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Salivary Gland Cancer Early Detection, Diagnosis, and Staging

Detection and Diagnosis

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

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

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.

- [Salivary Gland Cancer Stages](#)
- [Survival Rates for Salivary Gland Cancer](#)

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 Salivary Gland Cancer?](#)

Can Salivary Gland Cancer Be Found Early?

Salivary gland cancer is not common, so doctors do not recommend testing for it unless someone has symptoms. Still, because of its location, in many cases salivary gland cancer can be found early. Often patients, their dentists, or their doctors notice a lump within one of the salivary glands (usually on the sides of the face or in the mouth). Checking the salivary glands for tumors is often a routine part of general medical and dental check-ups.

Being alert to possible [signs and symptoms](#) of salivary gland cancers and not ignoring them might help find these cancers early, when treatment is likely to be most effective.

Hyperlinks

References

See all references for Salivary Gland Cancer (www.cancer.org/cancer/salivary-gland-cancer/references.html)

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Signs and Symptoms of Salivary Gland Cancer

The major salivary glands are on each side of the face and below the tongue. Several important nerves and other structures run through or near salivary glands and can be affected by salivary tumors.

Possible signs and symptoms of salivary gland cancer include:

- A lump or swelling in your mouth, cheek, jaw, or neck
- Pain in your mouth, cheek, jaw, ear, or neck that does not go away
- A difference between the size and/or shape of the left and right sides of your face or neck
- Numbness in part of your face
- Weakness of the muscles on one side of your face
- Trouble opening your mouth widely
- Fluid draining from an ear
- Trouble swallowing

Many of these signs and symptoms can also be caused by benign (non-cancerous) salivary gland tumors or by other conditions. Still, if you have any of these problems, it's important to see your doctor right away so the cause can be found and treated, if needed.

References

See all references for Salivary Gland Cancer (www.cancer.org/cancer/salivary-gland-cancer/references.html)

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Salivary Gland Cancer Tests

Salivary gland cancer is most often diagnosed when a person goes to a doctor because of [symptoms](#) he or she is having.

If you have signs or symptoms that might be caused by a salivary gland tumor, your doctor will do exams and tests to find out if it's cancer or some other condition. If cancer is found, more tests may be done to find out if it has spread.

Medical history and physical exam

Usually the first step is to take your medical history. The doctor will ask about your symptoms and when they first appeared. You might also be asked about possible [risk factors](#)¹ for salivary gland cancer and about your general health.

During the physical exam, your doctor will carefully examine your mouth and the areas on the sides of your face and around your ears and jaw. The doctor will feel for enlarged lymph nodes (lumps under the skin) in your neck, since these could be signs of cancer spread.

The doctor will also check for numbness or weakness in your face (which can happen when cancer spreads into nerves).

If the results of this exam are abnormal, your doctor may order imaging tests or refer you to an ear, nose, and throat (ENT) doctor, also known as an *otolaryngologist*, who will do a more thorough exam of the head and neck area.

Imaging tests

Imaging tests use x-rays, magnetic fields, or radioactive particles to create pictures of the inside of your body. Imaging tests may be done for a number of reasons, including to help find a suspicious area that might be cancer, to learn how far cancer may have spread, and to help find out if treatment has been effective.

X-rays

If you have a lump or swelling near your jaw, your doctor may order [x-rays](#)² of your jaws and teeth to look for a tumor.

If you've been diagnosed with cancer, an x-ray of your chest may be done to see if the cancer has spread to your lungs. This also provides other information about your heart and lungs that might be useful if surgery is planned.

Computed tomography (CT or CAT) scan

A [CT scan](#)³ uses x-rays to produce detailed cross-sectional images of your body. Unlike a regular x-ray, CT scans can show the detail in soft tissues (such as internal organs). A CT scan can show the size, shape, and position of a tumor and can help find enlarged lymph nodes that might contain cancer. If needed, CT scans can also be used to look for tumors in other parts of the body.

Before the scan, you may be asked to drink 1 to 2 pints of a liquid called oral contrast.

This helps outline the structures in your head and neck so that certain areas are not mistaken for tumors. You may also receive an IV (intravenous) line through which a different kind of contrast dye (IV contrast) is injected. This helps better outline structures in your body.

Magnetic resonance imaging (MRI) scan

Like CT scans, [MRI scans](#)⁴ make detailed images of soft tissues in the body. But MRI scans use radio waves and strong magnets instead of x-rays. The energy from the radio waves is absorbed and then released in a pattern formed by the type of body tissue and by certain diseases. A computer translates the pattern into very detailed images of parts of the body. A contrast material called *gadolinium* is often injected into a vein before the scan to better see details.

MRI scans can help determine the exact location and extent of a tumor. They can also show any lymph nodes that are enlarged or if other organs have suspicious spots, which might be due to the spread of cancer.

Positron emission tomography (PET) scan

A [PET scan](#)⁵ looks for areas of high cellular activity (which might be a sign of cancer), rather than just showing if areas look abnormal based on their size or shape. This test can help show whether an abnormal lump or tumor seen on another imaging test may be cancer. If you have been diagnosed with cancer, your doctor may use this test to see if the cancer has spread to lymph nodes or other parts of the body. A PET scan can also be useful if your doctor thinks the cancer might have spread but doesn't know where.

Biopsy

Symptoms and the results of exams or imaging tests may strongly suggest you have salivary gland cancer, but the actual diagnosis is made by removing cells from an abnormal area and looking at them under a microscope. This is known as a *biopsy*. Different types of biopsies might be done, depending on the situation.

Fine needle aspiration (FNA) biopsy

An FNA biopsy is used to remove a small amount of cells and fluid from a lump or tumor for testing. This type of biopsy can be done in a doctor's office or clinic. It's done with a thin, hollow needle much like those used for routine blood tests.

Your doctor may first numb the area over the tumor. The doctor then puts the needle right into the tumor and pulls cells and a few drops of fluid into a syringe. The sample is then sent to a lab, where it's checked under a microscope to look for cancer cells.

Doctors may use FNA if they are not sure whether a lump is a salivary gland cancer. The FNA might show the lump is due to an infection, a benign (non-cancerous) salivary tumor, or a salivary gland cancer. In some cases this type of biopsy can help a person avoid unnecessary surgery.

An FNA biopsy is only helpful if enough cells are taken out to be able to tell for certain what a tumor is made of. But sometimes not enough cells are removed, or the biopsy is read as negative (normal) even when the tumor is cancer. If the doctor is not sure about the FNA results, a different type of biopsy might be needed.

Incisional biopsy

This type of biopsy may sometimes be done if the FNA biopsy didn't get a large enough sample. In this procedure, the surgeon numbs the area over the tumor, makes a small incision (cut) with a scalpel and takes out a tiny part of the tumor. The specimen is sent to the lab to be looked at by the pathologist. These types of biopsies are not done often for salivary gland tumors.

Surgery

As mentioned above, FNA biopsy of a suspected salivary gland cancer may not always provide a clear answer. If this is the case but the physical exam and imaging tests suggest that it is cancer, the doctor may advise surgery to remove the tumor completely. This can both provide enough of a sample for a diagnosis and treat the tumor at the same time (see [Surgery for Salivary Gland Cancer](#)⁶ for more information).

In some cases if the exams and tests suggest cancer is likely, the doctor may skip the FNA biopsy altogether and go directly to surgery to remove the tumor. The specimen is then sent to the lab to confirm the diagnosis.

Hyperlinks

1. www.cancer.org/cancer/salivary-gland-cancer/causes-risks-prevention/risk-factors.html
2. www.cancer.org/treatment/understanding-your-diagnosis/tests/x-rays-and-other-radiographic-tests.html
3. www.cancer.org/treatment/understanding-your-diagnosis/tests/ct-scan-for-

[cancer.html](#)

4. www.cancer.org/treatment/understanding-your-diagnosis/tests/mri-for-cancer.html
5. www.cancer.org/treatment/understanding-your-diagnosis/tests/nuclear-medicine-scans-for-cancer.html
6. www.cancer.org/cancer/salivary-gland-cancer/treating/surgery.html

References

National Cancer Institute. Salivary Gland Cancer Treatment (PDQ)-Health Professional Version. December 21, 2016.

National Comprehensive Cancer Network. Head and Neck Cancers. NCCN Clinical Practice Guidelines in Oncology. Version 2.2017--May 8, 2017.

See all references for Salivary Gland Cancer (www.cancer.org/cancer/salivary-gland-cancer/references.html)

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Salivary Gland Cancer Stages

After someone is diagnosed with salivary gland 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 it. Doctors also use a cancer's stage when talking about survival statistics.

The earliest stage salivary gland cancers are stage 0 (carcinoma in situ), and then stages range from I (1) through IV (4). 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. 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 salivary gland cancers is the American Joint Committee on Cancer (AJCC) **TNM** system, which is based on 3 key pieces of information:

- The extent of the **tumor (T)**: How large is the cancer? Has it grown into nearby structures?
- The spread to nearby lymph **nodes (N)**: Has the cancer spread to nearby lymph nodes?
- The spread (**metastasis**) to distant sites (**M**): Has the cancer spread to distant organs such as the lungs?

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

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 a person's T, N, and M categories have been determined, this information is combined in a process called **stage grouping** to assign an overall stage. For more information see [Cancer Staging](#)¹.

The staging system in the table is the **pathologic stage** (also called the **surgical stage**). It is determined by examining tissue removed during an operation. Sometimes, if surgery is not possible right away or at all, the cancer will be given a **clinical stage** instead. This is based on the results of a physical exam, [biopsy](#)², and [imaging tests](#)³. The clinical stage will be used to help plan treatment. Sometimes, though, the cancer has spread further than the clinical stage estimates, and may not predict the patient's outlook as accurately as a pathologic stage.

Salivary gland staging can be complex, so ask your doctor to explain it to you in a way you understand.

AJCC stage	Stage grouping	Stage description*
0	Tis	The cancer is confined to the cells lining the salivary duct (Tis). It has not spread to nearby lymph nodes (N0) or distant sites (M0). This stage is also known as carcinoma in situ (Tis).
	N0	
	M0	
I	T1	The cancer is 2 cm (about ¾ inch) or smaller. It's not growing into nearby tissues (T1). It has not spread to nearby lymph nodes (N0) or to distant sites
	N0	

	M0	(M0).
II	T2 N0 M0	The cancer is larger than 2 cm but no larger than 4 cm (about 1½ inch). It's not growing into nearby tissues (T2). It has not spread to nearby lymph nodes (N0) or to distant sites (M0).
	T3 N0 M0	The cancer is larger than 4 cm and/or is growing into nearby soft tissues (T3). It has not spread to nearby lymph nodes (N0) or to distant sites (M0).
III	OR	
	T0, T1, T2, T3 N1 M0	The cancer is any size and might have grown into nearby soft tissues (T0-T3) AND has spread to 1 lymph node on the same side of the head or neck as the primary tumor. The cancer has not grown outside of the lymph node and the lymph node is no larger than 3 cm (about 1¼ inch) (N1). It has not spread to distant sites (M0).
	T4a N0 or N1 M0	The cancer is any size and is growing into nearby structures such as the jaw bone, skin, ear canal, and/or facial nerve. This is known as moderately advanced disease T4a) AND: <ul style="list-style-type: none"> • It has not spread to nearby lymph nodes (N0) OR • It has spread to 1 lymph node on the same side of the head or neck as the primary tumor, but has not grown outside of the lymph node and the lymph node is no larger than 3 cm (about 1¼ inch) (N1). It has not spread to distant sites (M0).
IVA	OR	
	T0, T1, T2, T3 or T4a N2 M0	The cancer is any size and might have grown into nearby soft tissues or structures such as the jaw bone, skin, ear canal, and/or facial nerve (T0-T4a) AND any of the following: <ul style="list-style-type: none"> • It has spread to 1 lymph node on the same side as the primary tumor but has not grown outside of the lymph node

		<p>and the lymph node is larger than 3 cm but not larger than 6 cm (about 2½ inches) (N2a) OR</p> <ul style="list-style-type: none"> • It has spread to more than 1 lymph node on the same side as the primary tumor, but it has not grown outside of any of the lymph nodes and none of the lymph nodes are larger than 6 cm (N2b) OR • It has spread to 1 or more lymph nodes, but has not grown outside any of the lymph nodes and none are larger than 6 cm, either on the opposite side of the primary tumor or on both sides of the neck (N2c). <p>It has not spread to distant organs (M0).</p>
IVB	<p>Any T N3 M0</p>	<p>The cancer is any size and might have grown into nearby soft tissues or structures (Any T) AND any of the following:</p> <ul style="list-style-type: none"> • it has spread to a lymph node that is larger than 6 cm but has not grown outside of the lymph node (N3a) OR • it has spread to a lymph node that is larger than 3 cm and has clearly grown outside the lymph node (N3b) OR • it has spread to more than one lymph node on the same side, the opposite side or both sides of the primary cancer with growth outside of the lymph node(s) (N3b) OR • it has spread to a lymph node on the opposite side of the primary cancer that is 3 cm or smaller and has grown outside of the lymph node (N3b). <p>It has not spread to distant organs (M0).</p>
	OR	
	<p>T4b Any N M0</p>	<p>The cancer is any size and is growing into nearby structures such as the base of the skull or other bones nearby, or it surrounds the carotid artery. This is known as very advanced disease (T4b).</p> <p>It might or might not have spread to nearby lymph nodes (Any N). It has not spread to distant organs (M0).</p>
IVC	<p>Any T Any N</p>	<p>The cancer is any size and may have grown into nearby soft tissues or structures (Any T) AND it might or might not have spread to nearby lymph nodes (Any N).</p>

	M1	It has spread to distant sites such as the lungs (M1).
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* The following additional categories are not listed on the table above:

- TX: Main tumor cannot be assessed due to lack of information.
- T0: No evidence of a primary tumor. The N categories are described in the table above, except for:
- NX: Regional lymph nodes cannot be assessed due to lack of information.

Hyperlinks

1. www.cancer.org/treatment/understanding-your-diagnosis/staging.html
2. www.cancer.org/treatment/understanding-your-diagnosis/tests/testing-biopsy-and-cytology-specimens-for-cancer.html
3. www.cancer.org/treatment/understanding-your-diagnosis/tests/imaging-radiology-tests-for-cancer.html

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American Joint Committee on Cancer. Major Salivary Glands. In: *AJCC Cancer Staging Manual*. 8th ed. New York, NY: Springer; 2017:95.

See all references for Salivary Gland Cancer (www.cancer.org/cancer/salivary-gland-cancer/references.html)

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Survival Rates for Salivary Gland 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 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 salivary gland cancer to people in the overall population. For example, if the **5-year relative survival rate** for a specific stage of salivary gland cancer is 90%, it means that people who have that cancer are, on average, about 90% 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 salivary gland 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 salivary gland.
- **Regional:** The cancer is very large or has spread outside the salivary gland to nearby structures or lymph nodes.
- **Distant:** The cancer has spread to distant parts of the body such as the lungs.

5-year relative survival rates for salivary gland cancer

(Based on people diagnosed with salivary gland cancer between 2009 and 2015.)

SEER Stage	5-year Relative Survival Rate
Localized	94%
Regional	65%
Distant	35%
All SEER stages combined	71%

Understanding the numbers

- **People now being diagnosed with salivary gland 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.
- **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 your age, overall health, how well the cancer responds to treatment, and other factors will also affect your outlook.

*SEER= Surveillance, Epidemiology, and End Results

References

Howlader N, Noone AM, Krapcho M, et al (eds). SEER Cancer Statistics Review, 1975-2016, National Cancer Institute, Bethesda, MD, https://seer.cancer.gov/csr/1975_2016/, based on November 2018 SEER data submission, posted to the SEER website, April 2019.

See all references for Salivary Gland Cancer (www.cancer.org/cancer/salivary-gland-cancer/references.html)

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What Should You Ask Your Doctor About Salivary Gland Cancer?

It's important 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 salivary gland cancer do I have?
- Which salivary gland is affected?
- Is my cancer high grade (likely to grow and spread quickly) or low grade?
- Has my cancer spread beyond where it started?
- What is my cancer's stage, 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?
- Should I get a second opinion? Can you recommend a doctor or cancer center?
- What are my treatment choices?
- What treatment do you recommend and why?
- What's 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 it be like? Where will it be done?
- What risks or side effects should I expect? How long are they likely to last?
- Is treatment likely to affect my speech or swallowing?
- Will treatment affect the way I look?
- How will treatment affect my daily activities?
- What will we do if the treatment doesn't work or if the cancer recurs?
- What type of follow-up might I need after treatment?
- Where can I find more information and support?

Along with these sample questions, be sure to write down some of your own. For instance, you might want more information about your recovery time so you can plan your work schedule. Or you might want to ask about clinical trials for which you may qualify. You can find more information about communicating with your health care team in [The Doctor-Patient Relationship](#)¹.

Hyperlinks

1. www.cancer.org/treatment/finding-and-paying-for-treatment/choosing-your-treatment-team/the-doctor-patient-relationship.html

References

See all references for Salivary Gland Cancer (www.cancer.org/cancer/salivary-gland-cancer/references.html)

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