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About Nasal Cavity and Paranasal Sinus Cancer

Overview and Types

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

- [What Are Nasal Cavity and Paranasal Sinus Cancers?](#)

Research and Statistics

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

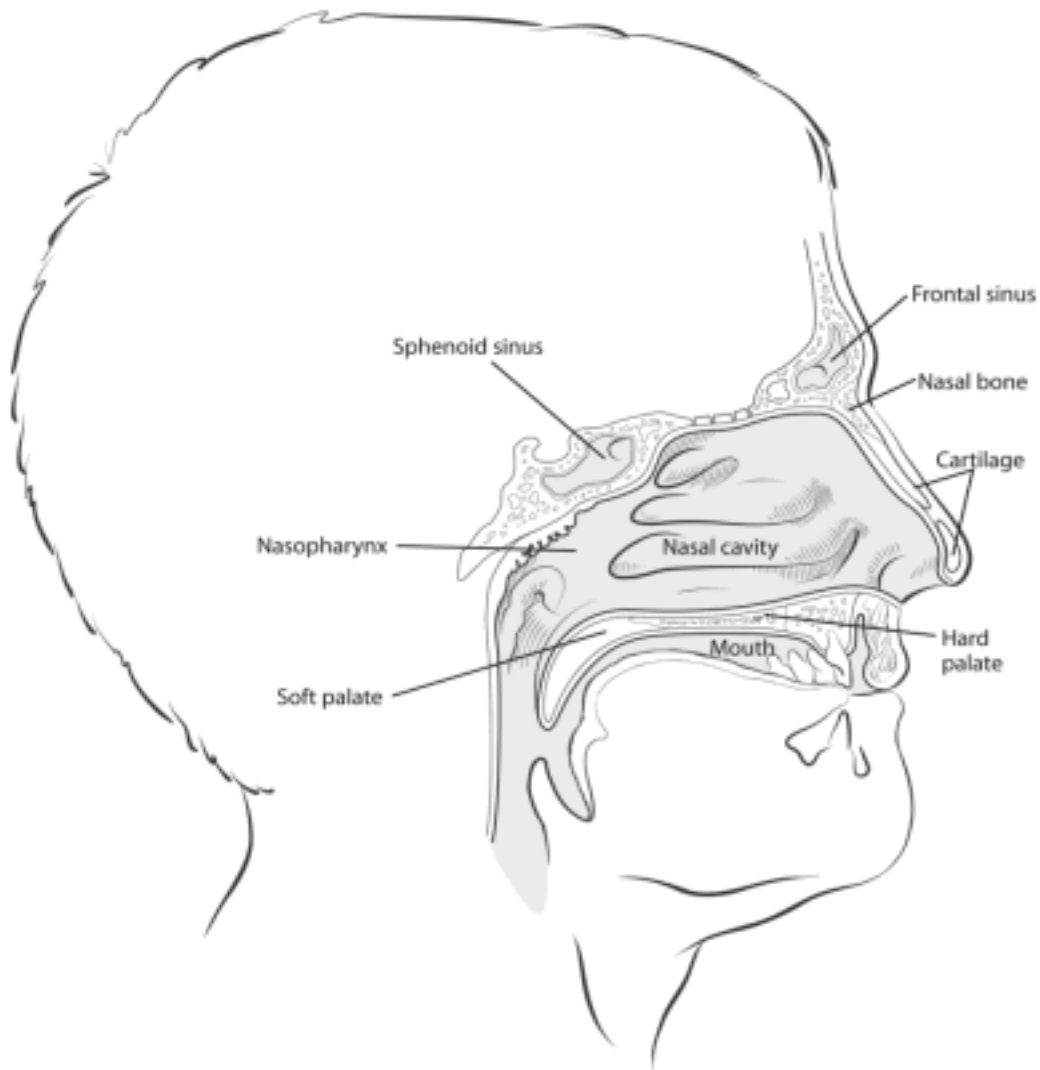
- [What Are the Key Statistics About Nasal Cavity and Paranasal Sinus Cancers?](#)
- [What's New in Nasal Cavity and Paranasal Sinus Cancer Research and Treatment?](#)

What Are Nasal Cavity and Paranasal Sinus Cancers?

To understand these cancers, it helps to know a little about the nasal cavity and

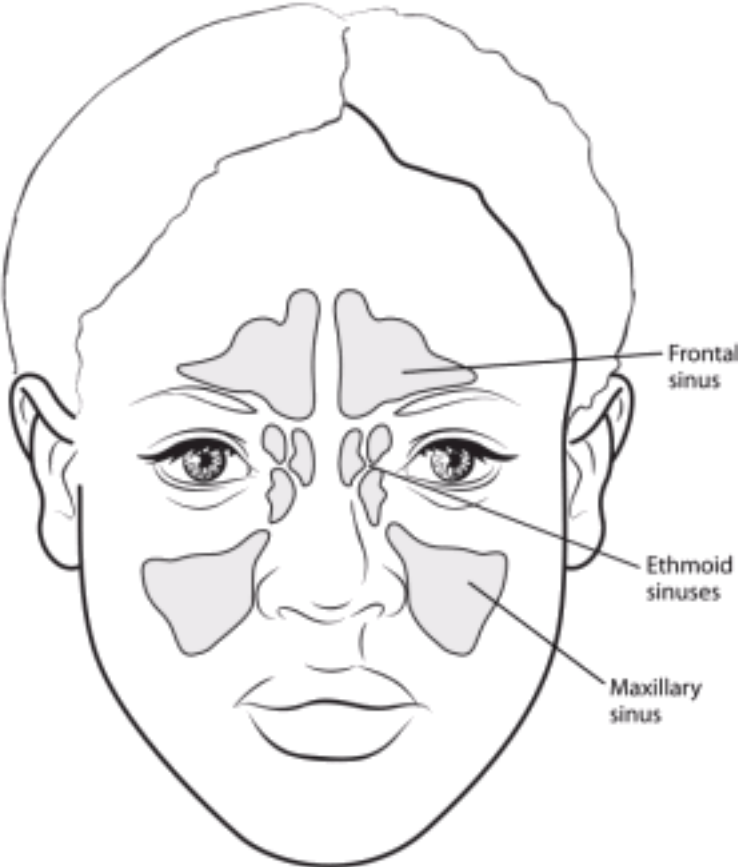
paranasal sinuses.

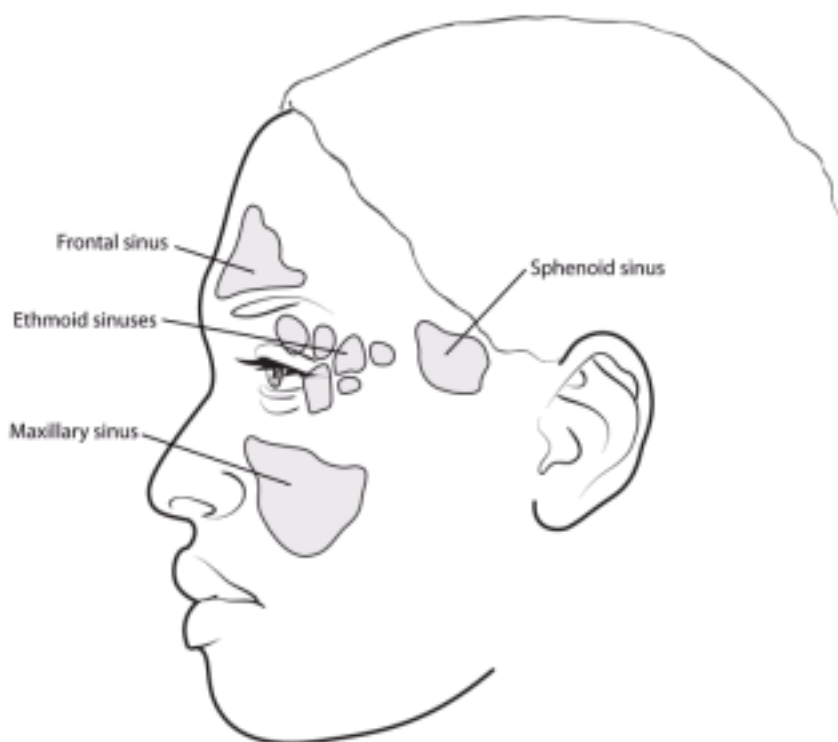
The nasal cavity



The nose opens into the nasal passageway, or cavity. This cavity is a space that runs along the top of the roof of the mouth (the palate, which separates your nose from your mouth) and then turns downward to join the passage from the mouth to the throat.

The paranasal sinuses





Sinuses are cavities (spaces) or small tunnels. They are called **paranasal** because they're around or near the nose. The nasal cavity opens into a network of sinuses:

- **Maxillary sinuses** are in the cheek area, below the eyes on either side of the nose.
- **Frontal sinuses** are above the inner eye and eyebrow area.
- **Sphenoid sinuses** sit deep behind the nose, between the eyes.
- **Ethmoid sinuses** are made up of many sieve-like sinuses formed of thin bone and mucous tissues. They're above the nose, between the eyes.

The sinuses are filled with air. When you have a cold or sinus infection the sinuses can become blocked (obstructed) and fill with mucus and pus, which can be uncomfortable.

The nasal cavity and paranasal sinuses do many things:

- They help filter, warm, and moisten the air you breathe.
- They give your voice resonance.
- They lighten the weight of the skull.
- They provide a bony framework for the face and eyes.

The nasal cavity and the paranasal sinuses are lined by a layer of mucus-producing tissue (mucosa). The mucosa has many types of cells, including:

- **Squamous epithelial cells**, which are flat cells that line the sinuses and make up most of the mucosa
- **Glandular cells** such as minor salivary gland cells, which make mucus and other fluids
- **Nerve cells**, which are responsible for sensation and the sense of smell in the nose
- **Infection-fighting cells** (which are part of the immune system), blood vessel cells, and other supporting cells

Other types of cells in the nasal cavity and paranasal sinuses, including bone and cartilage cells, can also become cancer.

Nasal cavity and paranasal sinus cancers

Any of the cells that make up the mucosa can become cancer, and each type of cancer behaves or grows differently.

- Squamous epithelial cells can become **squamous cell carcinomas**. This is the most common type of cancer in the nasal cavity and paranasal sinuses. It makes up a little over half of cancers of these areas.
- Minor salivary gland cells can turn into **adenocarcinomas**, **adenoid cystic carcinomas**, and **mucoepidermoid cancers**. These also are common nasal and paranasal sinus cancers.
- **Undifferentiated carcinoma** is another type of cancer that can come from mucosa cells. This is a fast-growing cancer in which the cells look so abnormal that it's hard to tell what type of cell the cancer started in.
- Cells that give the skin its tan or brown color are called melanocytes. [Melanoma](#)¹ is a type of cancer that starts in these cells. It can grow and spread quickly. These cancers usually are found on sun-exposed areas of the skin but can form on the lining of the nasal cavity and sinuses or other areas inside the body.
- **Esthesioneuroblastoma** is a cancer that starts in the olfactory nerve (the nerve for the sense of smell). This cancer is also called **olfactory neuroblastoma**. It usually starts in the roof of the nasal cavity and involves a structure called the cribriform plate. The cribriform plate is a bone deep in the skull, between the eyes, and above the ethmoid sinuses. These tumors can sometimes be mistaken for other types of

tumors, like undifferentiated carcinoma or [lymphoma](#)².

- **Lymphomas** (cancers starting in immune system cells called lymphocytes) can occur in the nasal cavity and paranasal sinuses. One type of lymphoma seen in this area, T-cell/natural killer cell nasal-type lymphoma, was previously called lethal midline granuloma. See [Non-Hodgkin Lymphoma](#)³ for information about the diagnosis and treatment of lymphomas.
- **Sarcomas** are cancers of muscle, bone, cartilage, and fibrous cells that can start anywhere in the body, including the nasal cavity and paranasal sinuses. Information about [sarcomas](#)⁴ can be found on some of our other pages.

Each of these types of cancer has a distinct behavior and outlook. They cannot all be treated the same way. Many of them rarely affect the nasal cavity and paranasal sinuses, so they've been hard to study. Because of this, doctors must base treatment decisions on their experience with similar cancers in other parts of the head and neck.

Other growths found in the nasal cavity and paranasal sinuses

Some growths in the nasal cavity and paranasal sinuses are not cancers, but they could still cause problems.

Nasal polyps

Nasal polyps are abnormal growths inside the nasal cavity or paranasal sinuses. Polyps usually have a teardrop shape and a smooth surface. Most nasal polyps are benign (not cancer) and are caused by some type of chronic (long-lasting) inflammation in the nose. Using exams and tests, doctors can often tell benign polyps from cancer. But in some cases, polyps need to be closely checked to be sure. Small polyps that aren't causing problems might not need treatment. Larger polyps that cause problems might need to be treated with medicine or surgery.

Papillomas

Papillomas are warts that can grow inside the nasal cavity or paranasal sinuses and destroy healthy tissue. They usually have a bumpy surface. Papillomas are not cancer, but sometimes a squamous cell carcinoma will start in a papilloma. Because of the risk of cancer, papillomas in the nasal cavity and paranasal sinuses are removed by surgery.

Inverting papilloma. This is a type of papilloma that is classified as a benign tumor, but

it tends to act more like a cancer. It tends to recur (come back) and can grow into nearby tissues. Inverted papillomas are often treated with the same type of surgery that's used for cancer.

Hyperlinks

1. www.cancer.org/cancer/melanoma-skin-cancer.html
2. www.cancer.org/cancer/lymphoma.html
3. www.cancer.org/cancer/non-hodgkin-lymphoma.html
4. www.cancer.org/cancer/soft-tissue-sarcoma.html

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See all references for Nasal Cavity and Paranasal Sinus Cancers
(www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/references.html)

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What Are the Key Statistics About Nasal Cavity and Paranasal Sinus Cancers?

Cancers of the nasal cavity and paranasal sinuses are rare, with about 2,000 people in the United States developing these cancers each year.

These tumors are more common with age, with about 4 out of 5 cases occurring in people who are at least 55 years old.

Men are more likely than women to get these cancers. They occur much more often in certain areas of the world such as Japan and South Africa.

Most cancers of the nasal cavity and paranasal sinuses occur in the maxillary sinuses or in the nasal cavity. They are less common in the ethmoid sinuses, and are rare in the frontal and sphenoid sinuses.

Survival statistics for these cancers are discussed in the section [Survival Rates for Nasal Cavity and Paranasal Sinus Cancers, by Stage](#).¹

Hyperlinks

1. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/detection-diagnosis-staging/survival-rates.html

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What's New in Nasal Cavity and Paranasal Sinus Cancer Research and Treatment?

Research on prevention of and better treatment for [nasal cavity and paranasal sinus cancers](#)¹ is now being done at many medical centers, university hospitals, and other institutions across the nation. Doctors and patients are urged to contact the nearest cancer center to find out what [clinical trials](#)² are going on in their community.

Genetics

Little is known about the [gene changes](#)³ in nasal cavity and paranasal sinus cancer because this cancer is so rare. Still, scientists have found some changes in the genes of some head and neck cancer cells that may be what change normal cells into cancer cells. But more research is needed to clearly identify these changes and link them to nasal cavity and nasopharyngeal cancers.

Understanding these gene changes may help doctors find better ways to diagnose

these cancers. It may also lead to treatments that work better and have fewer side effects than those used today.

Treatment

Surgery

Surgeons are looking at new ways to [remove these cancers](#)⁴ while doing as little damage as possible to nearby normal tissues. Researchers are also looking for better ways to combine surgery with other cancer treatments to get better outcomes.

Selective [lymph node dissection](#)⁵ is another research interest. Studies have suggested that even patients who do not appear to have cancer in their [lymph nodes](#)⁶ have better outcomes when surgery is done to check the nodes close to the cancer compared to patients who have no lymph node treatment or elective neck radiation. More research is needed to know which patients should be offered these options.

Studies are looking at the possibility of [reconstruction](#)⁷, or rebuilding the effected bony parts of the face, and how to best do it. Bone and tissue grafts, as well as man-made materials are being studied.

Radiation therapy

Doctors are always looking better ways to focus [radiation](#)⁸ on tumors more precisely to get more radiation to the tumor while limiting damage to nearby areas. This is especially important for head and neck tumors like nasal cavity and paranasal sinus cancers, where there are many important structures (like the eyes and brain), blood vessels, and nerves close to the tumor.

Research looking at whether [proton therapy](#)⁹ (which uses proton beams instead of x-rays) could work better than IMRT. ([IMRT](#)¹⁰ is the type of radiation most often used today.) Proton therapy could allow doctors to give higher doses of radiation to the cancer with less damage to the tissues the rays pass through. This might also cause fewer side effects, like mouth pain, eating problems, and weight loss.

Different radiation schedules are also being studied. For instance, instead of giving one large dose of radiation each day, there may be less damage to the eyeball and optic nerve if radiation is split into 2 smaller doses each day. This is called **hyperfractionation** and needs to be studied more.

Improvements in radiation have also led doctors to test repeating radiation treatments

for cancers that come back after the initial course of treatment.

Chemotherapy

Doctors are looking at how [chemotherapy](#)¹¹ can be used with other treatments to improve outcomes, especially for bigger cancers that may have already spread. Induction chemotherapy -- chemo given before surgery and/or radiation -- is of special interest because studies suggest that it may help preserve the eyeball in people with advanced disease. It's also been linked to longer survival.

Intra-arterial chemo (putting drugs right into the blood vessels feeding the tumor) for advanced cancers is another area of interest. Research has suggested that this might help reduce damage to the nearby tissues -- especially the eyeball. Still, there are a lot of side effects seen with this treatment, and more research is needed to know if it helps.

More research is needed to know when to use chemotherapy and which chemo drug combinations are best for these cancers.

Targeted therapies

Clinical trials are studying several [targeted therapies](#)¹² that block the action of the substances (such as growth factors and growth factor receptors) that cause head and neck cancers to grow and spread. Cetuximab is already used in some cases, and pembrolizumab and bevacizumab are also being studied. Many studies are testing combinations of targeted therapies plus chemo or radiation. As has been the case with many other kinds of cancer, targeted therapies may prove to be a great advancement in the treatment of nasal cavity and paranasal sinus cancers.

PDT

[Photodynamic therapy](#)¹³ or PDT uses drugs and light to treat small cancers that can be reached with lasers. Researchers are looking at how this treatment might be used to treat recurrent [esthesioneuroblastoma](#) and other paranasal sinus tumors that come back after treatment.

Because nasal cavity and paranasal sinus cancers are rare, nearly all clinical trials include patients with other types of head and neck cancer as well. Although these studies are not specific to nasal cavity and paranasal sinus cancers, doctors will be able to apply the results when choosing treatment for patients with nasal cavity and paranasal sinus cancers.

Hyperlinks

1. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer.html
2. www.cancer.org/treatment/treatments-and-side-effects/clinical-trials.html
3. www.cancer.org/cancer/cancer-causes/genetics/genes-and-cancer.html
4. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/treating/surgery.html
5. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/surgery/how-surgery-is-used-for-cancer.html
6. www.cancer.org/cancer/cancer-basics/lymph-nodes-and-cancer.html
7. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/surgery/how-surgery-is-used-for-cancer.html
8. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/treating/radiation-therapy.html
9. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/radiation/external-beam-radiation-therapy.html
10. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/radiation/external-beam-radiation-therapy.html
11. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/chemotherapy.html
12. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/treating/targeted-therapy.html
13. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/photodynamic-therapy.html

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Nasal Cavity and Paranasal Sinus Cancer Causes, Risk Factors, and Prevention

Risk Factors

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

- [What Are the Risk Factors for Nasal Cavity and Paranasal Sinus Cancers?](#)
- [Do We Know What Causes Nasal Cavity and Paranasal Sinus Cancers?](#)

Prevention

There is no way to completely prevent cancer. But there are things you can do that might lower your risk. Learn more.

- [Can Nasal Cavity and Paranasal Sinus Cancers Be Prevented?](#)

What Are the Risk Factors for Nasal Cavity and Paranasal Sinus Cancers?

A risk factor is anything that changes your chances of getting a disease like cancer.

Different cancers have different risk factors. For example, too much exposure to sunlight is a risk factor for skin cancer, and smoking is a risk factor for many different kinds of cancers.

But risk factors don't tell us everything. Having a risk factor, or even several, does not mean that you will get the disease. Many people with risk factors never develop these cancers, while people with these cancers may have few or no known risk factors.

Researchers have found a few risk factors that make a person more likely to develop nasal cavity and paranasal sinus cancer. Most of these are exposures to inhaled substances in the workplace.

Workplace exposures

People who work in certain jobs are more likely to develop [nasal cavity and paranasal sinus cancer](#)¹. The increased risk seems to be related to breathing in certain substances while at work, such as:

- Wood dusts from carpentry (such as furniture and cabinet builders), sawmills, and other wood-related industries
- Dusts from textiles (textile plants)
- Leather dusts (shoemaking)
- Flour (baking and flour milling)
- Nickel and chromium dust
- Mustard gas (a poison used in chemical warfare)
- Radium (a radioactive element rarely used today)

These workplace exposures have less clear links to nasal and paranasal sinus cancer:

- Glues
- [Formaldehyde](#)²
- Organic solvents

Smoking

Some studies have found that [smoking](#)³ might increase the risk of nasal cavity cancer.

Human papillomavirus (HPV) infection

The human papillomavirus (HPV⁴) is a group of over 100 related viruses. They are called **papilloma viruses** because some of them cause a type of benign (not cancer) growth called a papilloma, more commonly known as a wart. Some types of HPV can cause cancers of the [cervix](#)⁵, [vagina](#)⁶, [anus](#)⁷, [vulva](#)⁸, [penis](#)⁹, [mouth](#)¹⁰, and [throat](#)¹¹. HPV has been detected in some cancers of the nasal cavity and paranasal sinuses. These HPV-linked cancers tend to have a better outcome. But cancers of the nasal cavity or sinuses linked to HPV are rare.

Hereditary retinoblastoma treatment

People with the hereditary form of [retinoblastoma](#)¹², a type of eye cancer that typically develops in children, have an increased risk of nasal cavity cancer if the retinoblastoma was treated with radiation.

Hyperlinks

1. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/about/what-is-nasal-paranasal.html
2. www.cancer.org/cancer/cancer-causes/formaldehyde.html
3. www.cancer.org/cancer/cancer-causes/tobacco-and-cancer.html
4. www.cancer.org/cancer/cancer-causes/infectious-agents/hpv.html
5. www.cancer.org/cancer/cervical-cancer.html
6. www.cancer.org/cancer/vaginal-cancer.html
7. www.cancer.org/cancer/anal-cancer.html
8. www.cancer.org/cancer/vulvar-cancer.html
9. www.cancer.org/cancer/penile-cancer.html
10. www.cancer.org/cancer/oral-cavity-and-oropharyngeal-cancer.html
11. www.cancer.org/cancer/esophagus-cancer.html
12. www.cancer.org/cancer/retinoblastoma.html

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What Causes Nasal Cavity and Paranasal Sinus Cancers?

We don't know what causes each case of nasal cavity or paranasal sinus cancer. But we do know some of the risk factors for these cancers. (See [What Are the Risk Factors for Nasal Cavity and Paranasal Sinus Cancers?](#)) Scientists believe that some risk factors, such as workplace exposure to certain chemicals, may cause these cancers by damaging the DNA of cells that line the inside of the nose and sinuses.

DNA is the chemical in our cells that makes up our [genes](#)¹ – the instructions for how our cells function. We usually look like our parents because they are the source of our DNA. However, DNA affects more than how we look. Some genes have instructions for controlling when cells grow and divide.

- Genes that promote cell division are called **oncogenes**.
- Genes that slow down cell division or cause cells to die at the right time are called **tumor suppressor genes**.

Cancers can be caused by DNA changes that turn on oncogenes or turn off tumor suppressor genes.

Some people inherit DNA mutations (changes) that increase their risk for developing certain cancers from a parent. But inherited changes in oncogenes or tumor suppressor

genes are not believed to cause very many cancers of the nasal cavity or paranasal sinuses.

Gene changes related to these cancers usually occur during life rather than before birth like inherited mutations do. These **acquired** mutations likely cause most nasal cavity and paranasal sinus cancers. They may result from events such as exposure to radiation or cancer-causing chemicals. Sometimes they occur for no apparent reason.

Not all cancers have the same gene changes. So far, few specific gene changes have been found in nasal cavity and paranasal sinus cancers. Several different types of cancer can start in these areas, each of which may have different changes.

Hyperlinks

1. www.cancer.org/cancer/cancer-causes/genetics/genes-and-cancer.html

References

See all references for Nasal Cavity and Paranasal Sinus Cancers
(www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/references.html)

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Can Nasal Cavity and Paranasal Sinus Cancers Be Prevented?

Not all nasal cavity and paranasal sinus cancers can be prevented, but the risk of developing these cancers can be greatly reduced by avoiding certain **risk factors**, such as workplace exposures to certain substances. Fortunately, awareness of the possible danger from these exposures has increased, and workplace safety measures to help protect people from them have improved. Still, if you are working with any of the substances listed in the section [What Are the Risk Factors for Nasal Cavity and Paranasal Sinus Cancers?](#), it's important for you to find out if you are being protected from harmful exposure.

[Cigarette smoking](#)¹ is another avoidable risk factor for cancers of the nasal cavity and sinuses.

Most people with cancer of the nasal cavity and paranasal sinuses have no known risk factors, so there is currently no way to prevent most of these cancers.

Hyperlinks

1. www.cancer.org/cancer/cancer-causes/tobacco-and-cancer.html

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Nasal Cavity and Paranasal Sinus Cancer Early Detection, Diagnosis, and Staging

Detection and Diagnosis

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

- [Can Nasal Cavity and Paranasal Sinus Cancers Be Found Early?](#)
- [Signs and Symptoms of Nasal and Paranasal Sinus Cancers](#)
- [How Are Nasal Cavity and Paranasal Sinus Cancers Diagnosed?](#)

Stages and Outlook (Prognosis)

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

- [Nasal Cavity and Paranasal Sinus Cancer Stages](#)
- [Survival Rates for Nasal Cavity and Paranasal Sinus Cancers](#)

Questions to Ask Your Cancer Care Team

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

- [What Should You Ask Your Doctor About Nasal Cavity or Paranasal Sinus Cancer?](#)
-

Can Nasal Cavity and Paranasal Sinus Cancers Be Found Early?

Small cancers of the nasal cavity and paranasal sinuses usually do not cause any specific symptoms that help doctors find them early (when they're small and easier to [treat](#)¹). Many of the symptoms of nasal cavity and paranasal sinus cancers can also be caused by benign (non-cancer) conditions like infections. Because of this, many of these cancers aren't found until they have grown large enough to block the nasal airway or sinuses, or until they've spread to nearby tissues or even to distant parts of the body.

Still, some nasal cavity and paranasal sinus cancers can be found early. Talk to your doctor if you have symptoms such as those described in [Signs and Symptoms of Nasal Cavity and Paranasal Sinus Cancers](#). Most of these symptoms are much more likely to be caused by less serious problems. Still, it's important to see a doctor so that the cause can be found and treated, if needed.

Screening

[Screening](#)² refers to tests and exams used to detect a disease, such as cancer, in people who don't have any symptoms. Screening can find some types of cancer early, when treatment tends to work best. But at this time there's no simple screening test that can find nasal cavity and paranasal sinus cancers early. These cancers are also quite rare. Because of this, neither the American Cancer Society nor any other group recommends routine screening for these cancers.

Hyperlinks

1. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/treating.html
2. www.cancer.org/healthy/find-cancer-early.html

References

See all references for Nasal Cavity and Paranasal Sinus Cancers
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Signs and Symptoms of Nasal and Paranasal Sinus Cancers

In most cases, nasal cavity and paranasal sinus cancers are found because of problems they cause. Diagnosis in people without symptoms is rare and usually accidental (found while doing tests to check for other medical problems). Possible symptoms of these cancers (often only on one side) include:

- Nasal congestion and stuffiness that doesn't get better or even worsens
- Pain above or below the eyes
- Blockage of one side of the nose
- Post-nasal drip (nasal drainage in the back of the nose and throat)
- Nosebleeds
- Pus draining from the nose
- Decreased or loss of sense of smell
- Numbness or pain in parts of the face
- Loosening or numbness of the teeth
- Growth or mass of the face, nose, or palate (top of the mouth)
- Constant watery eyes
- Bulging of one eye
- Loss or change in vision
- Pain or pressure in one of the ears
- Hearing loss
- Headache
- Trouble opening the mouth
- Enlarging lymph nodes in the neck (seen or felt as lumps under the skin)

Having one or more of these symptoms doesn't mean you have nasal cavity or paranasal sinus cancer. In fact, many of these symptoms are more likely to be caused by other conditions. Still, if you have any of these symptoms, it's important to have them checked by a doctor so that the cause can be found and treated, if needed. If treatment (like with an antibiotic) doesn't work, be sure to go back to your doctor for more testing.

References

See all references for Nasal Cavity and Paranasal Sinus Cancers

www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/references.html

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Tests for Nasal Cavity and Paranasal Sinus Cancers

[Nasal cavity and paranasal sinus](#)¹ cancers are usually found because of [signs or symptoms](#) a person is having. The doctor will take a history and examine the patient. If cancer is suspected, the patient will be sent to see a specialist and tests will be done to be sure of the diagnosis.

Medical history and physical exam

Your doctor will ask questions about your medical history and the problems you've been having. A physical exam will be done so the doctor can look for signs of nasal cavity or paranasal sinus cancer, as well as other health problems.

During the exam, the doctor will carefully check the parts of your nose and sinuses that are causing problems. He or she will also check for numbness, pain, swelling, and/or firmness in your face and the [lymph nodes](#)² in your neck. The doctor will look for changes in the symmetry of your eyes and face (both sides should be much the same), vision changes, and any other problems.

The doctor might also examine your nasal cavity with a headlight and small mirrors or even look inside your nose with a special tool called a **nasal endoscope**³. (This is a thin, flexible tube that allows the doctor to see into your nasal passages.)

If your doctor thinks you might have cancer of the nasal cavity or paranasal sinuses, you'll be sent to see an otolaryngologist (a doctor who specializes in diseases of the ear, nose, and throat; also called an ENT doctor). This doctor will carefully examine your nasal passages and the rest of your head and neck. This might include an exam of your throat, tongue, and mouth which can be done with small mirrors and a light or with a fiber-optic scope – a thin, flexible, lighted tube that's put in through your mouth or nose.

Imaging tests

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

- To help look for a tumor if one is suspected
- To see if a tumor can be safely biopsied without causing a lot of bleeding (covered below)
- To learn how far cancer may have spread (metastasized)
- To see if the cancer can be removed with [surgery](#)⁴
- To help see if treatment is working
- To look for signs that the cancer has [come back](#)⁵ after treatment (recurred)

X-rays

[X-rays](#)⁶ can show if there's any fluid or masses in the sinuses. (They should be filled with air.) This would suggest that something is wrong, but it may not be a tumor. Most of the time, an abnormal-looking sinus x-ray means there's an infection. Sinus x-rays are not often done because many doctors prefer to do a computed tomography (CT) scan

instead.

If you've been diagnosed with nasal cavity or paranasal sinus cancer, a chest x-ray might be done to find out if the cancer has spread to your lungs, which is the most common site of spread other than lymph nodes.

CT (computed tomography) scan

A [CT scan](#)⁷ uses x-rays to make detailed 3-D cross-sectional images of the inside of your body. This test is very useful in identifying cancers of the nasal cavity and paranasal sinuses. Bony details show up well on a CT scan and it can show if a tumor has destroyed the bone around it. A chest CT might also be used to see if the cancer has spread to the lungs.

Unlike a regular x-ray, a CT scan creates detailed images of the soft tissues and organs in the body.

MRI (magnetic resonance imaging) scan

[MRI scans](#)⁸ use radio waves and strong magnets instead of x-rays to make pictures of your insides. MRI scans are very helpful in looking at cancers of the nasal cavities and paranasal sinuses. They are better than CT scans in telling whether a change is fluid or a tumor. Sometimes they can help the doctor tell the difference between a tumor that's not cancer and one that is. They can also show if a tumor has spread into nearby soft tissues, like the eyeball, brain, or blood vessels.

Both CT and MRI scans help find cancers of the nasal cavities and paranasal sinuses and learn more about them. For instance, a CT scan can tell if the cancer is growing into bone, and an MRI can show the size and type of cancer. Both can show if it has spread to lymph nodes in the neck.

PET (positron emission tomography) scan

A [PET scan](#)⁹ uses a form of radioactive sugar that's injected into your blood. (Because cancer cells use glucose at a higher rate than normal cells, they will absorb more of the radioactive sugar.) A special scanner is then used to create pictures of the places where the radioactivity collected in your body. A PET scan is often done along with a CT scan using a machine that can do both scans at the same time (called a PET/CT scan). This lets the doctor compare areas of higher radioactivity on the PET with the detailed images from the CT scan. Though these cancers rarely spread, a PET scan gives helpful information about your whole body.

A PET scan may be used to look for possible areas of cancer spread, especially if there's a good chance that the cancer is more advanced. (Meaning it's bigger and more likely to have spread.) This test also can be used to help see if a change seen on another imaging test is or isn't cancer.

Biopsy

A [biopsy](#)¹⁰ is a procedure in which a doctor takes out a small piece of tissue (a sample) to be checked with a microscope. It's the only way to know for sure if you have nasal cavity or paranasal sinus cancer. If cancer is found, testing in the lab can also show what kind of cancer it is and how aggressive it is (how fast will it grow and spread). This information is needed to help plan the best [treatment](#)¹¹.

Doctors look closely at where the tumor is and the blood vessels around it when deciding where and how to do a biopsy.

Often, biopsies are done in the doctor's office or clinic. Drugs are used to numb the area. If the tumor is in a hard-to-reach place or may bleed a lot, the biopsy will be done in the operating room. Many types of biopsies can be used to diagnose nasal cavity or paranasal sinus cancer.

Fine needle aspiration (FNA) biopsy

In this type of biopsy, the doctor puts a thin, hollow needle right into a tumor or [lymph node](#)¹² to take out cells and/or a few drops of fluid. The doctor may repeat this 2 or 3 times to take several samples. The cells can then be checked under a microscope to see if they look like cancer.

An FNA biopsy is often used in patients with swollen lymph nodes in the neck. In these patients, FNA biopsy can show if the lymph node swelling is from cancer or if it's a response to an infection. If someone who has already been diagnosed with nasal cavity or paranasal sinus cancer has enlarged neck lymph nodes, a fine needle biopsy can tell if the lymph node swelling is caused by the spread of cancer.

Incisional and excisional biopsies

These types of biopsies remove more of the tumor using minor surgery. They're the more common types of biopsies done for nasal and paranasal sinus tumors. Biopsies of tumors in the nose may be done using special tools that are put into the nose. Biopsies of tumors that are deeper within the skull may require a more involved procedure (see below).

For an **incisional** biopsy, the surgeon cuts out a small piece of the tumor. For an **excisional** biopsy, the entire tumor is removed. In either case, the biopsy sample is then sent to the lab for testing.

Endoscopic versus open biopsy

For tumors deeper within the skull, how the biopsy is done depends on where it is and how big it is.

Endoscopic biopsy: Some tumors that are deep in the nasal passages may be reached using an endoscope – a thin, flexible lighted tube. Long, thin surgical tools can be passed through the endoscope to get a biopsy sample.

Open (surgical) biopsy: For tumors inside the sinuses, the doctor may have to cut through the skin next to the nose and through the underlying bones to reach them. These operations are covered in more detail in [Surgery for Nasal Cavity and Paranasal Sinus Cancer](#)¹³.

Anesthesia for biopsies

Anesthesia is the use of drugs to help control pain during medical procedures. The type of anesthesia used depends on how the biopsy will be done.

Local anesthesia (numbing medicine) is often used for an incisional biopsy or needle biopsy. The drug can be injected into the skin and nearby tissues or even put right on the inside of the nose to numb the area while the biopsy is done.

Sedation (where you are made very drowsy) or general anesthesia (where you are in a deep sleep) may be needed for endoscopic biopsies. General anesthesia is needed for procedures that cut through the sinus bones.

See [Testing Biopsy and Cytology Specimens for Cancer](#)¹⁴ to learn more about different types of biopsies, how the tissue sample is used in the lab to diagnose diseases, and what the results will tell you.

Hyperlinks

1. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/about/what-is-nasal-paranasal.html
2. www.cancer.org/cancer/cancer-basics/lymph-nodes-and-cancer.html
3. www.cancer.org/treatment/understanding-your-diagnosis/tests/endoscopy.html

4. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/treating/surgery.html
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10. www.cancer.org/treatment/understanding-your-diagnosis/tests/testing-biopsy-and-cytology-specimens-for-cancer.html
11. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/treating.html
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14. www.cancer.org/treatment/understanding-your-diagnosis/tests/testing-biopsy-and-cytology-specimens-for-cancer.html

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Nasal Cavity and Paranasal Sinus Cancer Staging

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

The earliest stage of nasal cavity and paranasal sinus cancers is stage 0, also known as carcinoma in situ (CIS). The other stages range from I (1) through IV (4). Some stages are split further, using capital letters (A, B, etc.). As a rule, the lower the number, the less the cancer has spread. A higher number, such as stage IV, means cancer has spread more. And within a stage, an earlier letter means a lower stage. Although each person's cancer experience is unique, cancers with similar stages tend to have a similar outlook and are often treated in much the same way.

How is the stage determined?

The staging system most often used for nasal cavity and paranasal sinus cancers is the

American Joint Committee on Cancer (AJCC) **TNM** system, which is based on 3 key pieces of information:

- The extent of the main **tumor (T)**: Where is the tumor? How far has it grown into nearby structures?
- The spread to nearby lymph **nodes (N)**: Has the cancer spread to nearby lymph nodes in the neck? If so, how many are affected, and how large are they?
- The spread (**metastasis**) to distant sites (**M**): Has the cancer spread to distant parts of the body? (The lungs are the most common site of spread, although it can also spread to other organs, such as the bones.)

Numbers or letters after T, N, and M provide more details about each of these factors. Higher numbers mean the cancer is more advanced.

Once the T, N, and M categories of the cancer have been determined, this information is combined in a process called **stage grouping** to assign an overall stage. For more information, see [Cancer Staging²](#).

The system described here is the most recent AJCC system, effective January 2018.

Nasal cavity and paranasal sinus cancers are typically given a **clinical stage** based on the results of any exams, biopsies, and imaging tests that might have been done (as described in [How Are Nasal Cavity and Paranasal Sinus Cancers Diagnosed?](#)). If surgery has been done, the **pathologic stage** (also called the **surgical stage**) can be determined.

The stages of nasal cavity and paranasal sinus cancers are slightly different, based on where the cancer starts. They are grouped together as:

- Cancers that start in the **nasal cavity** or **ethmoid sinus**
- Cancers that start in the **maxillary sinus**

Nasal cavity and paranasal sinus cancer staging can be complex. If you have questions about the stage of your cancer and what it might mean for you, ask your doctor to explain it to you in a way you understand.

Stages of nasal cavity or ethmoid sinus cancer

AJCC stage	Stage grouping	Stage description*
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0	Tis N0 M0	<p>The tumor is only in the top layer of cells lining the inside of the nasal cavity or ethmoid sinus, and has not grown any deeper (Tis).</p> <p>The cancer has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0).</p>
I	T1 N0 M0	<p>The tumor has grown deeper, but it is only in one part of the nasal cavity or ethmoid sinus (although it might have grown into the bone) (T1).</p> <p>The cancer has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0).</p>
II	T2 N0 M0	<p>The tumor has grown into more than one part of the nasal cavity or ethmoid sinus, or it is in both nasal cavity and the ethmoid sinus (T2).</p> <p>The cancer has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0).</p>
III	T3 N0 M0	<p>The tumor has grown into the side or bottom of the eye socket, the roof of the mouth (palate), the cribriform plate (the bone that separates the nose from the brain), and/or the maxillary sinus (T3).</p> <p>The cancer has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0).</p>
	OR	
	T1 to T3 N1 M0	<p>The tumor might or might not have grown outside of the nasal cavity or ethmoid sinus and into nearby structures (T1 to T3).</p> <p>The cancer has spread to a single lymph node on the same side of the neck as the tumor, which is no larger than 3 centimeters (cm) across (N1).</p> <p>The cancer has not spread to distant parts of the body (M0).</p>
IVA	T4a N0 or N1 M0	<p>The tumor has grown into the front part of the eye socket, the skin of the nose or cheek, the sphenoid sinus, the frontal sinus, or certain bones in the face (pterygoid plates). This is also known as moderately advanced local disease (T4a). The cancer has not spread to nearby lymph nodes (N0), or it has</p>

		<p>spread to a single lymph node on the same side of the neck as the tumor, which is no larger than 3 centimeters (cm) across (N1).</p> <p>The cancer has not spread to distant parts of the body (M0).</p>
	OR	
	T1-T4a N2 M0	<p>The tumor might or might not have grown into structures outside the nasal cavity or ethmoid sinus (as far as moderately advanced disease) (T1 to T4a). The cancer is N2:</p> <ul style="list-style-type: none"> • It has spread to a single lymph node on the same side of the neck as the tumor, which is larger than 3 centimeters (cm) but no larger than 6 cm across, OR • It has spread to more than one lymph node on the same side of the neck as the tumor, none of which is larger than 6 cm across, OR • It has spread to at least one lymph node on the other side of the neck, none of which is larger than 6 cm across. <p>The cancer has not spread to distant parts of the body (M0).</p>
IVB	T4b Any N M0	<p>The tumor is growing into the back of the eye socket, the brain, the dura (the tissue covering the brain), some parts of the skull (the clivus or the middle cranial fossa), certain cranial nerves, or the nasopharynx (throat behind the nasal cavity). This is also known as very advanced local disease (T4b).</p> <p>The cancer might or might not have spread to nearby lymph nodes (any N). It has not spread to distant parts of the body (M0).</p>
	OR	
	Any T N3 M0	<p>The tumor might or might not have grown into structures outside the nasal cavity or ethmoid sinus (any T). The cancer has spread to at least one lymph node that is larger than 6 cm across, OR it has spread to a lymph node and then grown outside of the lymph node (N3).</p> <p>It has not spread to distant parts of the body (M0).</p>
IVC	Any T	The tumor might or might not have grown into structures

	Any N M1	outside the nasal cavity or ethmoid sinus (any T). The cancer might or might not have spread to nearby lymph nodes (any N). The cancer has spread to distant parts of the body (M1).
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*The following additional categories are not listed in the table above:

- TX: Main tumor cannot be assessed due to lack of information.
- NX: Regional lymph nodes cannot be assessed due to lack of information.

Stages of maxillary sinus cancer

AJCC stage	Stage grouping	Stage description*
0	Tis N0 M0	The tumor is only in the top layer of cells lining the inside of the maxillary sinus and has not grown any deeper (Tis). The cancer has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0).
I	T1 N0 M0	The tumor has grown deeper, but it is only in the tissue lining the sinus (the mucosa) and does not grow into the bone. (T1). The cancer has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0).
II	T2 N0 M0	The tumor has begun to grow into some of the bones of the sinus, other than into the bone of the back part of the sinus (T2). The cancer has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0).
III	T3 N0 M0	The tumor has grown into the bone at the back of the sinus (called the posterior wall) or into the ethmoid sinus, the tissues under the skin, or the side or bottom of the eye socket (T3). The cancer has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0).

	OR
	<p>T1 to T3 N1 M0</p> <p>The tumor might or might not have grown into structures just outside the maxillary sinus (T1 to T3).</p> <p>The cancer has spread to a single lymph node on the same side of the neck as the tumor, which is no larger than 3 centimeters (cm) across (N1).</p> <p>The cancer has not spread to distant parts of the body (M0).</p>
	<p>T4a N0 or N1 M0</p> <p>The tumor is growing into the skin of the cheek, the front part of the eye socket, the bone at the top of the nose (cribriform plate), the sphenoid sinus, the frontal sinus, or certain parts of the face (the pterygoid plates or the infratemporal fossa). This is also known as moderately advanced local disease (T4a).</p> <p>The cancer has not spread to nearby lymph nodes (N0), or it has spread to a single lymph node on the same side of the neck as the tumor, which is no larger than 3 centimeters (cm) across (N1).</p> <p>The cancer has not spread to distant parts of the body (M0).</p>
	OR
IVA	<p>T1-T4a N2 M0</p> <p>The tumor might or might not have grown into structures outside the maxillary sinus (as far as moderately advanced disease) (T1 to T4a).</p> <p>The cancer is N2:</p> <ul style="list-style-type: none"> • It has spread to a single lymph node on the same side of the neck as the tumor, which is larger than 3 centimeters (cm) but no larger than 6 cm across, OR • It has spread to more than one lymph node on the same side of the neck as the tumor, none of which is larger than 6 cm across, OR • It has spread to at least one lymph node on the other side of the neck, none of which is larger than 6 cm across. <p>The cancer has not spread to distant parts of the body (M0).</p>
	T4b Any The tumor is growing into the throat behind the nasal cavity

IVB	N M0	(the nasopharynx), the back of the eye socket, the brain, the tissue covering the brain (the dura), some parts of the base of the skull (middle cranial fossa or clivus), or certain cranial nerves. This is also known as very advanced local disease (T4b). The cancer might or might not have spread to nearby lymph nodes (any N). It has not spread to distant parts of the body (M0).
	OR	
IVC	Any T N3 M0	The tumor might or might not have grown into structures outside the maxillary sinus (any T). The cancer has spread to at least one lymph node that is larger than 6 cm across, OR it has spread to a lymph node and then grown outside of the lymph node (N3). It has not spread to distant parts of the body (M0).
	Any T Any N M1	The tumor might or might not have grown into structures outside the maxillary sinus, and it might or might not have affected a vocal cord (any T). The cancer might or might not have spread to nearby lymph nodes (any N). The cancer has spread to distant parts of the body (M1).

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

- TX: Main tumor cannot be assessed due to lack of information.
- NX: Regional lymph nodes cannot be assessed due to lack of information.

Hyperlinks

1. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/treating.html
2. www.cancer.org/treatment/understanding-your-diagnosis/staging.html

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Survival Rates for Nasal Cavity and Paranasal Sinus Cancers

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

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

What is a 5-year relative survival rate?

A **relative survival rate** compares people with the same type and stage of cancer to people in the overall population. For example, if the **5-year relative survival rate** for a specific stage of nasal cavity or paranasal sinus cancer is 80%, it means that people who have that cancer are, on average, about 80% as likely as people who don't have that cancer to live for at least 5 years after being diagnosed.

Where do these numbers come from?

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

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

- **Localized:** There is no sign that the cancer has spread outside of the nasal cavity (or paranasal sinus). This would include AJCC stage I (1) and stage II (2) cancers.
- **Regional:** The cancer has spread outside the nasal cavity (or paranasal sinus) to nearby structures or lymph nodes. This would include stage III (3), IVA (4A), and IVB (4B) cancers in the AJCC system.
- **Distant:** The cancer has spread to distant parts of the body, such as the lungs.

This would include stage IVC (4C) cancers.

5-year relative survival rates for nasal cavity and paranasal sinus cancer

(Based on people diagnosed with cancers of the nasal cavity or paranasal sinus between 2008 and 2014.)

SEER stage	5-year relative survival rate
Localized	85%
Regional	50%
Distant	44%
All SEER stages combined	58%

Understanding the numbers

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

*SEER = Surveillance, Epidemiology, and End Results

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Questions To Ask About Nasal Cavity and Paranasal Sinus Cancers

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

- What [kind of nasal cavity or paranasal sinus cancer](#)¹ do I have?
- Where is my cancer located?
- Has my cancer spread beyond the primary site?
- What is the [stage](#) of my cancer, and what does that mean?
- Will I need other [tests](#) before we can decide on treatment?
- Will I need to see other doctors?
- How much experience do you have treating this type of cancer?
- What [treatment choices](#)² do I have?
- What do you recommend and why?
- What is the goal of the treatment?
- What are the chances my cancer can be cured with treatment?
- How quickly do we need to decide on treatment?
- What should I do to be ready for treatment?
- How long will treatment last? What will be done? Where will it be done?
- How will treatment affect my daily activities?
- What risks or side effects should I expect? How long are they likely to last?
- How will this treatment affect my appearance?
- What options for reconstruction of the defects do I have?

- What if the treatment doesn't work or if the cancer recurs?
- What type of [follow-up](#)³ will I need after treatment?
- Where can I find more information and [support](#)⁴?

In addition to these sample questions, be sure to write down some of your own. For instance, you might want more information about recovery times so you can plan your work or activity schedule. Or you may want to ask about second opinions or about [clinical trials](#)⁵ for which you may qualify.

Hyperlinks

1. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/about/what-is-nasal-paranasal.html
2. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/treating.html
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(www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/references.html)

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Written by

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

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Treating Nasal Cavity and Paranasal Sinus Cancers

How are nasal cavity and paranasal sinus cancers treated?

Treatment for nasal cavity or paranasal sinus cancer may include:

- [Surgery for Nasal Cavity and Paranasal Sinus Cancers](#)
- [Radiation Therapy for Nasal Cavity and Paranasal Sinus Cancers](#)
- [Chemotherapy for Nasal Cavity and Paranasal Sinus Cancers](#)
- [Targeted Therapy for Nasal Cavity and Paranasal Sinus Cancers](#)
- [Palliative Treatment for Nasal Cavity and Paranasal Sinus Cancers](#)

Common treatment approaches

Depending on the stage of the cancer and your general health, different treatment options may be used alone or in combination. For early-stage cancer that's small and hasn't spread, surgery may be all that's needed. For more advanced cancer (bigger cancers that may have spread), other treatments like radiation therapy, chemotherapy, or targeted therapy may be needed along with or instead of surgery. Be sure to ask your doctor to explain your cancer's stage and what it means for you so that you can make the best choice about your treatment.

- [Treatment Options by Type, Location, and Stage of Nasal Cavity and Paranasal Sinus Cancer](#)

Who treats nasal cavity and paranasal sinus cancers?

Based on the treatment options, you may have different kinds of doctors on your

treatment team. These doctors may include:

- An **otolaryngologist**: a doctor who specializes in certain diseases of the head and neck (also known as an ear, nose, and throat, or ENT doctor)
- A **neurosurgeon**: a doctor who specializes in surgery on the brain, spine, and other parts of the nervous system.
- A **radiation oncologist**: a doctor who treats cancer with radiation therapy.
- A **medical oncologist**: a doctor who treats cancer with medicines such as chemotherapy.

Many other specialists may be involved in your care as well, including nurse practitioners, nurses, nutrition specialists, social workers, and other health professionals.

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

Making treatment decisions

It's important to discuss all treatment options, including their goals and possible side effects, with your doctors to help make the decision that best fits your needs. You may feel that you need to make a decision quickly, but it's important to give yourself time to absorb the information you have learned. Ask your cancer care team questions.

If the cancer is too advanced to be cured, the goal may be to remove or destroy as much of the cancer as reasonable to help keep the tumor from growing or spreading for as long as possible. Some of the treatments above can also be used as palliative treatment if all the cancer cannot be removed. Palliative treatment is used to relieve symptoms such as pain, but it's not expected to cure the cancer.

These are rare cancers, and not all hospitals and doctors have a lot of experience in treating them. If time permits, it is often a good idea to seek a second opinion. A second opinion can give you more information and help you feel more confident about the treatment plan you choose.

- [What Should You Ask Your Doctor About Nasal Cavity or Paranasal Sinus Cancer?²](#)
- [Seeking a Second Opinion³](#)

Thinking about taking part in a clinical trial

Clinical trials are carefully controlled research studies that are done to get a closer look at promising new treatments or procedures. Clinical trials are one way to get state-of-the-art cancer treatment. In some cases they may be the only way to get access to newer treatments. They are also the best way for doctors to learn better methods to treat cancer. Still, they're not right for everyone.

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

- [Clinical Trials](#)⁴

Considering complementary and alternative methods

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

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

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

- [Complementary and Alternative Medicine](#)⁵

Help getting through cancer treatment

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

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

- [Find Support Programs and Services in Your Area](#)⁶

Choosing to stop treatment or choosing no treatment at all

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

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

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

The treatment information given here is not official policy of the American Cancer Society and is not intended as medical advice to replace the expertise and judgment of your cancer care team. It is intended to help you and your family make informed decisions, together with your doctor. Your doctor may have reasons for suggesting a treatment plan different from these general treatment options. Don't hesitate to ask him or her questions about your treatment options.

Surgery for Nasal Cavity and Paranasal Sinus Cancers

For most nasal cavity or paranasal sinus cancers, surgery to remove the cancer (and some of the surrounding bone or other nearby tissues) is a key part of treatment. Often, surgery is used with other treatments, like radiation therapy and/or chemotherapy to get the best results.

The nasal cavity and paranasal sinuses are close to many important nerves, blood vessels, and other structures. The brain, eyes, mouth, and carotid arteries (arteries that

supply blood to the brain) are also close by, making surgical planning and surgery itself difficult. The goal of surgery in these areas is to take out the entire tumor and a small amount of normal tissue around it while keeping appearance and function (such as breathing, speech, chewing, and swallowing) as normal as possible. Rebuilding and/or repairing the area around the tumor is an important part of the surgery plan.

Because of the complex nature of these operations and the fact that these cancers are rare, it's very important to have a surgeon who has experience treating these cancers.

When removing the cancer, the surgeon also tries to take out a rim (margin) of surrounding normal tissue. The tissue that's removed will be checked with a microscope to see if there are cancer cells at the edges. If the edges don't have cancer cells, the cancer is said to have been removed with **negative** or **clear** margins. Negative margins mean that it's less likely that any cancer was left behind. If the edges do have cancer cells, the margins are said to be **positive**. Positive margins mean that it's more likely that some cancer was left behind. Often this means more treatment, such as more surgery or radiation.

Nasal cavity cancers

Nasal cavity cancers are often removed in a procedure called **wide local excision**. This means removing the tumor plus an edge of normal tissue around it. The goal is to remove enough tissue so that no cancer cells remain.

If the tumor is in the middle dividing wall of the nasal cavity (the nasal septum), sometimes the entire septum or a large portion of it will be taken out.

If the tumor is in the lateral (side) wall of the nasal cavity, this wall may need to be removed by a procedure called a **medial maxillectomy**. To do this, the surgeon will usually cut through the skin along the side or edge of the nose and fold the external nose toward the opposite side to see and work on the tumor. Then the side of the nasal cavity can be removed by cutting the bone and soft tissue as needed. Sometimes, if the cancer is in a certain spot, the surgeon can reach the tumor by cutting under the upper lip instead. This approach has the advantage of avoiding any cuts, and maybe scars, on the skin. Ask your head and neck surgeon how your surgery will be done.

If the cancer has reached the skin or deeply invades the tissue of the external nose, part (or all) of the nose may need to be removed. There are many ways to rebuild a nose using tissue from the face or other areas. In some cases, a cosmetic [prosthesis](#)¹ (made of artificial materials) may be used to make a new nose.

Paranasal sinus cancers

Operations for paranasal sinus tumors vary, depending on the tumor type, location, size, and growth into other parts of the head and neck.

If the tumor is small and/or it's not cancer (benign) and is only in the ethmoid sinuses, an *external ethmoidectomy* may be done. The surgeon will cut through the skin on the upper side of the nose next to the upper eyelid. Bone on the inner side of the orbit (eye socket) and nose will be removed to reach tumors inside the ethmoid sinuses.

If the tumor also has grown into the maxillary sinus, a **maxillectomy** may be done. The type of maxillectomy depends on where the tumor is and whether it has grown into nearby tissues. The surgeon may make an incision (cut) along the side of the nose from the eyebrow or upper eyelid down to or through the upper lip. Or the incision may be made under the upper lip. The bones around the maxillary sinus are cut so that the entire tumor and some surrounding tissue can be taken out in one piece. This operation might remove bone from the hard palate (the roof of the mouth), upper teeth on one side of the mouth, part or all of the orbit (eye socket), part of the cheekbone, and/or the bony part of the upper nose.

If the cancer is a [higher stage](#)², has spread into the base of the skull or brain, or is in the ethmoid sinuses, frontal sinuses, and/or the sphenoid sinuses, an operation called a **craniofacial resection** may be done. This operation is a lot like a maxillectomy except that the surgeon may also remove upper parts of the eye socket and the front base of the skull. This is a major operation that's usually done by a surgical team that includes an otolaryngologist (head and neck surgeon) and a neurosurgeon (a surgeon who operations on the brain, spinal cord, and other nerves).

Endoscopic surgery

In this type of surgery, the surgeon uses an [endoscope](#)³ (a thin, flexible lighted tube that's put into the nose to reach the nasal cavity or sinus) to see and remove the tumor. This way, the surgeon doesn't have to cut through skin and bone to open up the whole cavity. This reduces normal tissue damage. In general, recovering from this type of surgery takes less time. And for some of these cancers, long-term outcomes for endoscopic surgery are as good as, and maybe even better than, other surgeries used to treat these cancers.

Endoscopic surgery is most often used for small tumors. For larger tumors, it may be used to help try to control the tumor in people who are not healthy enough for a bigger operation. Usually it's combined with radiation treatment.

Endoscopic surgery may also be used along with some of the more invasive surgeries listed above. In this case, it may help limit damage to healthy tissues. It also may help the doctor better see the area to try to be sure all of the cancer has been taken out. (You may hear this called **endoscopic-assisted surgery**.)

Endoscopic approaches to remove nasal and sinus cancers are becoming more common as more surgeons are trained in these techniques. These approaches are best performed by teams of experienced surgeons at specialized centers. Some medical centers (and surgeons) have more experience than others with endoscopic surgery for nasal and sinus cancers. If you're considering endoscopic surgery as a part of your treatment, be sure to ask about your surgeon's training and experience, which are key to successful endoscopic surgery.

Removing lymph nodes

Cancers of the nasal cavity or paranasal sinuses sometimes spread to the [lymph nodes](#)⁴ in the neck. Depending on the stage and location of the cancer, these lymph nodes may need to be removed in an operation called a **neck dissection**.

There are several types of neck dissection procedures. Their goals are to remove lymph nodes known to or likely to contain cancer. The amount of tissue removed depends on the cancer's size and the extent of spread to lymph nodes.

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

The most common side effects of any neck dissection are numbness of the ear, weakness in raising the arm above the head, and weakness of the lower lip. These develop when nerves are damaged. After a selective neck dissection, the weakness of the arm and lower lip usually go away after a few months. But if a nerve is removed as part of a radical neck dissection or because of tumor spread, the weakness will be permanent. After any type of neck dissection, physical therapists can teach the patient exercises to improve neck and shoulder movement.

While some swelling is normal after surgery, it should go away over time. When lymph nodes are removed, it changes how fluid drains from the head, face, and neck. The fluid

might not be able to drain like it should. This can cause swelling in these areas called [lymphedema](#)⁵. This side effect can develop anytime after lymph node dissection, even many years later.

Possible risks and side effects of surgery

All surgery has some risks, including blood clots, infections, complications from anesthesia, and pneumonia. These risks are generally low, but are higher in more complicated operations.

[Pain](#)⁶ is a common side effect of surgery. It's also common to have nasal drainage and crusting. Sometimes it smells bad. This usually starts getting better about 6 months after surgery, but may last longer if you're getting radiation.

Surgery for cancers that are large or hard to reach may be very complicated, in which case [side effects](#)⁷ may include infection, nose bleeds, scarring, problems eating and talking, and vision changes. Surgery also can be disfiguring, especially if bones in the nose or face need to be removed.

Because these cancers tend to not cause problems until they're quite large, they often involve the eye or orbit (the bone and tissue around the eye) by the time they are noticed or cause symptoms. Most of the time the eye can be saved, but sometimes the entire orbit and eyeball needs to be removed to give the best chance for cure.

Because the changes that result are so visible, these surgeries can have a major effect on how people view themselves. The surgeon will take into account how the face will look and function after surgery. But, depending on the extent of the operation needed, you may look different after surgery. This can range from a simple scar on the side of your nose to major changes if nerves, parts of bones, or other structures need to be removed. **It's important to talk with your doctor about these changes before the surgery.** Your doctor might be able to help you prepare for them. He or she can also give you an idea about your options, such as reconstructive surgery, tissue grafts, or a [prosthesis](#)⁸ (man-made replacement). For example, an **obturator** is a custom-made prosthesis used to help restore function in the nose and mouth. An obturator that replaces the roof of the mouth can help you speak and swallow normally. Noses can be made out of plastic, tinted to match the skin, and attached to the face. All of these things can be a great help to a person's self-esteem.

To learn more, see [Cancer Surgery](#)⁹.

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/prostheses.html
2. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/detection-diagnosis-staging/staging.html
3. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/surgery/special-surgical-techniques.html
4. www.cancer.org/cancer/cancer-basics/lymph-nodes-and-cancer.html
5. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/lymphedema.html
6. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/pain.html
7. <https://www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html>
8. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/prostheses.html
9. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/surgery.html

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Radiation Therapy for Nasal Cavity and Paranasal Sinus Cancers

Radiation therapy uses high-energy radiation to kill cancer cells. It's used in many ways to treat nasal and paranasal sinus cancers:

- It may be the main (primary) treatment. People with small nasal cavity tumors can often be cured with radiation alone. And it doesn't change the way they look as

much as [surgery](#) does.

- People who can't have surgery due to poor health or because the tumor is too advanced to remove may get radiation therapy as their only treatment.
- After surgery, radiation can be used to try to kill any small areas of cancer that may remain. This is called adjuvant treatment. **This the most common treatment for these tumors -- surgery then radiation.**
- Radiation might be given before surgery to try to shrink the tumor so it's easier to remove. (It may be given along with chemo.) This is called neoadjuvant treatment.
- It can help ease problems caused by the cancer, like pain, bleeding, and trouble swallowing. This is called [palliative treatment](#)¹.
- Elective radiation may be used to treat [lymph nodes](#)² in the neck even if they don't appear to have cancer cells in them. But not all doctors agree on this.

Sometimes chemotherapy is given along with the radiation. This is called **chemoradiation**. It can work better than radiation alone, but it also has more side effects. (See [Chemotherapy for Nasal Cavity and Paranasal Sinus Cancer](#) for more details.)

Before starting radiation treatments you will be advised to see a dentist. Radiation to this part of your body can affect your teeth and gums. A dentist can make sure your mouth is healthy before treatment. During and after treatment a dentist can help check for and treat any problems that may come up, such as infection or tooth/bone damage.

There are 2 major types of radiation therapy: **external** beam radiation therapy and **internal** radiation (called **brachytherapy**).

External beam radiation therapy

The most common way to deliver radiation to a paranasal or nasal tumor is to focus a beam of radiation from a machine outside of the body. This is called external beam radiation.

These tumors are close to many important organs and tissues, like the eyes, brain, glands, nerves, and blood vessels. Before your treatments start, the radiation team will take careful measurements to determine the correct angles for aiming the radiation beams and the proper dose of radiation. Radiation therapy is much like getting an x-ray, but the radiation is stronger. The machine doesn't touch you and treatment doesn't hurt.

Each treatment lasts only a few minutes, but the setup time – getting you into place for treatment – usually takes longer. Patients are fitted with a mold or cast to keep the head, neck, and shoulders still and in the exact same position so the radiation can be aimed more accurately each time. You might also be fitted for a bite block that you hold in your mouth during treatment.

In most cases, external beam radiation therapy means treatments are given 5 days a week for about 6 to 7 weeks. Other schedules for radiation may be used, too.

Hyperfractionation refers to spreading out the total radiation dose into more doses, for instance, 2 smaller doses each day instead of 1 larger dose. **Accelerated fractionation** means that the radiation treatment is completed faster (6 weeks instead of 7 weeks, for instance).

These special techniques help doctors focus the radiation more precisely:

Three-dimensional conformal radiation therapy (3D-CRT): 3D-CRT uses the results of [imaging tests](#)³ such as [MRI](#)⁴ and special computers to map the exact location of the tumor. Several radiation beams are then shaped and aimed at the tumor from different directions. Each beam alone is fairly weak, which makes it less likely to damage the normal tissues it passes through. But the beams all meet at the tumor to give a high dose of radiation there.

Intensity modulated radiation therapy (IMRT): IMRT is an advanced form of 3D therapy. It uses a computer-driven machine that actually moves around the patient as it delivers radiation. Along with shaping the beams and aiming them at the tumor from several angles, the intensity (strength) of the beams can be adjusted to limit the dose reaching the nearby normal tissues. This may let the doctor deliver a higher dose to the tumor with fewer side effects. **IMRT is the standard way to deliver external beam radiation for these cancers.**

Brachytherapy

Another way to deliver radiation is to put radioactive materials right into or near the cancer. The radiation travels only a very short distance, which limits its effects on nearby normal tissues. This method is called **internal radiation**, **interstitial radiation**, or **brachytherapy**. Internal and external beam radiation therapy may be used together to treat nasal cavity and paranasal sinus cancers, but this is rare. More research is needed to know if it helps and how to best use it.

Side effects of radiation therapy

Many people treated with radiation to the neck and throat area get painful sores in the mouth and throat that can make eating and drinking very hard. This can lead to weight loss and malnutrition. Some people need tube feedings during treatment to keep up their strength. (With tube feedings, a liquid food is given through a tube that's put right into the stomach through a small hole in the belly.) The sores heal with time after the radiation has stopped, but some people continue to have problems swallowing long after treatment ends. Ask about swallowing exercises you can do to help keep those muscles working and increase your chance of eating normally after treatment.

Common side effects include:

- Skin problems in the area being treated, ranging from redness to blistering and peeling
- Nausea
- Loss of appetite
- Feeling tired or weak
- Trouble swallowing
- Hearing loss
- Dry eyes
- Hoarseness
- Problems with taste
- Bone pain
- Bone damage
- Brain damage (this is quite rare)

Side effects of radiation tend to be worse if chemotherapy is given at the same time.

Tell your doctor about any side effects you have because there are often ways to help. Most of these problems will go away over time after the radiation is finished, but some side effects can be permanent. For example, if an eye is in the path of the radiation beam, it could change the way you see through that eye.

Radiation aimed at the head and neck might damage the salivary glands, leading to dry mouth that doesn't get better with time. This can cause discomfort and problems swallowing. It can also lead to tooth decay. People treated with radiation to the neck and throat must pay close attention to their oral health.

If the pituitary or thyroid glands are exposed to radiation, they may be damaged. Your doctor will do blood tests to see how well these glands are working. You may need to take thyroid medicine if there are problems.

For more information, see [Radiation Therapy](#)⁵.

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/palliative-care.html
2. www.cancer.org/cancer/cancer-basics/lymph-nodes-and-cancer.html
3. www.cancer.org/treatment/understanding-your-diagnosis/tests.html
4. www.cancer.org/treatment/understanding-your-diagnosis/tests/mri-for-cancer.html
5. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/radiation.html

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See all references for Nasal Cavity and Paranasal Sinus Cancers

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Chemotherapy for Nasal Cavity and Paranasal Sinus Cancers

[Chemotherapy](#)¹ (chemo) uses anti-cancer drugs that are put into a vein or taken by mouth. These drugs enter the bloodstream and reach all areas of the body, making this treatment useful for cancer that has metastasized (spread) to organs beyond the nasal cavity and paranasal sinuses.

The best way to use chemo to treat [nasal cavity and paranasal sinus cancers](#)² is not clear. But it may be used in these ways:

- Before [surgery](#) (often along with [radiation therapy](#)) to try to shrink the tumor and make easier to take it all out (with [negative margins](#)). This is called *neoadjuvant* chemotherapy. It may also be called *induction chemotherapy*. Neoadjuvant chemo may be used to try to save the eyeball if the cancer has spread there. It may also be used before surgery to quickly ease symptoms the tumor is causing.
- After surgery (often along with radiation therapy) to help lower the chance the cancer will come back. This is called *adjuvant* chemotherapy.

- As the main treatment (often along with radiation therapy) for cancers that are too big or have spread too far into nearby tissues to be completely removed with surgery.
- It may be used to control cancer growth and spread when it has metastasized (spread) to other parts of the body and cannot be treated with surgery or radiation. (Because these cancers rarely metastasize, this use is based on results that have been seen with other kinds of head and neck cancers.) This is called [palliative care](#)³.

Chemoradiation

Chemoradiation (also called chemoradiotherapy) is chemotherapy given at the same time as radiation. This has been shown to shrink some of these tumors more than either treatment alone. It's also may help delay cancer recurrence (coming back after treatment) in some types of cancer (carcinomas; see below).

Chemo drugs commonly used

Chemo for nasal cavity and paranasal sinus cancers may include a combination of several drugs. These cancers are rare, so there aren't many studies to help doctors decide the best way to treat them. Often, doctors treat them with the same drugs that are used for other, more common, cancers of the head and neck.

The most common types of nasal cavity and paranasal sinus cancers, squamous cell carcinoma, adenocarcinoma, and adenoid cystic carcinoma, can be grouped together as *carcinomas*. Some of the chemo drugs used to treat carcinomas include:

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

The drugs used depend on many things, including the type of cancer, the extent of the cancer, the person's overall health, and whether chemo is combined with radiation therapy. Cisplatin is the drug most often given with radiation. It's often combined with 5-FU and/or docetaxel. New chemo drugs and combination treatments are also being

studied and used.

The [targeted therapy](#)⁴ drug, [cetuximab](#), may also be given with chemo in certain cases.

Different chemo drugs are used for sarcomas and melanomas. Information about chemotherapy for sarcomas may be found in [Sarcoma: Adult Soft Tissue Cancer](#)⁵. Chemo for melanoma is covered in [Melanoma Skin Cancer](#)⁶.

Side effects of chemotherapy

Chemo drugs attack cells that are dividing quickly, which is why they work against cancer cells. But other cells in the body, such as those in the bone marrow (where new blood cells are made), the lining of the mouth and intestines, and the hair follicles, also divide quickly. These cells are also likely to be damaged by chemo, which can lead to [side effects](#)⁷. Side effects depend on the specific drugs used, the doses, and the length of treatment. Common short-term side effects of chemo include:

- [Nausea and vomiting](#)⁸
- [Loss of appetite](#)⁹
- [Loss of hair](#)¹⁰
- [Mouth sores](#)¹¹
- [Diarrhea](#)¹²
- [Constipation](#)¹³
- [Low blood counts](#)¹⁴

Chemo often affects the blood-forming cells of the bone marrow, this can lead to:

- Increased chance of [infection](#)¹⁵ (from a shortage of white blood cells)
- Bleeding or bruising after minor cuts or injuries (from a shortage of blood platelets)
- [Fatigue](#)¹⁶ (from low red blood cell counts)

There are often ways to lessen these side effects, and they usually go away over time after treatment ends. Be sure to ask your doctor or nurse what can be done to help reduce side effects, and let them know when you do have side effects so they can be managed. For example, drugs can be given to help prevent or reduce nausea and vomiting.

Some side effects continue long after treatment is stopped. For example, cisplatin can cause nerve damage ([neuropathy](#)¹⁷). This can sometimes lead to hearing loss or

problems in the hands and feet such as pain, burning or tingling sensations, sensitivity to cold or heat, or weakness. In most cases this gets better or goes away once treatment stops, but for some people, it can last a long time.

If your doctor plans treatment with chemo you should be sure to discuss which drugs will be used and the possible side effects. Once chemo is started, let your health care team know if you have side effects, so they can be treated.

To learn more, see the [Chemotherapy](#)¹⁸ section on our website.

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1. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/chemotherapy.html
2. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/about/what-is-nasal-paranasal.html
3. www.cancer.org/treatment/treatments-and-side-effects/palliative-care.html
4. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/targeted-therapy.html
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17. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/peripheral-neuropathy.html
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Last Medical Review: April 22, 2014 Last Revised: August 8, 2016

Targeted Therapy for Nasal Cavity and Paranasal Sinus Cancers

As researchers have learned more about the changes in cells that cause cancer, they've been able to develop newer drugs that specifically target these changes. [Targeted drugs](#)¹ work differently from standard [chemo drugs](#). They often have different (and less severe) [side effects](#)². So they may be useful in treating people who cannot tolerate chemo side effects. Targeted therapy is used to treat many kinds of cancer, but this type of drug has not been well studied for treating most kinds of nasal cavity and paranasal sinus cancers³. (Some are used to [treat melanomas](#)⁴ in these areas.)

Cetuximab (Erbix[®]) is a [monoclonal antibody](#)⁵, which is a man-made version of an immune system protein. It targets epidermal growth factor receptor (EGFR), a protein on the surface of certain cells that helps them grow and divide. Nasal cavity and paranasal sinus cancer cells often have more than normal amounts of EGFR. By blocking EGFR, cetuximab can slow or stop cancer cell growth.

Cetuximab may be used to treat more advanced cancers, such as those that have spread or [come back](#)⁶ after treatment. It may be combined with radiation and/or chemo drugs, such as cisplatin and docetaxel, or it may be used by itself.

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

Many people develop skin problems such as an [acne-like rash](#)⁷ on the face and chest during treatment, which in some cases can lead to infections. Other side effects might include headache, [tiredness](#)⁸, fever, [nausea](#)⁹, and [diarrhea](#)¹⁰.

Talk to your doctor about the side effects you should watch for and what can be done to help prevent or treat them.

Other targeted therapy drugs to treat nasal cavity and paranasal sinus cancers are being studied now.

To learn more about these drugs, see [Targeted Cancer Therapy](#).¹¹

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/targeted-therapy.html
2. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html
3. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/about/what-is-nasal-paranasal.html
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Palliative Treatment for Nasal Cavity and

Paranasal Sinus Cancers

Most of our information about nasal cavity and paranasal sinus cancer discusses ways to remove or to destroy cancer cells or to slow their growth. But it's important to remember that maintaining a patient's quality of life is another important goal. This is true in all cases -- whether treatment is being used to try to cure the cancer or if the cancer has spread and cannot be cured.

If the goal of treatment is a cure, [palliative treatments](#)¹ can help ease symptoms from the main cancer treatment itself. If the cancer is advanced, palliative treatment may play an even larger role, helping to keep the person comfortable and maintain quality of life for as long as possible.

For example, [pain](#)² is a significant concern for many patients with cancer. It can almost always be treated effectively with milder drugs like ibuprofen or acetaminophen or, if needed, with stronger medicines like morphine or similar drugs (known as **opioids**). Taking these drugs does not mean a person will become addicted. Many studies have shown that people with cancer who take opioids for pain as their doctor directed typically do not become addicted.

Nutrition is another important concern for people with head and neck cancers such as nasal cavity or paranasal sinus cancers. Both the cancer and its treatment can make it hard to swallow. If this affects how a person eats or drinks, they may need to have a feeding tube inserted into the stomach. Often, this is placed with an endoscope (a flexible tube that goes into the stomach through the throat) and is known as a PEG (percutaneous endoscopic gastrostomy). This tube will most likely be needed for a short time during treatment, but in some cases it may need to be left in longer.

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

Hyperlinks

1. www.cancer.org/treatment/treatments-and-side-effects/palliative-care/supportive-care-guide.html

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

References

See all references for Nasal Cavity and Paranasal Sinus Cancers (www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/references.html)

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Treatment Options by Type, Location, and Stage of Nasal Cavity and Paranasal Sinus Cancer

Most of the time, the treatment of nasal cavity or paranasal sinus cancer is based on its location and its stage – how far it has spread in the body. But other factors, such as a person’s overall health and personal preferences, may also affect treatment options. Talk to your doctor if you have any questions about the treatment plan he or she recommends.

The [staging](#)¹ of nasal cavity and paranasal sinus cancer is very complex. At this time, staging systems have only created for the most common cancers – maxillary sinus and nasal cavity/ethmoid sinus cancers. Treatment choices for less common cancers of the nasal cavity and paranasal sinuses are tailored to suit each patient depending on the tumor type, size, location, and the patient’s general medical condition and desires.

Because nasal cavity and paranasal sinus cancers are rare, they’ve been hard to study well. Most experts agree that treatment in a [clinical trial](#)² should be considered for any [type](#)³ or stage of nasal cavity and paranasal sinus cancer. This way people can get the best treatment available now and may also get the treatments that are thought to be even better.

Maxillary sinus cancer

Stages I and II

The first step in treating most stage I or II maxillary sinus cancers is [surgery](#) to remove the cancer. In most cases, a maxillectomy (removal of bone and mucosa of the maxillary sinus) is done. Surgery to remove lymph nodes in the neck isn't needed. Sometimes radiation is given before surgery to shrink the tumor and make it easier to remove.

After surgery, most people with these cancers are treated with [radiation](#).

Radiation may not be needed for people with stage I cancers if the cancer was removed completely with negative margins (meaning that there were no cancer cells at the edge of the removed tumor), and the cancer was not growing into the area around the nerves (called **perineural invasion**).

For stage II cancers and stage I cancers that couldn't be removed completely, had positive margins (cancer cells were found in the edges of the tissue removed), or had perineural invasion, radiation is often given after surgery. Some doctors may recommend [chemotherapy](#) (chemo) be give along with the radiation.

Radiation is recommended after surgery for cancers that are the type called **adenoid cystic**, even if the margins are negative and there's no perineural invasion.

In cases where surgery to remove the cancer would be risky because of other medical problems, treatment may be radiation therapy alone. Sometimes chemo is given with the radiation.

Stages III and IV

Stages III and IVA: People with stages III or IVA maxillary sinus cancer are treated with [surgery](#) to remove the tumor. If there are signs that the cancer has spread to the [lymph nodes](#)⁴ in the neck, these lymph nodes are removed as well. (This is called a neck dissection.) Sometimes radiation is given before surgery to shrink the tumor and make it easier to remove.

After surgery, the area where the tumor had been is treated with [radiation therapy](#). Sometimes the lymph nodes in the neck are also treated with radiation. This is more likely if the cancer has spread to a neck lymph node. Chemo may be given along with the radiation therapy. This has more side effects than giving either treatment alone, but it may help reduce the risk that the cancer will come back after treatment. Sometimes radiation (maybe with chemo) is given before the surgery to try to shrink the tumor so that it can be more easily or more completely removed.

Stage IVB: Some cancers are stage IVB because the main tumor is not resectable (it cannot be removed completely with surgery). People with these cancers are usually treated with [radiation therapy](#). They may also get [chemo](#) and/or [targeted therapy](#). Surgery is sometimes done to help relieve sinus blockage, but it's not meant to cure or completely remove the cancer.

Stage IVB also includes some cancers where the main tumor can be removed with surgery (is resectable), but the cancer has spread to [lymph nodes](#)⁵. These cancers are treated like stage IVA cancers – surgery to remove the tumor and neck lymph nodes, followed by radiation and maybe chemo. Sometimes radiation and chemo are given before the operation to try to shrink the tumor and make it easier to remove.

Stage IVC: These cancers have spread to organs beyond the head and neck. Cancers in this stage are very hard to cure. The goal of treatment is usually to stop or slow the growth of the cancer for as long as possible and to help relieve any symptoms it may be causing.

Treatment for this stage varies, depending on where the cancer is, the problems it's causing, and a person's general health. [Chemo](#) (or [targeted therapy](#)) is often the main form of treatment if a person can tolerate it because it reaches all parts of the body. [Radiation therapy](#) may be directed at areas of cancer that are causing problems. Because these cancers are very rare and hard to treat, [clinical trials](#)⁶ are a good option.

Nasal cavity cancer

Stages I and II

These cancers are in the nasal cavity without spread to lymph nodes. They can be treated with [surgery](#) or [radiation](#). Radiation is often recommended after surgery.

Stages III and IV

These cancers can be treated with [surgery](#), and [radiation](#) is often given after surgery. If the cancer has spread to [lymph nodes](#)⁷ in the neck, these will be removed as well (called a *neck dissection*).

Another option is to treat with radiation, sometimes combined with [chemo](#) or [targeted therapy](#).

Ethmoid sinus cancer

Because the ethmoid sinuses are close to the eye sockets and the skull base, operations for cancers in this area are often more difficult and more extensive than operations for maxillary sinus cancers.

Stages I and II

These cancers can be treated with [surgery](#) to remove the tumor. Surgery is typically followed by [radiation therapy](#) (sometimes with [chemo](#)). This may help lower the chance of the cancer coming back later. Sometimes chemo and radiation therapy are given before surgery to shrink the tumor and make it easier to remove without damaging nearby tissues.

For some very small cancers that are unlikely to spread, some doctors may recommend surgery only, but not all doctors agree with this.

Radiation therapy instead of surgery may also be an option for people with small tumors.

Stages III and IVA

These cancers are usually treated with [surgery](#). If [lymph nodes](#)⁸ in the neck are enlarged, they will also be removed in an operation called a **neck dissection**. Surgery is typically followed by [radiation therapy](#), sometimes along with [chemo](#).

Another option may be to start treatment with radiation therapy and chemo. This might be followed by surgery if the tumor shrinks enough.

Advanced ethmoid sinus cancers

For tumors that cannot be removed with surgery (are unresectable) or for people who are unable or don't want surgery, the first treatment is usually [radiation therapy](#). Sometimes [chemo](#) is given with the radiation treatments.

[Cancers that have spread](#)⁹ to distant parts of the body are very hard to cure, so the goal of treatment is usually to stop or slow the growth of the cancer for as long as possible and to help relieve any symptoms it may be causing. This is called [palliative or supportive care](#)¹⁰.

Treatment depends on where the cancer is, the problems it's causing, and a person's general health. Chemo (and/or [targeted therapy](#)) is often the main treatment if a person can tolerate it because it reaches all parts of the body. Radiation therapy may be

directed at areas of cancer that are causing problems. Because these cancers are hard to treat, [clinical trials](#)¹¹ of newer treatments are a good option for some people.

Sphenoid sinus cancer

The sphenoid sinuses are very difficult to reach with surgery. Cancers in this location are generally treated with [radiation therapy](#). [Chemo](#) and/or [targeted therapy](#) may be added as well.

Melanoma

Most melanomas of the nasal cavity or paranasal sinuses are treated with surgery to remove the tumor and a rim of normal tissue around it. [Lymph nodes](#)¹² in the neck may also be removed in an operation called a **neck dissection**. Radiation therapy is usually given after surgery.

For cancers that can't be removed, radiation therapy, chemo, or other treatments ([immunotherapy](#)¹³ or [targeted therapy](#)¹⁴) may be used. While a melanoma that forms in the nasal cavity or a paranasal sinus is different in many ways from a melanoma skin cancer, it's often treated the same way when it is advanced.

For more information about the treatment of advanced melanomas, see [Melanoma Skin Cancer](#)¹⁵.

Sarcoma

Like other cancers of the nasal cavity and the paranasal sinuses, surgery is the main treatment for most types of sarcoma. In some cases radiation and/or chemo may also be used.

Rhabdomyosarcoma is a type of sarcoma that is most common among infants and young children. It's usually treated with a combination of surgery, radiation therapy, and chemo. For more information about the treatment of rhabdomyosarcoma, please see [Rhabdomyosarcoma](#)¹⁶.

For other types of sarcoma, see [Sarcoma: Adult Soft Tissue Cancer](#)¹⁷.

Recurrent nasal cavity or paranasal sinus cancer

Cancer is called [recurrent](#)¹⁸ when it comes back after treatment. Recurrence can be local (in or near the same place the cancer first started), regional (in nearby lymph nodes), or distant (spread to distant organs such as the lungs). Options for treating recurrences depend on the location and type of cancer, as well as the treatment used the first time.

For a local recurrence, if [radiation](#) was the first treatment for the cancer, [surgery](#) may be used. If the first treatment was surgery without radiation, radiation therapy may be tried. [Chemo](#) and/or [targeted therapy](#) may be used with radiation, or it may be used by itself to treat recurrences that are not controlled by radiation therapy or surgery.

In a regional recurrence, the cancer comes back in the lymph nodes in the neck. This is often treated with surgery to remove many lymph nodes in the neck (a neck dissection) that are on the same side as the cancer. This may be followed with radiation to the neck, sometimes combined with chemo and/or targeted therapy.

Recurrent [melanomas](#)¹⁹ or [sarcomas](#)²⁰ of the nasal cavity or paranasal sinuses are treated by surgery, if possible. Depending on the exact type of cells forming the cancers, chemo or other treatments may also be given.

When a nasal cavity or paranasal sinus cancer comes back in other organs, it's often treated with chemo and/or targeted therapy, although radiation could also be an option if it wasn't given before.

Treatments for recurrent nasal cavity or paranasal sinus cancer may temporarily shrink cancers and help relieve symptoms, but these cancers are very difficult to cure. If further treatment is recommended, it's important to talk to your doctor so that you understand what the goal of treatment is – whether it's to try to cure the cancer or to keep it under control for as long as possible and relieve symptoms. This can help you weigh the pros and cons of each treatment.

Because these cancers are hard to treat, [clinical trials](#)²¹ of new treatments are a good option for some people.

Hyperlinks

1. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/detection-diagnosis-staging/staging.html
2. www.cancer.org/treatment/treatments-and-side-effects/clinical-trials.html
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Written by

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

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After Nasal Cavity and Paranasal Sinus Cancer Treatment

Living as a Cancer Survivor

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

- [Living as a Nasal Cavity or Paranasal Sinus Cancer Survivor](#)

Cancer Concerns After Treatment

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

- [Second Cancers After Nasal Cavity or Paranasal Sinus Cancer](#)
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Living as a Nasal Cavity or Paranasal Sinus Cancer Survivor

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

For other people, the [cancer might never go](#)¹ away completely. Some people may get regular [chemotherapy](#)², [targeted therapy](#)³, or [other treatments](#)⁴ to try and help keep the cancer in check. Learning to live with cancer that does not go away can be difficult and very stressful.

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

Follow-up care

If you have completed treatment, your doctors will still want to watch you closely. It's very important to go to all follow-up appointments. People with cancer of the nasal cavity or paranasal sinuses are at risk for developing [recurrences](#)⁵, so they must be observed closely after treatment. Your health care team will discuss which tests should be done and how often based on the [type](#)⁶ and initial [stage](#)⁷ of your cancer, the type of treatment you received, and the response to that treatment.

Experts typically recommend a doctor's exam at least every 3 months for the first year after treatment. After a year, the exams can occur less often. For someone who was treated with radiation to the neck, blood tests to look at thyroid function may be needed.

The cancer care team will recommend which other tests should be done and how often. [CT](#)⁸ or [MRI](#)⁹ scans of the head and neck and [other imaging tests](#)¹⁰ may be done shortly after you finish treatment or if new symptoms develop to check for cancer that has come back (recurrence) or for a new tumor.

Almost any cancer treatment can have [side effects](#)¹¹. Some may last for a few weeks to several months, but others can last the rest of your life. Don't hesitate to tell your cancer care team about any symptoms or side effects that bother you so they can help you manage them.

If cancer does come back (recur), treatment will depend on the location of the cancer and what treatments you've had before. For more information on how recurrent cancer is treated, see [Treatment Options by Type, Location, and Stage of Nasal Cavity and Paranasal Sinus Cancer](#)¹². For more general information on dealing with a recurrence, you may also want to see [Understanding Recurrence](#).¹³

Help for trouble swallowing and nutrition problems

Cancers of the nasal cavity and paranasal sinuses and their treatments can sometimes cause problems such as [trouble swallowing](#)¹⁴, [dry mouth](#)¹⁵, or even loss of teeth. This

can make it hard to eat, which can lead to weight loss and weakness from poor nutrition.

Some people may need to adjust what they eat during and after treatment. Some may even need a [feeding tube](#)¹⁶ placed into the stomach for a short time after treatment. A team of doctors and nutritionists can work with you to provide nutritional supplements and information about your individual nutritional needs. This can help you maintain your weight and nutritional intake.

Ask your doctor for a survivorship care plan

Talk with your doctor about developing a [survivorship care plan](#)¹⁷ for you. This plan might include:

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

Keeping health insurance and copies of your medical records

Even after treatment, it's very important to keep health insurance. Tests and doctor visits cost a lot, and even though no one wants to think of their cancer coming back, this could happen.

At some point after your cancer treatment, you might find yourself seeing a new doctor who doesn't know about your medical history. It's important to keep copies of your medical records to give your new doctor the details of your diagnosis and treatment. Learn more in [Keeping Copies of Important Medical Records](#)¹⁸.

Can I lower my risk of the nasal cavity or paranasal sinus cancer progressing or coming back?

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

Adopting healthy behaviors such as [not smoking](#)¹⁹, [eating well](#)²⁰, [getting regular physical activity](#)²¹, and [staying at a healthy weight](#)²² might help, but no one knows for sure. However, we do know that these types of changes can have positive effects on your health that can extend beyond your risk of nasal cavity or paranasal sinus cancer or other cancers.

About dietary supplements

So far, no [dietary supplements](#)²³ (including vitamins, minerals, and herbal products) have been shown to clearly help lower the risk of nasal cavity or paranasal sinus cancer progressing or coming back. This doesn't mean that no supplements will help, but it's important to know that none have been proven to do so.

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

If the cancer comes back

If the cancer does recur at some point, your treatment options will depend on where the cancer is located, what treatments you've had before, and your health. For more information on how recurrent cancer is treated, see [Treatment Options by Type, Location, and Stage of Nasal Cavity and Paranasal Sinus Cancer](#)²⁴.

For more general information, you may also want to see [Understanding Recurrence](#)²⁵.

Second cancers after treatment

People who've had nasal cavity or paranasal sinus cancer can still get other cancers. In fact, nasal cavity or paranasal sinus cancer survivors are at higher risk for getting some other types of cancer. Learn more in [Second Cancers After Nasal Cavity and Paranasal Sinus Cancer](#).

Getting emotional support

Some amount of feeling depressed, anxious, or worried is normal when cancer is a part of your life. Some people are affected more than others. But everyone can benefit from help and support from other people, whether friends and family, religious groups, support groups, professional counselors, or others. Learn more in [Life After Cancer](#)²⁶.

Hyperlinks

1. www.cancer.org/treatment/survivorship-during-and-after-treatment/when-cancer-doesnt-go-away.html
2. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/treating/chemotherapy.html
3. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/treating/targeted-therapy.html
4. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/treating.html
5. www.cancer.org/treatment/survivorship-during-and-after-treatment/understanding-recurrence.html
6. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/about/what-is-nasal-paranasal.html
7. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/detection-diagnosis-staging/staging.html
8. www.cancer.org/treatment/understanding-your-diagnosis/tests/ct-scan-for-cancer.html
9. www.cancer.org/treatment/understanding-your-diagnosis/tests/mri-for-cancer.html
10. www.cancer.org/treatment/understanding-your-diagnosis/tests.html
11. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html
12. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/treating/by-stage.html
13. www.cancer.org/treatment/survivorship-during-and-after-treatment/understanding-recurrence.html
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17. www.cancer.org/treatment/survivorship-during-and-after-treatment/survivorship-care-plans.html

18. www.cancer.org/treatment/survivorship-during-and-after-treatment/be-healthy-after-treatment/keeping-copies-of-important-medical-records.html
19. www.cancer.org/healthy/stay-away-from-tobacco.html
20. www.cancer.org/healthy/eat-healthy-get-active/eat-healthy.html
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22. www.cancer.org/healthy/eat-healthy-get-active/take-control-your-weight.html
23. www.cancer.org/treatment/treatments-and-side-effects/complementary-and-alternative-medicine/dietary-supplements.html
24. www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/treating/by-stage.html
25. www.cancer.org/treatment/survivorship-during-and-after-treatment/understanding-recurrence.html
26. www.cancer.org/treatment/survivorship-during-and-after-treatment/be-healthy-after-treatment/life-after-cancer.html

References

See all references for Nasal Cavity and Paranasal Sinus Cancers

(www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/references.html)

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Second Cancers After Nasal Cavity and Paranasal Sinus Cancer

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

Being treated for one cancer doesn't mean you can't get another cancer. People who have had cancer can still get the same types of cancers that other people get. In fact,

certain types of cancer and cancer treatments can be linked to a higher risk of certain second cancers.

Survivors of nasal cavity and paranasal sinus cancer can get any second cancer, but they have a higher risk of:

- [Cancers of the mouth and throat](#)¹
- [Cancer of the larynx \(voicebox\)](#)²
- [Cancer of the lung](#)³
- [Soft-tissue sarcoma](#)⁴

Most of these cancers are linked to tobacco.

Follow-up after treatment

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

Survivors of laryngeal cancer should follow the [American Cancer Society guidelines for the early detection of cancer](#)⁵ and [stay away from tobacco products](#)⁶. Smoking increases the risk of getting certain second cancers as well as other health problems.

To help maintain good health, survivors should also:

- Achieve and maintain a [healthy weight](#)⁷
- Adopt a [physically active lifestyle](#)⁸
- Consume a [healthy diet](#)⁹, with an emphasis on plant foods
- Limit consumption of [alcohol](#)¹⁰ to no more than 1 drink per day for women or 2 per day for men

These steps might also lower the risk of some cancers.

See [Second Cancers in Adults](#)¹¹ for more information about causes of second cancers.

Hyperlinks

1. www.cancer.org/cancer/oral-cavity-and-oropharyngeal-cancer.html
2. www.cancer.org/cancer/laryngeal-and-hypopharyngeal-cancer.html
3. www.cancer.org/cancer/lung-cancer.html
4. www.cancer.org/cancer/soft-tissue-sarcoma.html
5. www.cancer.org/healthy/find-cancer-early/cancer-screening-guidelines.html
6. www.cancer.org/healthy/stay-away-from-tobacco.html
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11. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/second-cancers-in-adults.html

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See all references for Nasal Cavity and Paranasal Sinus Cancers
(www.cancer.org/cancer/nasal-cavity-and-paranasal-sinus-cancer/references.html)

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Written by

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

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