. People with head and neck cancer are at risk for depression.

It is important that your treatment team knows how you feel. They may ask you to complete a list of screening questions to assess how distressed you are.

If needed, your treatment team can get you help. Help can include support groups, talk therapy, or medication. Some people also feel better by exercising, talking with loved ones, or using relaxation techniques. There may also be helpful community resources, such as support groups and wellness centers.

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Visit this webpage to read more about distress related to cancer: NCCN.org/patients/ guidelines/cancers.aspx#distress.



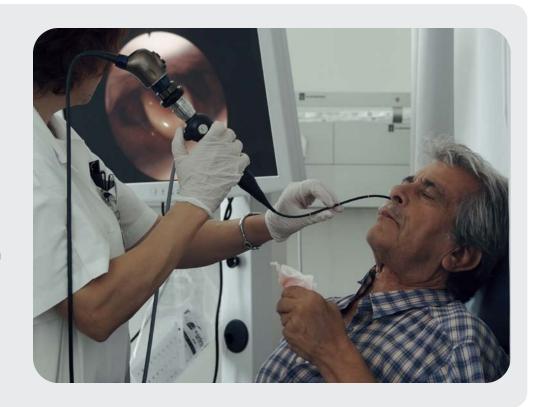
Nasopharyngoscopy

Nasopharyngoscopy is a procedure that allows doctors to see the upper throat. Your doctor will use a hand-held device called an endoscope. Only the thin, tube-shaped part of the device is guided through your nose and into your throat.

At the tip of the scope is a light and tiny camera. Your doctor will assess the tumor and may remove a tissue sample. Sometimes, the sample can be removed in the clinic, but sometimes, it must be done in an operating room. **See Figure 3**.

Figure 3 Nasopharyngoscopy

A nasopharyngoscopy is a procedure that allows doctors to see the upper throat. Your doctor will use a hand-held device called an endoscope.



Imaging

Imaging makes pictures of the insides of your body. It is used to detect cancer in deep tissue, lymph nodes, or distant body parts. Some imaging also reveals some features of a tumor and its cells.

A radiologist is a doctor who's an expert in reading images. This doctor will convey the test results to your other doctors.

Some imaging tests use contrast. It is a substance that is often injected into the bloodstream. It makes the images easier to read. Tell your doctor if you've had problems with contrast in the past. Also, allergies to shellfish may mean you'll be allergic to some types of contrast.

Skull base

The skull is a group of bones in your head that protects your brain. The base of the skull is between the bottom of your brain and the structures of your face. It is common for nasopharyngeal cancer to grow into the skull base or very near to it.

Your doctor will order magnetic resonance imaging (MRI) with contrast. The MRI machine makes 3-D images with a magnetic field and radio waves. The imaging will include the base of your skull down to your collarbone.

Your doctor may also order computed tomography (CT) of your skull base and neck. The CT machine makes 3-D images by combining many x-rays taken at different angles. **See Figure 4**.

Figure 4 CT machine

Pictures of the insides of your body can be made with imaging. During the scan, you will lie on a table that will move into the tunnel of the machine. The pictures will be viewed by a doctor who will look for signs of cancer.



Distant cancer spread

Nasopharyngeal cancer can spread to distant body parts. Distant spread at the time of diagnosis is common. It can be seen with whole-body PET/CT, chest CT, or both.

PET stands for positron emission tomography. It requires injection of a small amount of radiotracer into your bloodstream. Fluorodeoxyglucose (FDG) is the radiotracer that is almost always used. It helps to detect even small amounts of cancer.

Biopsy

A biopsy is a procedure that removes tissue or fluid samples for testing. Doctors use the results of the physical exam and imaging to decide where to do a biopsy. In a lab, a pathologist will study the samples with a microscope. The lab tests will conclude whether you have cancer.

Your doctor will decide which type of biopsy is needed.

- Your doctor may use a scissor-like tool to remove part or all of the tumor.
- A fine-needle aspiration (FNA) removes a small number of cells and is preferred for a neck lump.
- A core needle biopsy removes a small piece of tissue with a hollow needle.

All biopsy results are included in a pathology report. This report will be sent to your doctor. Ask for a copy and a meeting to discuss the results. Take notes and ask questions.



Team work

It takes a team of health care providers to treat nasopharyngeal cancer. Your treatment team may include a:

- ✓ Radiation oncologist
- √ Medical oncologist
- √ Head and neck surgeon
- ✓ Nurse
- ✓ Pathologist
- ✓ Radiologist
- ✓ Oncologic dentist
- Eye doctor
- ✓ Ear doctor
- ✓ Plastic surgeon
- ✓ Speech therapist
- ✓ Physical therapist
- ✓ Registered dietician
- ✓ Case manager
- ✓ Mental health professional
- ✓ Supportive care specialist

Epstein-Barr virus testing

Not everyone with Epstein-Barr virus gets nasopharyngeal cancer. But, there is a very strong link between the virus and the cancer. Your doctor may decide to test for the virus if the cancer class is nonkeratinizing or the cancer looks undifferentiated. A blood or tumor sample can be tested to learn if the Epstein-Barr virus is in the tumor.

Other tests

There are many key body parts in the head and neck. Nasopharyngeal cancer or its treatment can cause problems with one or more of them. Based on your symptoms and cancer tests, you may get one or more of these tests:

- Speech and swallowing exam
- Nutrition assessment
- Dental exam
- Hearing test
- Eye exam
- Hormone tests

Speech and swallowing exam

Throat cancer or its treatment can cause problems with speech or swallowing. If you have or will have problems, you should see a speech-language pathologist. Before cancer treatment, this expert will assess how well you speak and swallow.

The speech-language pathologist will watch and listen as you talk and eat. You may also get a swallow test called a video fluoroscopic study. You will be given a therapy plan to reduce problems.

Nutrition assessment

Some throat cancers make it hard to eat. It may be painful to chew or swallow. In this case, you may see a registered dietician before cancer treatment. Be prepared to report what you eat and drink. Based on your response, the dietician will make a nutritional plan for you.

You may be assessed for a feeding tube. There are different types. A nasogastric tube is placed through the nose, down the throat, and into the stomach. A percutaneous endoscopic gastrostomy (PEG) tube is placed through the skin directly into the stomach.

Dental exam

If needed, a dental exam can help your cancer doctor plan treatment. It may also prevent health problems caused by treatment. When fewer problems occur, cancer treatments may work better. Ask your cancer center for a list of local dentists who can help.

During a dental exam, the dentist will inspect your mouth and teeth. X-rays of your teeth will also be done. Cavities will be fixed. Unhealthy teeth will be removed to prevent problems during treatment. Diseases of the mouth will also be treated.

Your dentist will teach you how to take care of your teeth. Proper brushing, flossing, and diet are needed. Before cancer treatment, custommade trays for fluoride treatment may be made.

Cancer treatments may cause dental problems. Your dentist will teach you about these health

problems. You will also learn how prevent or stop such problems.

Hearing test

Nasopharyngeal cancer or its treatment can affect the ears. The cancer can grow and press on the inner ear called the eustachian tube. Cancer symptoms include frequent ear infections, hearing loss, ear pain, and ringing in the ear. If needed, your cancer doctor may refer you to get a hearing test.

Eye exam

Nasopharyngeal cancer or its treatment can affect the eyes. Symptoms of the cancer include blurred or double vision. If needed, your cancer doctor will refer you to an eye doctor (ophthalmologist). An eye exam includes tests of your vision and checks the health of your eyes.

Hormone tests

Endocrine glands are organs that make hormones. The pituitary gland is in the brain. It is often called the "master gland" of the body. The hypothalamus is a region of the brain that controls the pituitary gland.

Some nasopharyngeal tumors grow close to the pituitary gland and hypothalamus. Cancer or its treatment can affect these brain structures. In turn, fertility, metabolism, and other body functions are altered.

Your cancer doctor may refer you to an endocrinologist. This doctor is an expert in glands and hormones. The level of several hormones in your body may be measured.

Review

- A medical history is a report of all health events and treatment in your lifetime. Expect to be asked questions about your health and the health of some family members. If you smoke, your treatment team can get you help to quit.
- A physical exam is a study of your body. During a head and neck exam, your doctor will carefully inspect your throat, mouth, nose, and ears.
- People with head and neck cancer are at risk for depression. Your treatment team can get you help.
- Your doctor will examine your upper throat by inserting part of a scope through your nose.
- Imaging allows your doctors to see inside your body without cutting into it. It is used to assess the skull base and distant body parts for cancer.
- A biopsy removes a small piece of tissue for testing. It is needed to learn if you have cancer.
- Your doctor may want to test for the Epstein-Barr virus. The decision to test partly depends on the type of nasopharyngeal cancer.
- Nasopharyngeal cancer and its treatment may cause problems with key body parts in your head and neck. Your cancer doctor may refer you for tests given by other specialists.

3 Treating nasopharyngeal cancer

21	Overview
23	Initial treatment
26	Neck dissection
28	Follow-up care
30	Recurrent or persistent cancer
32	Review



Treatment of nasopharyngeal cancer is based on many factors. Read this chapter to learn the options for each point of care. And, discuss with your doctor which of these options are right for you.

Many nasopharyngeal cancers are cured. If a cure is not possible, the goals of treatment are to reduce symptoms, control cancer growth, and extend life. During and after cancer treatment, you may meet with health providers whose focus is to improve your quality of life.

Overview

Treatment of nasopharyngeal cancer includes treatment of the cancer and support for you.

Initial treatment

Your doctor will plan your initial treatment based on many factors. These factors include your age and level of fitness. Treatment will also be based on the cancer. A very important factor is the cancer stage. See Guide 2.

Guide 2. Nasopharyngeal cancer stages

Stage	Description
Stage 1	 There is a tumor in the nasopharynx only, or There is a tumor in the nasopharynx and it has invaded the middle of the throat or the nose
Stage 2	 The cancer has spread to lymph nodes on one side of the neck and these lymph nodes are 6 centimeters or smaller in size, or The cancer has spread to lymph nodes behind the throat and these lymph nodes are 6 centimeters or smaller in size, or There is a tumor in the nasopharynx and it has invaded the space between the skull base and lower jaw (parapharyngeal space) or nearby muscles
Stage 3	 The cancer has spread to lymph nodes on both sides of the neck and these lymph nodes are 6 centimeters or smaller in size, or There is a tumor in the nasopharynx and it has invaded 1) the bones below the skull or in the neck or 2) nearby sinuses
Stage 4A	 The cancer has spread to lymph nodes on both sides of the neck and these lymph nodes are larger than 6 centimeters, or The cancer has spread to lymph nodes on both sides of the neck and these lymph nodes are in the lowest part of the neck, or There is a tumor in the nasopharynx and it has invaded the skull, cranial nerves, lower throat, bone around the eye, main saliva gland, or soft tissues of the jaw
Stage 4B	The cancer has spread to body parts far from the nasopharynx

Cancer stage

The cancer stage describes the extent of cancer in your body. Nasopharyngeal cancer almost always forms a tumor in the nasopharynx. The tumor may invade nearby tissue, such as the skull.

Nasopharyngeal cancer often spreads to other body parts. It often spreads to lymph nodes behind the ears and in the neck. It is also likely to spread to distant body parts like the lungs, liver, bones, and lymph nodes below the collarbone.

Nasopharyngeal cancer has six stages based on its extent.

- Stage 0 isn't cancer but abnormal throat cells that may become cancer.
- Stages 1, 2, 3, 4A, and 4B are cancer.

Initial treatment approach

Radiation therapy is often used for initial treatment. It works very well for many nasopharyngeal cancers. It may be given during the same time period as chemotherapy. In this book, this combined treatment is called "chemoradiation." Some people call it "concurrent radiation therapy and chemotherapy."

For cancers that have spread far, cancer drugs are commonly used for treatment. The drugs travel in the bloodstream to where the cancer is. Another name for this type of treatment is systemic therapy. Types of systemic therapy are chemotherapy, targeted therapy, and immunotherapy.

Initial treatment may consist of a series of treatments. Primary treatment is the main treatment of cancer. Adjuvant treatment is sometimes given after primary treatment to stop the cancer from returning. For some cancers, induction chemotherapy is the first treatment given. It may improve outcomes by treating cancer throughout the body early in the treatment process.

Neck dissection

Nasopharyngeal cancer is very likely to spread to lymph nodes in the neck. Surgery to remove lymph nodes that may have cancer is called a neck dissection. In this chapter, who will likely need a neck dissection is explained.

Follow-up care

You may start follow-up care when there are no signs of cancer. During follow-up care, you will have scheduled visits with your cancer doctor. You will receive tests to assess the cancer has returned.

Recurrent or persistent cancer

The last section in this chapter is about treatment for recurrent or perisistent cancer.

- Recurrent cancer is cancer that returns after a cancer-free time period.
- Persistent cancer is cancer that remains in the body after treatment.

Recurrent and persistent cancers are treated alike. Systemic therapy is commonly used.

Like initial treatment, your options will partly depend on the extent of the cancer. Also, what you have already received for treatment affects your options. Some treatments can only be given if certain markers are in the cancer cells.

3

Initial treatment

Options for initial treatment are mainly based on the cancer stage. Ask your doctor what the goals of your treatment are and what you should expect during treatment. Treatment options by cancer stage are listed in Guide 3 and are described next.

Guide 3. Options for initial treatment

Stage 1

 Radiation therapy to the nasopharynx; the neck may be treated, too

Stages 2, 3, and 4A

- Clinical trial (preferred)
- Chemoradiation with chemotherapy
- Chemoradiation

Stage 4B

- Clinical trial (preferred)
- Platinum-based systemic therapy followed by:
 - Radiation therapy or
 - Chemoradiation or
 - No further treatment
- Chemoradiation
- Radiation therapy or surgery

Stage 1

The initial treatment for stage 1 is radiation therapy. Other types of treatment are not needed because the cancer is small.

- The cancer in your nasopharynx will be treated with high-dose radiation.
- Your neck will be treated with low-dose radiation in case there are cancer cells in lymph nodes.

There may be so few cancer cells in lymph nodes that they weren't found by imaging or biopsy. Radiation can treat these cancer cells in your neck.

Stages 2, 3, and 4A

Compared to stage 1, more intense treatment is needed for stages 2, 3, and 4A. Often, more than one type of treatment is used. It is very common to be treated with both radiation therapy and chemotherapy.

Your nasopharynx will be treated with higher doses of radiation. High-dose radiation will also be used to treat parts of your neck that have more cancer. Chemotherapy increases the effectiveness of the radiation. Treatment options include:

Clinical trial

NCCN experts prefer a clinical trial for stage 2, 3, and 4A cancers. More research is needed to learn which treatment is best. Ask your doctor if there is a clinical trial that is right for you.

Chemoradiation with chemotherapy

For stages 2, 3, and 4A, chemoradiation achieves better results than radiation therapy alone. The combined treatment extends life. It also helps prevent the cancer from returning.

Adding chemotherapy to chemoradiation may improve outcomes for some people. You may receive chemotherapy before or after chemoradiation. Induction chemotherapy is received before chemoradiation. Adjuvant chemotherapy is received afterward.

Chemoradiation

For stages 2, 3, and 4A, NCCN experts include chemoradiation alone as an option. Cisplatin is the chemotherapy drug most often used with radiation therapy. Chemoradiation alone may be an option for advanced stages when the cancer is limited. There are ongoing studies that will help define who can have chemoradiation alone and who needs more treatment.

Stage 4B

Stage 4B is metastatic cancer. The cancer has spread to distant body parts. Metastatic cancer can be grouped by limited versus widespread disease. Treatment options may differ based on the extent of the metastasis.

Clinical trial

NCCN experts prefer a clinical trial for stage 4B cancers. New treatments are being studied. Ask your doctor if there is a clinical trial that is right for you.

Platinum-based systemic therapy

For widespread metastatic cancer, systemic therapy is a common treatment. Cisplatin or carboplatin—drugs made with platinum—combined with another cancer drug is standard treatment. Combined treatment may be too toxic, so you may receive one cancer drug instead.

IN DEPTH

Chemoradiation with chemotherapy

Adding chemotherapy to chemoradiation may improve results. Induction chemotherapy is received before chemoradiation. Adjuvant chemotherapy is received afterward. The following regimens are options.

Induction chemotherapy and chemoradiation

Common induction regimens

- Docetaxel, cisplatin, and 5-FU
- Cisplatin and 5-FU
- Cisplatin, epirubicin, and paclitaxel
- Docetaxel and cisplatin

Common chemoradiation regimens

 Cisplatin or carboplatin is often used for chemoradiation that is received after induction chemotherapy

Chemoradiation and adjuvant chemotherapy

Common chemoradiation regimens

 Cisplatin is often used for chemoradiation when it is the first treatment received

Common adjuvant regimens

- Cisplatin and 5-FU
- Carboplatin and 5-FU

After systemic therapy, you may receive more treatment to the throat or neck. This extra treatment may help reduce symptoms caused by the cancer. Radiation therapy or chemoradiation may be used.

Chemoradiation

Chemoradiation may be used for treatment if the distant disease is limited. It can also be used to relieve cancer symptoms caused by a tumor in the throat or lymph nodes.

Radiation therapy or surgery

Distant disease may consist of only one or a few tumors. Examples include one tumor in the lung or bone. In these cases, radiation therapy or surgery may be used for treatment.

IN DEPTH

Primary systemic therapy

Radiation therapy and surgery may not be treatment options. This is often the case for metastatic and recurrent cancers. Instead, systemic therapy may be used. Types of systemic therapy are chemotherapy, targeted therapy, and immunotherapy.

First-line regimens

Combination regimens

- Cisplatin and gemcitabine (preferred)
- Cisplatin and 5-FU
- (Cisplatin or carboplatin) and docetaxel
- (Cisplatin or carboplatin) and paclitaxel
- Carboplatin and cetuximab

Single agents

- Cisplatin
- Carboplatin
- Paclitaxel
- Docetaxel
- 5-FU
- Methotrexate
- Gemcitabine
- Capecitabine

Second-line regimens

- First-line regimens
- Nivolumab for recurrent or metastatic nonkeratinizing cancer
- Pembrolizumab for recurrent or metastatic PD-L1-positive cancer

Neck dissection

A neck dissection is a surgery that removes lymph nodes that likely have cancer. It may help stop a cancer recurrence in the neck for some people. This section explains who will likely benefit from a neck dissection.

Cancer tests

After initial treatment, your doctor will assess the treatment results. It may takes weeks for the true results to be seen. So, your doctor may wait 4 to 8 weeks after treatment to do a clinical assessment.

A clinical assessment may include:

- Questions about symptoms
- A physical exam
- An endoscopy of your throat

Some people get imaging of the neck after the clinical assessment. Your doctor will likely order imaging if there are no signs of cancer. If there are signs of cancer, imaging may not be needed. The types and timing of imaging after cancer treatment are listed in Guide 4.

Who gets a neck dissection?

Your doctor will decide whether a neck dissection is needed based on test results. For most people, there is no cancer left after initial treatment, so surgery is not often needed. See Guide 5 for a summary of who will need a neck dissection.



Supportive care

Supportive care aims to improve your quality of life. It includes care for health issues caused by cancer or cancer treatment. It is also sometimes called palliative care. Supportive care is important for everyone, not just people at the end of life.

Treatment side effects

All cancer treatments can cause unwanted health issues. Such health issues are called side effects. Some side effects may be harmful to your health. Others may just be unpleasant.

Side effects depend on many factors. These factors include the treatment type, length or dose of treatment, and the person.

Ask your treatment team for a complete list of side effects of your treatments. Also, tell your treatment team about any new or worse symptoms you get. There may be ways to help you feel better. There are also ways to prevent some side effects.

Guide 4. Imaging after initial treatment

Results of clinical assessment	What are the options?	
Your doctor did not find signs of cancer	 FDG PET/CT at least 12 weeks after treatment If cancer is detected with FDG PET/CT, get CT with contrast of your throat and neck, MRI with contrast, or both CT with contrast of your throat and neck, MRI with contrast, or both to be done 8 to 12 weeks after treatment has ended 	
Your doctor did find signs of cancer	 Imaging may not be done CT with contrast of your throat and neck, MRI with contrast, or both to be done 4 to 8 weeks after treatment has ended FDG PET/CT 	

Guide 5. Neck dissection

Test results	What are the options?
Your doctor did not find signs of cancer on clinical assessment and there were no signs on imaging	A neck dissection is not needed; start follow-up care
Your doctor did not find signs of cancer on clinical assessment but CT or MRI showed signs of cancer	 You may need a neck dissection but your doctor may first order FDG-PET to help guide treatment decisions
Your doctor did not find signs of cancer on clinical assessment but PET/CT showed signs of cancer or lymph nodes are larger than 1 centimeter	 You may have a choice. Talk with your doctor about starting follow-up care or getting a neck dissection. An ultrasound-guided FNA may help guide your decision.
Your doctor did not find signs of cancer on clinical assessment but PET/CT showed signs of cancer and lymph nodes are larger than 1 centimeter	A neck dissection is needed
Your doctor found signs of cancer by clinical assessment	 You may get surgery to remove the primary tumor, a neck dissection, or both

Follow-up care

Follow-up care is important for your long-term health. It is a part of survivorship care. It is started when there are no signs of cancer.

Many types of health care providers may be involved in your follow-up care. Examples include your primary care doctor, cancer doctor, and other specialists. Your providers should work together to meet your needs.

Your cancer doctor will provide you with a survivorship care plan. This plan contains key information for your long-term health, such as:

- A list of your cancer treatments and supportive care that you have had
- Tests to detect a recurrence
- A list of side effects that you may get and ways to prevent or treat them
- Screening for other cancers
- > Health care to prevent disease
- Goals and help for a healthy lifestyle

Tests for recurrence

Follow-up care should include a schedule of tests for relapse. Routine testing for cancer recurrence is called surveillance. Early detection will allow for timely treatment.

Follow-up visits

You will meet with your cancer doctor often after treatment ends. At these visits, your doctor may perform the following:

- Medical history
- Physical exam
- Endoscopy of your throat

Six years after treatment, you may see your doctor only once a year. See Guide 6 for a schedule of visits.

Imaging

Imaging may be done to assess for relapse.

- Within 6 months after treatment has ended, your doctor may repeat the imaging that was done before treatment.
- Your doctor may order imaging on a regular basis if some parts of your neck or head can't be seen on exam.
- If signs of cancer appear, imaging will be needed at that time.

Epstein-Barr virus

Some cancer centers test for DNA of the Epstein-Barr virus during follow-up care. A blood sample is used for testing. Testing may help find a recurrence, but more research is needed to prove how helpful this test is.

Guide 6. Follow-up visits

Year after treatment	How often are visits needed?
Year 1	• Every 1 to 3 months
Year 2	• Every 2 to 6 months
Year 3 to 5	• Every 4 to 8 months
Year 6 and on	• Every 12 months

Long-term and late side effects

Some side effects appear shortly after cancer treatment starts and quickly resolve after treatment ends. Other side effects are long-term or may appear years later.

At follow-up visits, your doctor will assess for side effects. Tell your doctor about any new or worse symptoms. Side effects that may occur after treatment include:

- Vision problems
- Hearing problems
- Swallowing problems
- Tiredness
- Swelling
- Dry nose and mouth
- Pain

Examples of ways to prevent or treat side effects are:

- You may receive thyroid hormone replacement for thyroid problems.
- You may receive treatment for ear infections or pain.
- A dentist can help you cope with dry mouth.
- A speech-language pathologist can improve your speech or swallowing.
- A dietician can help you get good nutrition.
- Mental health providers can help you quit smoking and limit alcohol.
- Mental health providers can also treat depression and anxiety.

Cancer screening

You may be at risk for a second cancer. A second cancer is a possible late effect of some cancer treatments. Also, your risk for cancer increases as you age and if you smoke, the longer you do so. Ask your doctor about your risk for another cancer.

At follow-up visits, your doctor will examine your body for signs of cancer. You may also get a blood test to look for signs of cancer.

If you have a high risk for certain cancers, you may enroll in a screening program. Cancer screening is routine testing for cancer before cancer symptoms start. There is not a screening program for every type of cancer.

There are cancer screening programs for:

- Prostate cancer in men
- > Breast or cervical cancer in women
- Colorectal cancer
- Lung cancer

People at high risk for lung cancer should enroll in a screening program. Visit this webpage to read about lung cancer screening: nccn.org/patients/guidelines/cancers. aspx#lungScreening.

Disease prevention

Another part of survivorship care is to prevent diseases. Such care can include getting immunization shots for the flu, herpes, shingles, and other diseases. Dental cleaning and exams on a regular basis can prevent disease, too.

Healthy lifestyle

It's important to start or keep a healthy lifestyle. Healthy living may improve your health and wellbeing. It may also help prevent the cancer from returning. Work with your treatment team to set goals and make plans for healthy living.

Common goals for healthy living include:

- Seeing a primary care provider on a regular basis
- Limiting alcohol use
- Not using tobacco products
- Using sun protection
- Maintaining a healthy weight
- Eating a balanced diet
- Drinking enough fluids
- Exercising

Recurrent or persistent cancer

Cancer may return or persist but not spread far. This is called locoregional cancer. Cancer that has spread far from the nasopharynx is called metastatic disease. Options for recurrent or persistent cancer based on its extent are listed in Guide 7 and described in this section.

Your treatment options will be based on many factors. One factor is whether the cancer can be fully and safely removed by surgery. Your options may also depend on if you had radiation therapy in the past.

Local treatment

Local treatment includes surgery, radiation therapy, and chemoradiation. It is more often used to treat locoregional cancer than metastatic cancer. Metastatic cancer must be within a limited area for local treatment to be an option.

Radiation therapy may be an option if you had it before. There are limits to how much radiation a body part can safely receive. NCCN experts prefer that a second course of radiation therapy be received within a clinical trial.

Systemic therapy

Systemic therapy by itself is often used when local treatment is not an option. If you are healthy enough, regimens may contain more than one cancer drug. If your health is poor, your doctor may prescribe one cancer drug for your safety.

Most options for systemic therapy consist of chemotherapy only. One option includes targeted therapy—carboplatin with cetuximab. Immunotherapy (nivolumab or pembrolizumab) is an option, too.

Clinical trial

A clinical trial may be an option. Ask your doctor if there's a clinical trial that is right for you. A clinical trial may test which current treatment is best or may test a new treatment.

Supportive care

Supportive care aims to improve your quality of life. The goal is to prevent or relieve symptoms instead of cure or control the cancer. Radiation therapy may be used to relieve symptoms.

Guide 7. Options for recurrent or persistent cancer

The cancer has not spread far (locoregional)

Treatment status	What are the options?
The cancer can be removed by surgery and you have had radiation therapy	 Surgery followed by one of the following: No further treatment if all the cancer was likely removed or if the area can't be treated with radiation again Radiation therapy or chemoradiation; receiving treatment within a clinical trial is preferred
The cancer can be removed by surgery and you haven't had radiation therapy	 Surgery followed by one of the following: No further treatment if all the cancer was likely removed Chemoradiation Radiation therapy Chemoradiation
The cancer can't be removed by surgery and you have had radiation therapy	 Radiation therapy or chemoradiation; receiving treatment within a clinical trial is preferred Systemic therapy Supportive care
The cancer can't be removed by surgery and you haven't had radiation therapy	 Clinical trial (preferred) Chemoradiation Induction chemotherapy followed by either radiation therapy or chemoradiation Radiation therapy Single-agent systemic therapy Supportive care including radiation therapy

The cancer has spread far (metastatic)

What are the options?

- Clinical trial (preferred)
- · Systemic therapy
- Surgery, radiation therapy, or chemoradiation for limited distant spread
- Supportive care

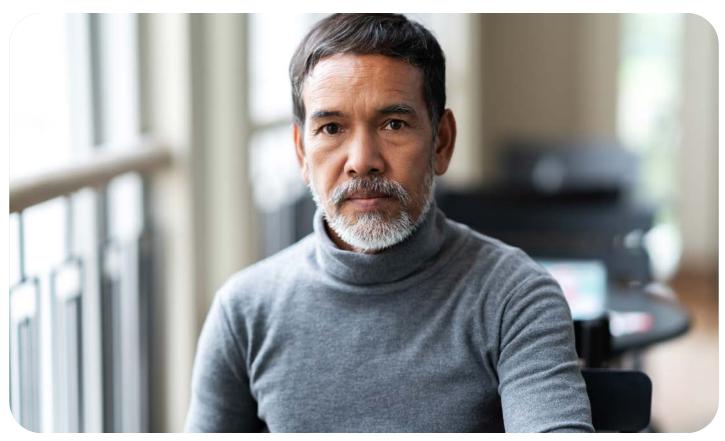
Review

- The goal of treatment is to either cure the cancer or stop the cancer from growing.
- Initial treatment is mainly based on the cancer stage. A clinical trial is the preferred treatment option for cancer stages 2, 3, and 4. Radiation, chemotherapy, or both work well for many nasopharyngeal cancers.
- You may undergo a neck dissection if cancer remains in your neck lymph nodes after initial treatment.
- Get a survivorship care plan from your cancer doctor. This plan should include a schedule of follow-up visits with your cancer doctor. It should also list health care to prevent other diseases.
- Nasopharyngeal cancer may return or persist after initial treatment. Options mainly depend on the extent of the cancer and your prior treatment.

4

Making treatment decisions

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Having cancer is very stressful. There is a lot to learn in what feels like a short amount of time. This chapter can help you make decisions that reflect your beliefs, wishes, and values.

It's your choice

The role patients want in choosing their treatment differs. You may feel uneasy about making treatment decisions. This may be due to a high level of stress. It may be hard to hear or know what others are saying. Stress, pain, and drugs can limit your ability to make good decisions. You may feel uneasy because you don't know much about cancer. You've never heard the words used to describe cancer, tests, or treatments. Likewise, you may think that your judgment isn't any better than your doctors'.

Letting others decide which option is best may make you feel more at ease. But, whom do you want to make the decisions? You may rely on your doctors alone to make the right decisions. However, your doctors may not tell you which to choose if you have more than one good option. You can also have loved ones help. They can gather information, speak on your behalf, and share in decision-making with your doctors. Even if others decide which treatment you will receive, you still have to agree by signing a consent form.

On the other hand, you may want to take the lead or share in decision-making. Most patients do. In shared decision-making, you and your doctors share information, weigh the options, and agree on a treatment plan. Your doctors know the science behind your plan but you know your concerns and goals. By working

together, you are likely to get a higher quality of care and be more satisfied. You'll likely get the treatment you want, at the place you want, and by the doctors you want.

Questions to ask your doctors

You may meet with experts from different fields of medicine. Strive to have helpful talks with each person. Prepare questions before your visit and ask questions if the person isn't clear. You can also take notes and get copies of your medical records.

It may be helpful to have your spouse, partner, family member, or a friend with you at these visits. A patient advocate or navigator might also be able to come. They can help to ask questions and remember what was said. Suggested questions to ask are listed on the following pages.

What's my diagnosis and prognosis?

It's important to know that there are different types of cancer. Cancers with the same name can even greatly differ. Based on your test results, your doctor can tell you which type of cancer you have. Some people want to know the prognosis. A prognosis is a prediction of the pattern and outcome of a disease. Knowing the prognosis may affect what you decide about treatment.

- 1. What type of cancer do I have? From what type of cell did it form? Is this cancer common?
- 2. What is the cancer stage? Does this stage mean the cancer is advanced?
- 3. Is this a fast- or slow-growing cancer?
- 4. What tests do you recommend for me?
- 5. Where will the tests take place? How long will the tests take and will any test hurt?
- 6. What if I am pregnant?
- 7. How do I prepare for testing?
- 8. Should I bring a list of my medications?
- 9. Should I bring someone with me?
- 10. How often are these tests wrong?
- 11. Would you give me a copy of the pathology report and other test results?
- 12. Who will talk with me about the next steps? When?

What are my options?

There is no single treatment practice that is best for all people. There is often more than one treatment option along with clinical trial options. Your doctor will review your test results and recommend treatment options.

- 1. What will happen if I do nothing?
- 2. Can I just carefully monitor the cancer?
- 3. Do you consult NCCN recommendations when considering options?
- 4. Are you suggesting options other than what NCCN recommends? If yes, why?
- 5. Do your suggested options include clinical trials? Please explain why.
- 6. How do my age, health, and other factors affect my options? What if I am pregnant?
- 7. Which option is proven to work best?
- 8. Which options lack scientific proof?
- 9. What are the benefits of each option? Does any option offer a cure or long-term cancer control? Are my chances any better for one option than another? Less time-consuming? Less expensive?
- 10. What are the risks of each option? What are possible complications? What are the rare and common side effects? Short-lived and long-lasting side effects? Serious or mild side effects? Other risks?
- 11. How will treatment affect my looks, speech, chewing, and swallowing? Will my sense of smell or taste change?
- 12. How do you know if treatment is working?
- 13. What are my options if treatment doesn't work?
- 14. What can be done to prevent or relieve the side effects of treatment?
- 15. What are my chances that the cancer will return?

What does each option require of me?

Many patients consider how each option will practically affect their lives. This information may be important because you have family, jobs, and other duties to take care of. You also may be concerned about getting the help you need. If you have more than one option, choosing the option that is the least taxing may be important to you:

- 1. Will I have to go to the hospital or elsewhere? How often? How long is each visit?
- 2. What do I need to think about if I will travel for treatment?
- 3. Do I have a choice of when to begin treatment? Can I choose the days and times of treatment?
- 4. How do I prepare for treatment? Do I have to stop taking any of my medicines? Are there foods I will have to avoid?
- 5. Should I bring someone with me when I get treated?
- 6. Will the treatment hurt?
- 7. How much will the treatment cost me? What does my insurance cover?
- 8. Will I miss work or school? Will I be able to drive?
- 9. Is home care after treatment needed? If yes, what type?
- 10. How soon will I be able to manage my own health?
- 11. When will I be able to return to my normal activities?

4

What is your experience?

Research suggests that patients treated by more experienced doctors have better results. It is important to learn if doctors are experts in the care that they offer.

- 1. Are you board-certified? If yes, in what area?
- 2. How many patients like me have you treated?
- 3. How many procedures like the one you're suggesting have you done?
- 4. Is this treatment a major part of your practice?
- 5. How many of your patients have had complications?

Deciding between options

Deciding which option is best can be hard. Doctors from different fields of medicine may have different opinions on which option is best for you. This can be very confusing. Your spouse, partner, friends, or family may disagree with which option you want. This can be stressful. In some cases, one option hasn't been shown to work better than another. Some ways to decide on treatment are discussed next.

Second opinion

After finding out you have cancer, it is normal to want to start treatment as soon as possible. While cancer can't be ignored, there is time to have another doctor review your test results and suggest a treatment plan. This is called getting a second opinion, and it's a normal part of cancer care.

Getting a second opinion doesn't mean you don't trust the first doctor. In fact, most doctors who are diagnosed with cancer will see more than one doctor before beginning treatment. What's more, some health plans require a second opinion. If your health plan doesn't cover the cost of a second opinion, you have the choice of paying for it yourself.

If the two opinions are the same, you may feel better about the treatment you accept to have. If the two opinions differ, think about getting a third opinion. Choosing your cancer treatment is a very important decision. It can affect your length and quality of life.

On the other hand, you might not feel a need for a second opinion. For some people, a second opinion causes more delay, anxiety, and stress.

Support groups

In addition to speaking with health experts, it may help to talk to patients who have walked in your shoes. Support groups often consist of people at different stages of treatment. Some may be in the process of deciding while others may be finished with treatment. At support groups, you can ask questions and hear about the experiences of other people with throat cancer.

Compare benefits and downsides

Every option has benefits and downsides. Consider these when deciding which option is best for you. Talking to others can help identify benefits and downsides you haven't thought of. For example, you can decide how aggressive you want to be with treatment at the cost of increasing negative long-term side effects. Scoring each factor from 0 to 10 can also help since some factors may be more important to you than others. You should feel comfortable discussing your goals of care with your health care team.

Websites

American Cancer Society

cancer.org/cancer/nasopharyngeal-cancer.html

Head and Neck Cancer Alliance (HNCA) headandneck.org

National Cancer Institute (NCI)

cancer.gov/types/head-and-neck

NCCN for Patients®

nccn.org/patients

Oral Cancer Foundation

oralcancerfoundation.org

smokefree.gov

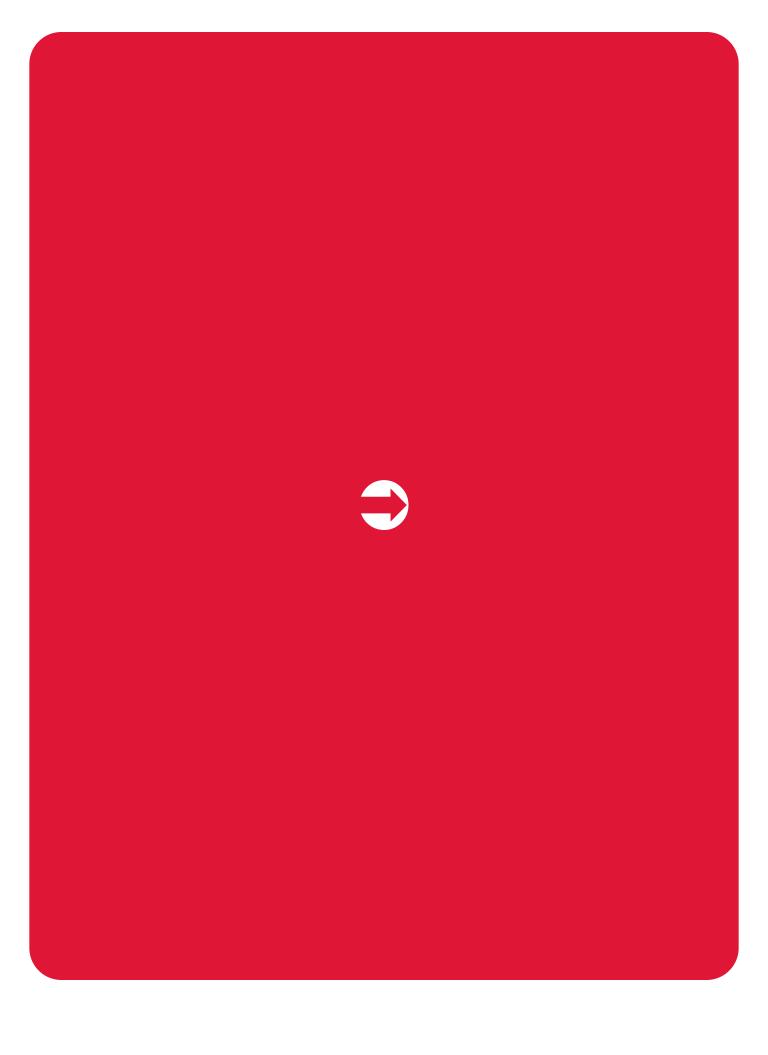
smokefree.gov

Support for People with Oral and Head and Neck Cancer (SPOHNC)

spohnc.org

Review

- Shared decision-making is a process in which you and your doctors plan treatment together.
- Asking your doctors questions is vital to getting the information you need to make informed decisions.
- Getting a second opinion, attending support groups, and comparing benefits and risks may help you decide which treatment is best for you.



Words to know

3D-CRT

Three-dimensional conformal radiation therapy

5-FU

5-fluorouracil

adjuvant therapy

Treatment that is given to lower the chances of the cancer returning.

AJCC

American Joint Committee on Cancer

biopsy

A procedure that removes fluid or tissue samples to be tested for a disease.

cancer stage

A rating of the outlook of a cancer based on its growth and spread.

carcinoma

A cancer of cells that line the inner or outer surfaces of the body.

chemotherapy

Cancer drugs that stop the cell life cycle so cells don't increase in number.

clinical stage

The rating of the extent of cancer before treatment is started.

clinical trial

A type of research that assesses health tests or treatments.

computed tomography (CT)

A test that uses x-rays from many angles to make a picture of the insides of the body.

chemoradiation

A treatment of cell-killing drugs and high-energy rays that are given during the same time period.

distress

An unpleasant experience of a mental, physical, social, or spiritual nature.

EBRT

External beam radiation therapy

endoscope

A device that is passed through a natural opening to do work inside the body.

FDG

fluorodeoxyglucose

fine-needle aspiration (FNA)

A procedure that removes tissue samples with a very thin needle.

genetic information

A chain of chemicals in cells that tells cells what to do.

hypopharynx

The lowest part of the throat.

imaging

A test that makes pictures (images) of the insides of the body.

IMRT

intensity-modulated radiation therapy

immunotherapy

A treatment with drugs that help the body find and destroy cancer cells.

induction chemotherapy

The first treatment, consisting of cell-killing drugs, that is given to greatly reduce the extent of cancer.

lymph

A clear fluid containing white blood cells.

lymph node

A small, bean-shaped disease-fighting structure.

Words to know

magnetic resonance imaging (MRI)

A test that uses radio waves and powerful magnets to make pictures of the insides of the body.

medical history

A report of all your health events and medications

medical oncologist

A doctor who's an expert in cancer drugs.

metastasis

The spread of cancer from the first tumor to a new site.

nasopharyngoscopy

A procedure to see the upper throat with a device that is guided through the nose.

nasopharynx

The part of the throat that is behind the nose.

neck dissection

An operation that removes lymph nodes and other tissue in the neck area.

oropharynx

The middle part of the throat.

pathologist

A doctor who's an expert in testing cells and tissue to find disease.

PEG

percutaneous endoscopic gastrostomy

physical exam

A study of the body by a health expert for signs of disease.

positron emission tomography (PET)

A test that uses radioactive material to see the shape and function of body parts.

prognosis

The likely course and outcome of a disease based on tests.

radiation therapy

A treatment that uses high-energy rays.

radiologist

A doctor who is an expert in reading imaging tests.

recurrence

The return of cancer after a cancer-free period.

registered dietician

A nationally-credentialed expert in food and diet.

side effect

An unhealthy or unpleasant physical or emotional response to treatment.

skull base

A group of bones and tissues between the bottom of the brain and the structures of the face.

supportive care

Health care that includes symptom relief but not cancer treatment. Also called palliative care.

surgery

An operation to remove or repair a part of the body.

surgical margin

The normal-looking tissue around a tumor that was removed during an operation.

systemic therapy

A type of treatment that works throughout the body.

targeted therapy

A drug treatment that impedes the growth process specific to cancer cells.

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This patient guide is based on the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Head and Neck Cancers. It was adapted, reviewed, and published with help from the following people:

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pennmedicine.org/cancer

Fred & Pamela Buffett Cancer Center Omaha, Nebraska 800.999.5465

nebraskamed.com/cancer

Case Comprehensive Cancer Center/
University Hospitals Seidman Cancer
Center and Cleveland Clinic Taussig
Cancer Institute
Cleveland, Ohio
800.641.2422 • UH Seidman Cancer Center
uhhospitals.org/services/cancer-services
866.223.8100 • CC Taussig Cancer Institute
my.clevelandclinic.org/departments/cancer
216.844.8797 • Case CCC
case.edu/cancer

City of Hope National Medical Center Los Angeles, California 800.826.4673 cityofhope.org

Dana-Farber/Brigham and Women's Cancer Center Massachusetts General Hospital Cancer Center Boston, Massachusetts 877.332.4294 dfbwcc.org massgeneral.org/cancer

Duke Cancer Institute Durham, North Carolina 888.275.3853 dukecancerinstitute.org

Fox Chase Cancer Center Philadelphia, Pennsylvania 888.369.2427 foxchase.org

Huntsman Cancer Institute at the University of Utah Salt Lake City, Utah 877.585.0303 huntsmancancer.org

Fred Hutchinson Cancer Research Center/Seattle Cancer Care Alliance Seattle, Washington 206.288.7222 • seattlecca.org 206.667.5000 • fredhutch.org The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins Baltimore, Maryland 410.955.8964

hopkinskimmelcancercenter.org

Robert H. Lurie Comprehensive Cancer Center of Northwestern University Chicago, Illinois 866.587.4322 cancer.northwestern.edu

Mayo Clinic Cancer Center Phoenix/Scottsdale, Arizona Jacksonville, Florida Rochester, Minnesota 800.446.2279 • Arizona 904.953.0853 • Florida 507.538.3270 • Minnesota

<u>mayoclinic.org/departments-centers/mayo-clinic-cancer-center</u>

Memorial Sloan Kettering Cancer Center New York, New York 800.525.2225 mskcc.org

Moffitt Cancer Center Tampa, Florida 800.456.3434 moffitt.org

The Ohio State University
Comprehensive Cancer Center James Cancer Hospital and
Solove Research Institute
Columbus, Ohio
800.293.5066
cancer.osu.edu

O'Neal Comprehensive Cancer Center at UAB Birmingham, Alabama 800.822.0933 uab.edu/onealcancercenter

Roswell Park Comprehensive Cancer Center Buffalo, New York 877.275.7724 roswellpark.org

Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine St. Louis, Missouri 800.600.3606 siteman.wustl.edu St. Jude Children's Research Hospital The University of Tennessee Health Science Center Memphis, Tennessee 888.226.4343 • stjude.org 901.683.0055 • westclinic.com

Stanford Cancer Institute Stanford, California 877.668.7535 cancer.stanford.edu

UC San Diego Moores Cancer Center La Jolla, California 858.657.7000 cancer.ucsd.edu

UCSF Helen Diller Family Comprehensive Cancer Center San Francisco, California 800.689.8273 cancer.ucsf.edu

University of Colorado Cancer Center Aurora, Colorado 720.848.0300 coloradocancercenter.org

University of Michigan Rogel Cancer Center Ann Arbor, Michigan 800.865.1125 rogelcancercenter.org

The University of Texas MD Anderson Cancer Center Houston, Texas 800.392.1611 mdanderson.org

University of Wisconsin Carbone Cancer Center Madison, Wisconsin 608.265.1700 uwhealth.org/cancer

Vanderbilt-Ingram Cancer Center Nashville, Tennessee 800.811.8480 vicc.org

Yale Cancer Center/ Smilow Cancer Hospital New Haven, Connecticut 855.4.SMILOW yalecancercenter.org

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