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Nasopharyngeal Cancer Early Detection, Diagnosis, and Staging

Know the signs and symptoms of nasopharyngeal cancer. Find out how nasopharyngeal cancer is tested for, diagnosed, and staged.

Detection and Diagnosis

Finding cancer early, when it's small and before it has spread, often allows for more successful treatment. Some early cancers may have signs and symptoms that can be noticed, but that's not always the case.

- [Can Nasopharyngeal Cancer Be Found Early?](#)
- [Signs and Symptoms of Nasopharyngeal Cancer](#)
- [Tests for Nasopharyngeal Cancer](#)

Stages and Outlook (Prognosis)

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

- [Nasopharyngeal Cancer Stages](#)
- [Survival Rates for Nasopharyngeal Cancer](#)

Questions to Ask About Nasopharyngeal Cancer

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

- [Questions to Ask About Nasopharyngeal Cancer](#)

Can Nasopharyngeal Cancer Be Found Early?

In the United States and other countries where nasopharyngeal cancer (NPC) is not common, doctors do not recommend routine screening for this cancer. (Screening is testing for cancer in people without any symptoms.) There are no simple exams or blood tests that can find this cancer early. Still, regular check-ups are

Signs and Symptoms of Nasopharyngeal

References

Hui EP and Chan A. Epidemiology, etiology, and diagnosis of nasopharyngeal carcinoma. In: Shah S, ed. *UpToDate*. Waltham, Mass.: UpToDate, 2021. <https://www.uptodate.com>. Accessed March 15, 2022.

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Tests for Nasopharyngeal Cancer

- [Medical history and physical exam](#)
- [Types of biopsies](#)
- [Lab tests of biopsy samples](#)
- [Imaging tests](#)
- [Other pre-treatment tests](#)

Nasopharyngeal cancer (NPC) is most often diagnosed when a person goes to a doctor because of [symptoms](#) such as a lump in the neck or stuffy nose, but no other signs of a cold.

Medical history and physical exam

If you have signs or symptoms that suggest you might have NPC, the doctor will want to get your complete medical history. You will be asked about the changes you've noticed, possible [risk factors](#)¹, and your family history.

The doctor will do a physical examination to look for signs of NPC or other health problems. A more complete exam of your nasopharynx will be done. During the exam,

the doctor will pay close attention to your head and neck, including your nose, mouth, and throat; your facial muscles; and the lymph nodes in your neck.

Exams by a specialist

The nasopharynx is deep inside the head and isn't easily seen, so special techniques are needed to examine this area. You will probably be referred to an ear, nose and throat (ENT) doctor (also called an **otolaryngologist**) because they have the specialized training and equipment to do a complete exam of this part of the body. The main types of exams used to look inside the nasopharynx for abnormal growths, bleeding, or other signs of disease are usually done in the doctor's office. also cubctor'45

Endoscopic biopsy

If a growth is seen in the nasopharynx, the doctor may take out a tiny piece of it with small instruments and the aid of a fiber-optic scope. Often, biopsies of the nasopharynx are done in the operating room while you are under general anesthesia (a deep sleep) as an outpatient procedure. The tissue sample is then sent to a lab, where a pathologist (a doctor who specializes in diagnosing and classifying diseases in the lab) looks at it closely to see if there are cancer cells.

NPC cannot always be seen during an exam. If a person has symptoms suggesting NPC but nothing looks abnormal on exam, the doctor may biopsy normal-looking tissue, which may be found to contain cancer cells when looked at and tested by a pathologist.

Fine needle aspiration (FNA) biopsy

An [FNA biopsy](#)⁵ may be used if you have a suspicious lump in or near your neck. To do this, the doctor puts a thin, hollow needle into the lump to remove fluid containing cells or tiny bits of tissue. The cells are then looked at in the lab to see if they are cancer cells.

An FNA biopsy can show if an enlarged lymph node in the neck is caused by the spread of cancer from somewhere else (such as the nasopharynx) or a cancer that starts in lymph nodes (lymphoma). Lymphomas can start in the nasopharynx but this only happens about 5% of the time. If the cancer started somewhere else, the FNA biopsy alone might not be able to tell where it started. But if a patient already known to have NPC has enlarged neck lymph nodes, FNA can help find out if the spread of NPC caused the swelling.

Lab tests of biopsy samples

Biopsy samples (from endoscopy or surgery) are sent to the lab where they are looked at closely. If cancer is found, other lab tests may also be done on the biopsy samples to help better classify the cancer.

Tests for certain proteins on tumor cells: If the cancer has spread (metastasized) or come back, doctors will probably look for certain proteins on the cancer cells. For example, cancer cells might be tested for the PD-L1 protein which, if found, might predict if the cancer is more likely to respond to treatment with certain [immunotherapy drugs](#)⁶.

Imaging tests

Imaging tests use x-rays, magnetic fields, sound waves, or radioactive substances to make pictures of the inside of your body. Imaging tests are not used to diagnose nasopharyngeal cancers, but they're done for a number of reasons after a cancer diagnosis, such as:

- To look at suspicious areas that might be cancer
- To learn how far cancer may have spread
- To help determine if treatment is working
- To look for signs that the cancer has come back after treatment

Chest x-ray

If you've been diagnosed with NPC, a plain [x-ray of your chest](#)⁷ might be done to see if the cancer has spread to your lungs, but more often a CT scan of the lungs is done since it tends to give more detailed pictures.

Computed tomography (CT) scan

The [CT scan](#)⁸ is an x-ray test that makes detailed cross-sectional images of your body.

A CT scan of the head and neck can provide information about the size, shape, and position of a tumor, see if it's growing into nearby tissues, and can help find enlarged lymph nodes that might contain cancer. A CT scans can also look for cancer that may have grown into the bones at the base of the skull. This is a common place for nasopharyngeal cancer to grow. CT scans can also be used to look for tumors in other parts of the body.

Magnetic resonance imaging (MRI) scan

Like CT scans, [MRI scans](#)⁹ make detailed images of soft tissues in the body. But MRI scans use radio waves and strong magnets instead of x-rays. A contrast material called **gadolinium** is often injected into a vein before the scan to get clear pictures.

An MRI scan is often done to try to find out if the cancer has grown into structures near the nasopharynx including the nerves. MRIs are a little better than CT scans at showing the soft tissues in the nose and throat.

Positron emission tomography (PET) scan

[PET scans](#)¹⁰ use a slightly radioactive form of sugar that's injected into the blood collects mainly in cancer cells.

A PET scan may be used to look for possible areas of cancer spread, especially if the main cancer is advanced. This test can also be used to help tell if a suspicious area seen on another imaging test is cancer or not.

PET/CT scan: Some machines are able to do both a PET and CT scan at the same time. This lets the doctor compare areas of higher radioactivity on the PET scan with the more detailed pictures on the CT scan.

Bone scan

For a [bone scan](#)¹¹, a small amount of low-level radioactive material is injected into the blood and collects mainly in abnormal areas of bone. A bone scan can help show if a cancer has spread to the bones. But this test isn't needed very often because PET scans are good at showing if cancer has spread to the bones.

Other pre-treatment tests

Other tests may be done as part of a workup in people diagnosed with nasopharyngeal cancer. These tests are not used to diagnose the cancer, but they may be done to see if a person is healthy enough for certain treatments, like [radiation](#)¹² or [chemotherapy](#)¹³.

Quit smoking: It is very important to quit smoking before starting any treatment for nasopharyngeal cancer. If you used to smoke cigarettes before being diagnosed, it is important to not start during treatment. Smoking during treatment can cause a poor response to radiation treatment, poor wound healing, poor tolerance to chemotherapy, and a higher chance of dying.

Epstein-Barr virus (EBV) DNA levels: Tests to measure the blood level of EBV DNA may be done before and after treatment. It might help show how well treatment is working and might also help in choosing certain chemo drugs for treatment. The level of EBV DNA in the blood before treatment can also help determine your [prognosis \(outlook\)](#).

Routine blood counts and blood chemistry tests: Routine [blood tests](#)¹⁴ can help determine a patient's overall health. These tests can help diagnose nutrition problems, anemia (low red blood counts), liver disease, and kidney disease. And they may

suggest the possibility of spread of the cancer to the liver or bone, which may lead to more testing. These tests can also help determine how well your body might tolerate treatment like chemo.

Pre-surgery (before surgery): Even though surgery is not the main treatment for NPC, if surgery is planned, you might also get an **electrocardiogram (EKG)** to make sure your heart is working well. Some people having surgery also may need tests of their lung function known as **pulmonary function tests (PFTs)**.

Dental exam: Your cancer care team will also have you see your dentist before any radiation is given since it can damage the saliva (spit) glands and cause dry mouth. This can increase the chance of cavities, infection, and breakdown of the jawbone.

Hearing test: The most commonly used chemotherapy drug used in treating nasopharyngeal cancer, cisplatin, can affect your hearing. Side effects can range from ringing in the ears to hearing loss. Your care team will most likely have your hearing checked (with an audiogram) before starting treatment. If your hearing is already poor, your doctor might recommend a different chemotherapy drug.

Nutrition and speech tests: Often, you will have a nutritionist who will evaluate your nutrition status before, during, and after your treatment to try and keep your body weight and protein stores as normal as possible. You might also visit a speech therapist who will test your ability to swallow and speak. They might give you exercises to do during treatment to help strengthen the muscles in the head and neck area so you can eat and talk normally after finishing all of your cancer treatment.

Hyperlinks

1. www.cancer.org/cancer/types/nasopharyngeal-cancer/causes-risks-prevention/risk-factors.html
2. www.cancer.org/cancer/diagnosis-staging/tests/endoscopy/laryngoscopy.html
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Nasopharyngeal Cancer Stages

After someone is diagnosed with nasopharyngeal cancer (NPC), 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.

- [How is the stage determined?](#)
- [Stages of nasopharyngeal cancer](#)

The earliest stage of NPC is stage 0, also known as **carcinoma in situ (CIS)**. The other stages range from I (1) through IV (4). Some stages are further divided, using 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 NPC 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)**: How far has the tumor 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 large are they and are they on the same side (left or right) as where the cancer started, or both sides of the neck?
- The spread (**metastasis**) to distant sites (**M**): Has the cancer spread to distant parts of the body? The most common sites of spread are the bones, lungs, liver, or lymph nodes in distant parts of the body.

Numbers or letters after T, N, and M provide more details about each of these factors.

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 on this, see [Cancer Staging](#)².

Nasopharyngeal cancer is typically given a **clinical stage** based on the results of any exams, biopsies, and imaging tests that might have been done (as described in [Tests for Nasopharyngeal Cancers](#)). The clinical stage can be used to help determine a person's treatment options. If surgery has been done, the **pathological stage** (also called the surgical stage) can be determined.

NPC staging can be complex. If you have questions about your cancer's stage and what it might mean for you, ask your doctor to explain it to you in a way you understand.

Stages of nasopharyngeal cancer

AJCC stage	Stage grouping	Stage description*
		6 centimeters (cm) = about 2½ inches
0	Tis N0 M0	The main tumor is only in the top layer of cells lining the inside of the nasopharynx and has not grown any deeper (Tis). The cancer has not spread to nearby lymph nodes (N0) nor to distant parts of the body (M0).
IA	T1 to T2 N0 M0	The main tumor is just in the nasopharynx, or it has also have grown into the oropharynx (the part of the throat in the back of the mouth) and/or nasal cavity (T1). OR the main tumor has grown into the tissues of the left or right sides of the upper part of the throat, but not into bone (T2). The cancer has not spread to nearby lymph nodes (N0) nor to distant parts of the body (M0).
IB	T0 to T2 N1 M0	

		<p>The cancer might or might not have spread to nearby lymph nodes, but if so, no lymph node is larger than 6 cm across (N0 to N2).</p> <p>The cancer has not spread to distant parts of the body (M0).</p>
III	T4 Any N M0	<p>The main tumor has grown inside the skull and/or into the cranial nerves, the hypopharynx (lower part of the throat), the main salivary gland, or the eye or its nearby tissues (T4).</p> <p>The cancer might or might not have spread to nearby lymph nodes (Any N).</p> <p>The cancer has not spread to distant parts of the body (M0).</p>
	OR	
	Any T N3 M0	<p>The main tumor might or might not have grown into structures outside the nasopharynx (Any T).</p> <p>The cancer has spread to lymph nodes that are either larger than 6 cm across, or are located in the shoulder area just above the collarbone (N3).</p> <p>The cancer has not spread to distant parts of the body (M0).</p>
IVA	Any T Any N M1a	<p>The main tumor might or might not have grown into structures outside the nasopharynx (Any T).</p>

		<p>The cancer might or might not have spread to nearby lymph nodes (Any N).</p> <p>The cancer has spread to distant parts of the body, but there are no more than 3 areas of cancer spread (M1a).</p>
IVB	Any T Any N M1b	<p>The main tumor might or might not have grown into structures outside the nasopharynx (Any T).</p> <p>The cancer might or might not have spread to nearby lymph nodes (Any N).</p> <p>The cancer has spread to distant parts of the body, and there are more than 3 areas of cancer spread (M1b).</p>

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

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

Hyperlinks

1. www.cancer.org/cancer/types/nasopharyngeal-cancer/treating.html
2. www.cancer.org/cancer/diagnosis-staging/staging.html

References

American Joint Committee on Cancer. Nasopharynx. In: AJCC Cancer Staging System. Version Nine. American College of Surgeons; 2024.

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Survival Rates for Nasopharyngeal Cancer

- [5-year relative survival rates for nasopharyngeal cancer](#)

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 length 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. Ask your doctor how these numbers might apply to you.

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 nasopharyngeal 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 Surveillance, Epidemiology, and End Results (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 nasopharyngeal cancer in



- **Localized:** There is no sign that the cancer has spread outside of the nasopharynx.

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Questions to Ask About Nasopharyngeal Cancer

- [When you're told you have nasopharyngeal cancer](#)
- [When you're deciding on a treatment for nasopharyngeal cancer](#)
- [During treatment for nasopharyngeal cancer](#)
- [After treatment for nasopharyngeal cancer](#)

It is important to have honest, open discussions with your cancer care team. They want to answer all your questions to help you make informed treatment and life decisions.

Other health care professionals, such as dietitians, nurses, and social workers, can also answer some of your questions. You can find more tips about speaking with your health care team in [The Doctor-Patient Relationship](#)¹.

Along with 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 schedule. Or you may want to ask about getting a second opinion or about clinical

trials for which you may qualify. Consider these questions to get you started.

When you're told you have nasopharyngeal cancer

- What [kind of nasopharyngeal cancer](#)² do I have? Does this affect my treatment options?
- Has my cancer spread outside the nasopharynx?
- What is the [stage](#) of the cancer and what does that mean?
- Will I need other [tests](#) before we can decide on treatment?
- Do I need to see other doctors or health professionals?
- If I'm concerned about the costs and insurance coverage for my diagnosis and treatment, who can help me?
- Is there a clinical trial available you think I should get more information about?
- If the cancer is stage 4, has it been tested for certain proteins or gene changes to help figure out my treatment options?

When you're deciding on a treatment for nasopharyngeal cancer

- How much experience do you have treating this type of cancer?
- What are my treatment options?
- What treatment do you recommend and why?
- What's the goal of the treatment?
- Will this treatment affect the way I look? If so, what are my options for reconstruction?
- What are the chances the cancer can be cured with this treatment?
- How quickly do I need to decide on treatment?
- What should I do to be ready for treatment?
- Will I need a [feeding tube](#)³ before starting treatment?
- What if I need [transportation](#)⁴ getting to and from treatment?
- How long will treatment last? What will it be like? Where will it be done?
- Will treatment affect my daily activities? Can I still work full time?
- What risks and side effects can I expect? How long are they likely to last?
- Is there anything I can do to help reduce side effects?
- Is treatment likely to affect my speech or swallowing? Is there anything I can do to help minimize this?
- What are the chances that my cancer will come back (recur)?

- What would we do if the treatment doesn't work or if the cancer recurs?

During treatment for nasopharyngeal cancer

- How will I know if the treatment is working?
- Is there anything I can do to help manage side effects?
- What symptoms or side effects should I tell you about right away?
- How can I reach you on nights, holidays, or weekends?
- Do I need to change what I eat during treatment?
- Are there any limits on what I can do or what I can eat?
- Can I exercise during treatment? If so, what kind should I do, and how often?
- Can you suggest a mental health professional I can see if I start to feel overwhelmed, depressed, or distressed?
- What if I need [social support](#)⁵ during treatment because my family lives far away?

After treatment for nasopharyngeal cancer

- Will I need a special diet after treatment?
- Are there any limits on what I can do?
- What symptoms should I watch for?
- What kind of exercise should I do now?
- What type of follow-up will I need after treatment?
- How often will I need to have follow-up exams and imaging tests?
- When should I have my next endoscopy?
- Will I need any blood tests?
- How will we know if the cancer has come back? What should I watch for?
- What will my options be if the cancer comes back?

Hyperlinks

1. www.cancer.org/cancer/managing-cancer/finding-care/the-doctor-patient-relationship.html

2. www.cancer.org/cancer/types/nasopharyngeal-cancer/about/what-is-nasopharyngeal-cancer.html
3. www.cancer.org/cancer/managing-cancer/making-treatment-decisions/tubes-lines-ports-catheters.html
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