About Salivary Gland Cancer

Overview and Types

If you have been diagnosed with salivary gland cancer or are worried about it, you likely have a lot of questions. Learning some basics is a good place to start.

- What Is Salivary Gland Cancer?

Research and Statistics

See the latest estimates for new cases of salivary gland cancers in the US and what research is currently being done.

- What Are the Key Statistics About Salivary Gland Cancer?
- What’s New in Salivary Gland Cancer Research and Treatment?

What Is Salivary Gland Cancer?

Salivary gland cancer starts in one of the salivary glands. It’s not just one disease. There are actually several different salivary glands found inside and near your mouth. Many types of cancer and benign (non-cancerous) tumors can develop in these glands.

About the salivary glands
Salivary glands make saliva – the lubricating fluid found in the mouth and throat. Saliva contains enzymes that begin the process of digesting food. It also contains antibodies and other substances that help prevent infections of the mouth and throat.

The 2 main types of salivary glands are the major salivary glands and minor salivary glands.

There are 3 sets of major salivary glands on each side of the face:

- The parotid glands, the largest salivary glands, are just in front of the ears. About 7 out of 10 salivary gland tumors start here. Most of these tumors are benign (not cancer), but the parotid glands still are where most malignant (cancerous) salivary gland tumors start.
- The submandibular glands are smaller and are below the jaw. They secrete saliva under the tongue. About 1 to 2 out of 10 tumors start in these glands, and about half of these tumors are cancer.
- The sublingual glands, which are the smallest, are under the floor of the mouth and below either side of the tongue. Tumors starting in these glands are rare.
There are also several hundred **minor salivary glands** that are too small to see without a microscope. These glands are under the lining of the lips and tongue; in the roof of the mouth; and inside the cheeks, nose, sinuses, and larynx (voice box). Tumors in these glands are uncommon, but they are more often cancerous than benign. Cancers of the minor salivary glands most often start in the roof of the mouth.

**Benign salivary gland tumors**

Most salivary gland tumors are benign – that is, they are not cancer and will not spread to other parts of the body. These tumors are almost never life threatening.

There are many types of benign salivary gland tumors, with names such as adenomas, oncocytomas, Warthin tumors, and benign mixed tumors (also known as **pleomorphic adenomas**).
Benign tumors are almost always cured by surgery. Very rarely, they may become cancer if left untreated for a long time or if they are not completely removed and grow back. It’s not clear exactly how benign tumors become cancers.

Our information about salivary gland cancers does not cover benign tumors.

Salivary gland cancers (malignant salivary gland tumors)

There are many types of salivary gland cancers. Normal salivary glands are made up of many different kinds of cells, and tumors can start in any of these cell types. Salivary gland cancers are named according to which of these cell types they most look like when seen under a microscope. The main types of cancers are described below.

Doctors usually give salivary cancers a grade (from 1 to 3, or from low to high), based on how abnormal the cancers look under a microscope. The grade gives a rough idea of how quickly it is likely to grow and spread.

- **Grade 1** cancers (also called low grade or well differentiated) look very much like normal salivary gland cells. They tend to grow slowly and have a good outcome (prognosis).
- **Grade 2** cancers (also called intermediate grade or moderately differentiated) have an appearance and outlook that is between grade 1 and grade 3 cancers.
- **Grade 3** cancers (also called high grade or poorly differentiated) look very different from normal cells and often grow and/or spread quickly. The outlook for these cancers is usually not as good as for lower grade cancers.

**Mucoepidermoid carcinoma**

Mucoepidermoid carcinomas are the most common type of salivary gland cancer. Most start in the parotid glands. They develop less often in the submandibular glands or in minor salivary glands inside the mouth. These cancers are usually low grade, but they can also be intermediate or high grade.

**Adenoid cystic carcinoma**

Adenoid cystic carcinoma is usually slow growing and often appears to be low-grade when looked at under the microscope. Still, it’s very hard to get rid of completely because it tends to spread along nerves. These tumors tend to come back after treatment (generally surgery and radiation), sometimes many years later. The outlook
for patients is better for smaller tumors.

Adenocarcinomas

Adenocarcinoma is a term used to describe cancers that start in gland cells (cells that normally secrete a substance). There are many types of salivary gland adenocarcinomas.

Acinic cell carcinoma: Most acinic cell carcinomas start in the parotid gland. They tend to be slow growing and tend to occur at a younger age than most other salivary gland cancers. They are usually low grade, but how far they have grown into nearby tissue is probably a better predictor of a patient’s outlook.

Polymorphous low-grade adenocarcinoma (PLGA): These tumors tend to start in the minor salivary glands. They usually (but not always) grow slowly and are mostly curable.

Adenocarcinoma, not otherwise specified (NOS): When seen under a microscope, these cancers have enough features to tell that they are adenocarcinomas, but not enough detail to classify them further. They are most common in the parotid glands and the minor salivary glands. These tumors can be any grade.

Rare adenocarcinomas: Several types of adenocarcinoma are quite rare.

Some of these tend to be low grade and usually have a very good outcome:

- Basal cell adenocarcinoma
- Clear cell carcinoma
- Cystadenocarcinoma
- Sebaceous adenocarcinoma
- Sebaceous lymphadenocarcinoma
- Mucinous adenocarcinoma

Other rare adenocarcinomas are more likely to be high grade and may have a less favorable outcome:

- Oncocytic carcinoma
- Salivary duct carcinoma
Malignant mixed tumors

There are 3 types of malignant mixed tumors:

- Carcinoma ex pleomorphic adenoma
- Carcinosarcoma
- Metastasizing mixed tumor

Nearly all of these cancers are carcinoma ex pleomorphic adenomas. The other 2 types are very, very rare.

Carcinoma ex pleomorphic adenoma develops from a benign mixed tumor (also known as a pleomorphic adenoma). This tumor occurs mainly in the major salivary glands. Both the grade of the cancer and how far it has spread (its stage) are important in predicting outcome.

Other rare salivary gland cancers

Several other types of cancer can develop in the salivary glands.

**Squamous cell carcinoma:** This cancer occurs mainly in older men. It can develop after radiation therapy for other cancers in the area. This type of cancer tends to have a poorer outlook.

**Epithelial-myoepithelial carcinoma:** This rare tumor tends to be low grade, but it can come back after treatment and/or spread to other parts of the body.

**Anaplastic small cell carcinoma:** The cells in these tumors have nerve cell-like features. These tumors are most often found in minor salivary glands and tend to grow quickly.

**Undifferentiated carcinomas:** This group of cancers includes small cell undifferentiated carcinoma, large cell undifferentiated carcinoma, and lymphoepithelial carcinoma. These are high-grade cancers that often spread. Overall, the survival outlook tends to be poor. Lymphoepithelial carcinoma, which is much more common in Eskimo and Inuit people, has a slightly better outcome.

Other cancers that can affect the salivary glands

These types of cancer are typically not thought of as true salivary gland cancers, either because they start more often in other parts of the body, or because they start
elsewhere and then grow into or spread to the salivary glands.

**Non-Hodgkin lymphoma:** Most non-Hodgkin lymphomas start in lymph nodes. Rarely, these cancers start in immune system cells within the salivary glands. They behave and are treated differently from other types of cancers in the salivary glands. Most lymphomas that start in the salivary glands affect people with Sjogren (Sjögren) syndrome (a disorder that causes the immune system to attack salivary gland cells). For more information, see [Non-Hodgkin Lymphoma](#).

**Sarcomas:** The salivary glands contain blood vessels, muscle cells, and cells that make connective tissue. Cancers that start in these types of cells are called *sarcomas*. These rarely occur in the salivary gland. For more information, see [Sarcoma—Adult Soft Tissue Cancer](#).

**Secondary salivary gland cancers:** Cancers that start elsewhere and spread to the salivary glands are called secondary salivary gland cancers. These cancers are treated based on where the cancer started.

### Hyperlinks


### References


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**What Are the Key Statistics About Salivary Gland Cancer?**
Salivary gland cancers are not very common, making up less than 1% of cancers in the United States. They occur at a rate of about 1 case per 100,000 people per year in the United States.

These cancers can occur in people of almost any age, but they become more common as people get older. The average age at the time of diagnosis is 64.

Overall, about 72% of people diagnosed with salivary gland cancer are still alive at least 5 years after being diagnosed\(^1\). (This includes people with all types and stages\(^2\) of salivary gland cancer, but the outlook for some people might be better or worse than this.) For more statistics related to survival, see Survival Rates for Salivary Gland Cancer by Stage\(^3\).

Hyperlinks


References


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**What’s New in Salivary Gland Cancer Research and Treatment?**

Medical centers throughout the world are researching the causes and treatment of salivary gland cancer. This is a challenging disease to study because it’s quite rare and
there are many types of salivary gland cancer. But each year, scientists find out more about the disease and how to better treat it.

**Biology of salivary gland cancers**

Recent studies have found certain changes in chromosomes and genes of various types of salivary gland cancers. Researchers are learning more about how these changes can cause salivary gland cells to become cancerous.

In some salivary gland cancer cells, 2 chromosomes have swapped parts of their DNA, which is called a *translocation*. These changes often activate genes that affect cell growth. For example, adenoid cystic carcinomas often have translocations between chromosomes 6 and 9, and mucoepidermoid carcinomas often have translocations between chromosomes 11 and 19. The exact genes involved in these translocations are now being studied.

As scientists learn more about these and other changes in salivary gland cancer cells, they hope to use this information to develop new targeted treatments that work better and cause fewer side effects. Someday these cell changes may also be used to diagnose salivary cancers, predict outcomes, and make treatment choices.

**Treatment**

**Surgery**

Advances in surgical techniques now allow teams of head and neck surgeons and neurosurgeons to remove small tumors and tumors near key structures, such as cancers that have spread near the base of the skull. These operations were not thought possible a few years ago but are becoming more common and successful.

Reconstructive surgery is becoming more sophisticated and successful, too. This lets surgeons do more extensive surgery to remove the cancer and improves patients' quality of life after treatment.

**Radiation therapy**

Advances in radiation therapy now permit more precise targeting of radiation and new ways of giving it. Intraoperative radiation, where radiation is given right to the tumor site during surgery, is being studied as a better way to treat salivary gland tumors that are likely to come back. This may help when treating tumors that are close to nerves or big
blood vessels and only limited surgery can be done.

**Chemotherapy**

Metastatic salivary gland cancer (cancer that's spread to other parts of the body) is rare, so knowledge about treating these cancers with chemotherapy (chemo) is still evolving. Chemo drugs, often given along with radiation, are now being tested in clinical trials and may provide more options for people with advanced salivary gland cancer.

**Targeted therapy**

As researchers have learned more about the changes in cells that cause cancer, they have been able to develop drugs that specifically target these changes. These targeted drugs work differently from standard chemotherapy drugs. They sometimes work when chemo drugs don’t, and they often have different (and less severe) side effects.

Studies have identified changes in several proteins in salivary gland cancer cells that help these cancers grow and spread. Some of these changes affect proteins that can be blocked by targeted therapies that are already used to treat other types of cancer.

**Hormone therapy**

Early research has found that some salivary gland tumors have too many receptors for male hormones called androgens and female hormones called estrogens. Doctors are looking at whether blocking these receptors may be useful in treating these tumors.

**References**


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

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**Written by**

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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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Salivary Gland 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 salivary gland cancer.

- What Are the Risk Factors for Salivary Gland Cancer?
- Do We Know What Causes Salivary Gland Cancer?

Prevention

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

- Can Salivary Gland Cancer Be Prevented?

What Are the Risk Factors and Potential Causes for Salivary Gland Cancer?

A risk factor is anything that affects your chance of getting a disease such as cancer. Different cancers have different risk factors. Some risk factors, like smoking, can be changed. Others, like a person’s age or family history, can’t be changed.
But having a risk factor, or even many risk factors, does not mean that you will get the disease. And many people who get the disease may have few or no known risk factors.

A few risk factors are known to make a person more likely to develop salivary gland cancer.

**Older age**

The risk of salivary gland goes up as people get older.

**Male gender**

Salivary gland cancers are more common in men than in women.

**Radiation exposure**

Radiation treatment to the head and neck area for other medical reasons increases your risk of salivary gland cancer.

Workplace exposure to certain radioactive substances may also increase the risk of salivary gland cancer.

**Family history**

Very rarely, members of some families seem to have a higher than usual risk of developing salivary gland cancers. But most people who get salivary gland cancer do not have a family history of this disease.

**Other possible risk factors**

**Certain workplace exposures**

Some studies have suggested that people who work with certain metals (nickel alloy dust) or minerals (silica dust), and people who work in asbestos mining, plumbing, rubber products manufacturing, and some types of woodworking may be at increased risk for salivary gland cancer, but these links are not certain. The rarity of these cancers makes this hard to study.
Tobacco and alcohol use

Tobacco and alcohol can increase the risk for several cancers of the head and neck area, but they have not been strongly linked to salivary gland cancers in most studies.

Diet

Some studies have found that a diet low in vegetables and high in animal fat may increase the risk of salivary gland cancer, but more research is needed to confirm this possible link.

Cell phone use

One study has suggested an increased risk of parotid gland tumors among heavy cell phone users. In this study, most of the tumors seen were benign (not cancer). Other studies looking at this issue have not found such a link. Research in this area is still in progress.

References

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

Do We Know What Causes Salivary Gland Cancer?

Although we know a few things that can raise a person’s risk of salivary gland cancer, it’s not clear exactly what causes most of these cancers.

Cancer is caused by changes in the DNA inside of cells. DNA is the chemical in each of our cells that makes up our genes – 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. It also can influence our risk for developing certain diseases, such as some kinds of cancer.

Some genes help control when cells grow, divide into new cells, and die. Genes that help cells grow, divide, and stay alive 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. Changes in several different genes are usually needed for a cell to become cancer.

Researchers don’t yet know all of the DNA changes that result in salivary gland cancer, but they have found some gene changes that are often found in these cancers.

Salivary gland cancer does not usually run in families, so most of the DNA changes that lead to this cancer are not likely to be inherited from a person’s parents. Instead, these changes probably take place during a person’s lifetime. Sometimes these changes might just be random events that happen inside cells, without having an outside cause. But sometimes the cause might be something specific, like exposure to radiation or certain carcinogens (cancer-causing chemicals).

References

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Can Salivary Gland Cancer Be Prevented?

Because we don’t know what causes most salivary gland cancers, we don’t yet know how to prevent many of them.
Avoiding some of the possible risk factors (such as tobacco, excess alcohol use, and unhealthy diets) might slightly lower the likelihood of developing salivary gland cancer, but no one knows for sure. However, we do know that avoiding these factors can help reduce your risk of other, more common cancers, as well as many other diseases.

For people who work in certain industries linked with an increased risk of salivary gland cancer, taking precautions to protect themselves might help lower their risk.

References

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

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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

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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 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**

2. [www.cancer.org/treatment/understanding-your-diagnosis/tests/x-rays-and-other-radiographic-tests.html](http://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-]
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](#).

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.

<table>
<thead>
<tr>
<th>AJCC stage</th>
<th>Stage grouping</th>
<th>Stage description*</th>
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<tbody>
<tr>
<td>0</td>
<td>Tis N0 M0</td>
<td>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).</td>
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<tr>
<td>I</td>
<td>T1 N0</td>
<td>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</td>
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and the lymph node is larger than 3 cm but not larger than 6 cm (about 2½ inches) (N2a) OR
• 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).

It has not spread to distant organs (M0).

IVB

The cancer is any size and might have grown into nearby soft tissues or structures (Any T) AND any of the following:

• 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).

It has not spread to distant organs (M0).

OR

T4b

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).

It might or might not have spread to nearby lymph nodes (Any N). It has not spread to distant organs (M0).

IVC

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).
**M1**  It has spread to distant sites such as the lungs (M1).

* 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](http://www.cancer.org/treatment/understanding-your-diagnosis/staging.html)

**References**


Last Medical Review: December 21, 2017 Last Revised: December 21, 2017

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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. This includes stage 0, I, and II cancers.
- **Regional:** The cancer is very large or has spread outside the salivary gland to nearby structures or lymph nodes. This includes mainly stage III, IVA and IVB cancers.
- **Distant:** The cancer has spread to distant parts of the body such as the lungs. For salivary gland cancer, this includes stage IVC cancers.

**5-year relative survival rates for salivary gland cancer**
(Based on people diagnosed with salivary gland cancer between 2008 and 2014.)

<table>
<thead>
<tr>
<th>SEER Stage</th>
<th>5-year Relative Survival Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Localized</td>
<td>93%</td>
</tr>
<tr>
<td>Regional</td>
<td>67%</td>
</tr>
<tr>
<td>Distant</td>
<td>34%</td>
</tr>
</tbody>
</table>

All SEER stages combined 72%

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

**Hyperlinks**


**References**
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**


**References**


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**Written by**


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 Salivary Gland Cancer

If you've been diagnosed with salivary gland cancer, your cancer care team will discuss your treatment options with you. It's important to weigh the benefits of each treatment option against the possible risks and side effects.

How is salivary gland cancer treated?

Common treatment options for salivary gland cancer include:

- Surgery for Salivary Gland Cancer
- Radiation Therapy for Salivary Gland Cancer
- Chemotherapy for Salivary Gland Cancer

Common treatment approaches

Sometimes more than one type of treatment is used. Which treatment option(s) might be best for you depends on many factors, including the type, grade, and stage of the cancer; your overall health; the chances of curing the disease; the impact of the treatment on functions like speech, chewing, and swallowing; and your own personal preferences.

- Treatment Options by Stage of Salivary Gland Cancer
- Treatment of Recurrent Salivary Gland Cancer

Who treats salivary gland cancer?

Depending on your situation, you may have different types of doctors on your treatment team:
• An **otolaryngologist** (also known as an *ear, nose, and throat*, or ENT doctor): a surgeon who treats certain diseases of the head and neck
• 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 physician assistants, nurse practitioners, nurses, nutrition specialists, speech therapists, occupational therapists, social workers, and other health professionals.

• **Health Professionals Associated With Cancer Care**

**Making treatment decisions**

It’s important to discuss all of your treatment options as well as their possible side effects with your family and your treatment team to make the choice that best fits your needs. If there’s anything you don’t understand, ask to have it explained.

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 Salivary Gland Cancer?**
• **Seeking a Second Opinion**

**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**

**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

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

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
- Palliative or Supportive Care

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 Salivary Gland Cancer

Surgery is often the main treatment for salivary gland cancers. Your cancer will probably be treated with surgery if the doctor believes that he or she can remove it completely. (That is, if the cancer is resectable.) Whether or not a cancer is resectable depends largely on how far it has grown into nearby structures, but it also depends on the skill and experience of the surgeon. Being treated by a surgeon who has treated many patients with salivary gland cancer gives you the best chance of having your cancer removed completely. This, in turn, gives you the best chance of being cured.

In most cases, the cancer and some or all of the surrounding salivary gland will be removed. Nearby soft tissue may be taken out too. The goal is to have no cancer cells in the outside edges (margin) of the removed tumor. If the cancer is high grade (more likely to grow and spread quickly) or if it has already spread to lymph nodes, lymph nodes from the same side of the neck may be removed in an operation called a neck dissection (described below).

Before surgery, ask your surgeon exactly what will be done during the operation, what the goals of the surgery are, whether there are other options, whether surgery will change the way you look or the way your body works, and what side effects you can expect.

Types of surgery for salivary gland cancer
The type of surgery will depend on which salivary gland is affected.

**Parotid gland surgery**

Most salivary gland tumors occur in the parotid gland. Surgery here is complicated by the fact that the *facial nerve*, which controls movement on the same side of the face, passes through the gland. For these operations, an incision (cut) is made in the skin in front of the ear and may extend down to the neck.

Most parotid gland cancers start in the outside part of the gland, called the superficial lobe. These can be treated by removing only this lobe, which is called a *superficial parotidectomy*. This usually leaves the facial nerve intact and does not affect facial movement.

If your cancer has spread into deeper tissues, the surgeon will remove the entire gland. This operation is called a *total parotidectomy*. If the cancer has grown into the facial nerve, it will have to be removed as well. If your surgeon has mentioned this surgery as a possibility, ask what can be done to repair the nerve and ways to treat side effects caused by removing the nerve. If the cancer has grown into other tissues near your parotid gland, these tissues might also need to be removed.

**Submandibular or sublingual gland surgery**

If your cancer is in the submandibular or sublingual glands, the surgeon will make a cut in the skin to remove the entire gland and perhaps some of the surrounding tissue or bone. Nerves that pass through or near these glands control movement of the tongue and the lower half of the face, as well as sensation and taste. Depending on the size and location of the cancer, the surgeon may need to remove some of these nerves.

**Minor salivary gland surgery**

Minor salivary gland cancers can occur in your lips, tongue, palate (roof of the mouth), mouth, throat, voice box (larynx), nose, and sinuses. The surgeon usually removes some surrounding tissue along with the cancer. The exact details of surgery depend on the size and location of the cancer.

**Possible risks and side effects of salivary gland surgery**

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

For any salivary gland cancer surgery, the surgeon may need to cut through your skin or cut inside your mouth. Most people will have some pain afterwards, but this can usually be controlled with medicines.

If your facial nerve is damaged during surgery, you might lose control of your facial muscles on the side where the surgery was done. That side of your face may droop. If the injury to the facial nerve is related to retraction (pulling) of the nerve during surgery and/or swelling from the operation, the damage might heal over time.

Sometimes, nerves cut during surgery grow back abnormally and become connected to the sweat glands of the face. This condition, called Frey syndrome or gustatory sweating, results in flushing or sweating over areas of your face when you chew. Frey syndrome can be treated with medicines or with additional surgery.

Damage to other nerves in the face or mouth might cause problems with tongue movement, speech, or swallowing.

Depending on the extent of the operation, your appearance may be changed as a result of surgery. This can range from a simple scar on the side of the face or neck to more extensive changes if nerves, parts of bones, or other structures need to be removed.

It’s important to talk with your doctor before the surgery about what changes in appearance or other side effects you might expect. This can help you prepare for them. Your doctor can also give you an idea about what corrective options might be available afterward, such as skin grafts, nerve grafts, and reconstructive surgery.

**Lymph node removal (neck dissection)**

Surgery to remove lymph nodes is called a lymph node dissection or lymphadenectomy. Salivary gland cancers sometimes spread to lymph nodes in the neck (cervical lymph nodes), and these may need to be removed as a part of treating the cancer. This is called a neck dissection.

A neck dissection may be done if:

- Lymph nodes in the neck are enlarged (which may be felt or seen on a CT or MRI scan)
- A PET (positron emission tomography) scan suggests the lymph nodes may contain cancer
• The cancer is high grade (looks very abnormal under the microscope) or has other features that mean it has a high risk of spreading

The removed lymph nodes are looked at under the microscope to see if they contain cancer cells. Taking out the lymph nodes can help ensure all of the cancer is removed. It can also be important for staging and deciding if more treatment is needed.

There are many types of neck dissections, but their major purpose is to remove lymph nodes that might contain cancer. In doing this, the surgeon may need to remove nearby connective tissue, muscles, nerves, and blood vessels from one side of your neck. This type of surgery is usually done through an incision (cut) across the side of the neck, but sometimes a longer incision going down the neck might be needed.

**Possible risks and side effects of lymph node removal**

The general risks of a neck dissection are much like those with any other type of surgery, including problems with anesthesia, bleeding, blood clots, infections, and poor wound healing. Most people will have some pain afterwards, but this can usually be controlled with pain medicines.

Because this surgery can affect nerves that run through the neck, it can sometimes lead to ear numbness, weakness in raising your arm above your head, and weakness of the lower lip. These may get better with time. You can be helped by physical therapists who can teach you exercises to improve your neck and shoulder movement.

**Sentinel lymph node biopsy**

**Sentinel lymph node mapping** and biopsy has become a common way to find out whether a cancer has spread to the lymph nodes. It may be used in certain types of salivary gland cancer, and can help keep you from needing neck dissection. This procedure can find the lymph nodes that drain lymph fluid from the salivary gland where the cancer started. These lymph nodes are usually the first place cancer will go. The surgery involves taking out these lymph nodes and checking them for cancer during the surgery. If no cancer cells are found, the other lymph nodes can be left alone. If these nodes do have cancer cells in them, neck dissection is usually needed.

For more general information on surgery, see *Cancer Surgery*.

**Hyperlinks**
Radiation Therapy uses high-energy x-rays or particles to destroy cancer cells or slow their growth.

Radiation therapy may be used:

- As the main treatment (alone or with chemotherapy) for some salivary gland cancers that can’t be removed by surgery because of the size or location of the
tumor, or if a person can’t have (or doesn’t want) surgery

- After surgery (alone or with chemotherapy) to try to kill any cancer cells that might have been left behind to help reduce the risk of cancer coming back
- In people with advanced salivary gland cancer to help with symptoms such as pain, bleeding, or trouble swallowing

**External beam radiation therapy**, which focuses radiation from outside the body on the cancer, is the type of radiation therapy used most often to treat salivary gland cancer.

Before your treatments start, the radiation team will take careful measurements to figure out the exact angles for aiming the radiation beams and the proper dose of radiation. This may take a couple of hours or more on the first visit.

Most often, radiation treatments are given 5 days a week for 6 or 7 weeks. The length of treatment might be shorter if the radiation is being used to relieve symptoms from cancer spread.

Getting radiation treatment is much like getting an x-ray, but the radiation dose is stronger and aimed more precisely at the cancer. The procedure itself is painless. Each treatment lasts only a few minutes, but the setup time – getting you into place for treatment – takes longer.

In recent years, doctors have found that newer forms of radiation therapy may work better than the standard treatment.

**Accelerated hyperfractionated radiation therapy**: In this approach, radiation is given twice a day over a shorter total length of time.

**Three-dimensional conformal radiation therapy (3D-CRT)**: 3D-CRT uses the results of imaging tests, such as MRI, and special computers to precisely map the 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 converge at the tumor to give a higher 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. In addition to 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 most sensitive nearby normal tissues. This may let the doctor give a higher
dose to the tumor. Many major hospitals and cancer centers now use IMRT as the standard way to deliver external beam radiation.

**Fast neutron beam radiation:** Instead of using x-rays, neutron radiation therapy uses a beam of high-energy neutrons. Neutrons are neutral particles in atoms. Some studies have suggested that this type of radiation may be more effective, but it may also lead to more side effects. Neutron therapy machines are available in only a handful of cancer centers in the United States at this time.

**Possible side effects**

Radiation therapy may cause sunburn-like skin changes, mouth problems, swallowing trouble, nausea, vomiting, and fatigue. Often these go away over time after treatment ends.

Radiation therapy of the salivary glands can cause specific problems, because important structures in the head and neck might also get some radiation during treatment. The most common side effect is reduced saliva, which can lead to a dry mouth. Radiation can also cause a sore throat, sores in the mouth and throat, hoarseness, trouble swallowing, temporary loss of taste, bone pain, and bone damage. Radiation can make tooth problems worse, too. Most doctors advise that you have your teeth checked by a dentist before starting radiation therapy to the head or neck area. In some cases, the dentist may even recommend removing some teeth before treatment to lessen the chance you will have problems later.

For most major salivary gland cancers, radiation is only given to the side of the face and neck with the cancer. This reduces the risk of serious long-term side effects. But in rare instances, both sides of your face and neck might need to be treated with radiation. This may damage other salivary glands, resulting in permanently dry mouth. This often causes problems with eating and swallowing and can lead to tooth decay.

Some of the damage to the salivary glands may be lessened if a drug called amifostine (Ethyol®) is given before each radiation treatment. This drug can be hard to tolerate, so it’s not helpful for everyone.

Radiation therapy might also damage your thyroid gland, which might not show up until months or even years later. Blood tests to check thyroid function will be done during follow up (after treatment is complete). Some patients might need to take pills to replace thyroid hormone at some point.

It’s important to discuss the possible side effects of radiation therapy with your doctor.
before starting treatment, and to make sure everything is being done to try to limit these side effects as much as possible. If you do have side effects, there are ways to relieve many of them, so be sure to discuss any problems with your cancer care team.

**More information about radiation therapy**

To learn more about how radiation is used to treat cancer, see [Radiation Therapy](#).

To learn about some of the side effects listed here and how to manage them, see [Managing Cancer-related Side Effects](#).

**Hyperlinks**

2. [www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html](http://www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects.html)

**References**


Chemotherapy for Salivary Gland Cancer

Chemotherapy (chemo) is treatment with anti-cancer drugs that are given into a vein or by mouth. These drugs enter the bloodstream and reach all areas of the body, making this treatment useful for cancers that have spread beyond the head and neck. Chemo is not often used to treat salivary gland cancers.

For people with salivary gland cancers, chemo is most often used when the cancer has spread (metastasized) to distant organs or if it could not be controlled by surgery and radiation therapy. Chemo sometimes shrinks the tumors, but it’s not likely to cure this type of cancer.

Some chemo drugs help make cancer cells more easily killed by radiation. These drugs may be given along with radiation therapy (called chemoradiation) to treat salivary cancers that are at high risk for coming back after surgery.

Doctors give chemo in cycles, with each period of treatment followed by a rest period to give the body time to recover. Chemo cycles generally last about 3 to 4 weeks. Chemo may not be recommended for patients in poor health, but advanced age by itself should not keep you from getting chemo.

Some of the chemo drugs used to treat salivary gland cancers include:

- Cisplatin
- Carboplatin
- Doxorubicin (Adriamycin®)
- 5-fluorouracil (5-FU)
- Cyclophosphamide (Cytoxan®)
- Paclitaxel (Taxol®)
- Docetaxel (Taxotere®)
- Vinorelbine (Navelbine®)
- Methotrexate

These drugs may be used alone, but are more often given in combinations of 2 or more drugs. Because salivary gland cancers are not common, no large studies have been done to prove one chemo plan is better than the others. The situation is also complicated by the fact that there are different types of salivary gland cancers. The best
way to use chemotherapy to treat salivary gland cancer is not clear. New chemo drugs and combinations of drugs are being studied in clinical trials.

Possible 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, like 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 affected by chemo, which can lead to side effects.

The side effects of chemo depend on the type and dose of drugs given and the length of time they are used. Common side effects include:

- Hair loss
- Mouth sores
- Loss of appetite
- Nausea and vomiting
- Diarrhea or constipation
- Increased chance of infections (from having too few white blood cells)
- Easy bruising or bleeding (from having too few blood platelets)
- Fatigue (from having too few red blood cells)

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 drugs can have other side effects. For example, cisplatin, carboplatin, and paclitaxel can damage nerves (called neuropathy). 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 it can last a long time in some people. You should report this to your medical team, as well as any other problems you have while getting chemo, so that they can be treated right away. In some cases, the doses of the chemo drugs may need to be reduced or treatment may need to be delayed or stopped to keep the effects from getting worse.

More information about chemotherapy
To learn more about how chemotherapy is used to treat cancer, see Chemotherapy\(^2\).

To learn about some of the side effects listed here and how to manage them, see Managing Cancer-related Side Effects\(^3\).

**Hyperlinks**


**References**


Last Medical Review: January 13, 2014 Last Revised: March 3, 2015

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**Treatment Options by Stage of Salivary**
Gland Cancer

The treatment options for salivary gland cancer depend largely on the *stage (extent) of the cancer*. But other factors, such as the grade of the cancer (how likely it is to grow and spread quickly); and a person’s overall health, can also be important.

**Stage I**

These cancers are small and still within the salivary gland. If you have stage I salivary gland cancer, your doctors will probably recommend surgery to remove the cancer and part or all of the salivary gland.

*Radiation therapy* may be advised after surgery if you have an intermediate- or high-grade cancer or an adenoid cystic carcinoma, if the cancer could not be removed completely, or if the edges of the removed area contain cancer cells (a sign that some cancer may have been left behind).

**Stage II**

Stage II salivary gland cancers are larger but are still confined within the salivary gland. They are also treated mainly with surgery, but it may be more extensive (covering a wider area) than for stage I cancers. The surgeon may also remove lymph nodes in your neck on the same side to see if they contain cancer.

*Radiation therapy* may be given after surgery if your cancer is intermediate- or high-grade or an adenoid cystic carcinoma, if the cancer could not be removed completely, or if the edges of the removed specimen contain cancer cells. There is a greater chance that some cancer may have been left behind than with stage I cancers.

Radiation therapy might be an option as the main treatment if surgery would result in serious problems with eating, speech, or appearance, or for people who refuse surgery. But it’s not clear if this offers the same chance to cure the cancer as surgery, so not all doctors agree that this is a good approach for stage II cancers.

**Stage III**

These cancers are even larger and/or have started to grow outside the salivary gland. They might have also reached lymph nodes in the neck.

Doctors generally recommend extensive surgery (removing the salivary gland
containing the tumor, nearby tissues, and all lymph nodes in your neck on the same side) if it’s possible. For low-grade tumors with no concerning features, this might be the only treatment needed if all of the cancer is removed. But in many cases, especially for high-grade tumors, surgery is followed by radiation therapy. Chemotherapy (chemo) may be added as well, but it’s not clear how helpful this is. This is still being studied.

Radiation therapy (with or without chemo) may be used as the main treatment if surgery is not a good option (for example, if surgical removal of the cancer would cause serious problems with eating, speech, or appearance).

Stage IV

Stage IV salivary gland cancers are very hard to cure, particularly if the cancer has spread to distant organs.

Some of these cancers might be treated with surgery if the doctor feels all of the cancer can be removed. (This would be followed by radiation therapy and maybe chemo.)

But most often, radiation therapy is used as the main treatment. It’s used to try to shrink the tumor(s) and relieve pain, bleeding, or other symptoms. Radiation may be combined with chemo. If the cancer has spread to other parts of the body, chemo may shrink or slow the growth of the cancer for a time and may help relieve symptoms.

Because these cancers can be hard to treat, taking part in a clinical trial of newer treatments is a good option.

Hyperlinks


References


Treatment of Recurrent Salivary Gland Cancer

Cancer is called *recurrent* if it comes back after treatment. Recurrence can be local (in or near the same place it started) or distant (spread to organs such as the lungs or liver).

If cancer returns after treatment, the choices available depend on the location and the extent of the cancer as well as what treatment was used the first time. It’s important to understand the goal of further treatment – whether it’s to try to cure the cancer or to help relieve symptoms – as well as the likelihood of benefits and risks.

If the cancer is thought to be resectable (able to be removed completely), *surgery* is usually the treatment of choice. This is often followed by *radiation therapy* if it wasn’t given before.

If the cancer returns in the area where it started but is not resectable, radiation therapy may be an option. *Chemotherapy* (chemo) may be used along with the radiation or by itself (especially if radiation therapy was already used the first time).

Cancers that come back in distant parts of the body are usually treated with chemo. In some cases, other treatments such as surgery or radiation may be used to help relieve symptoms from the spread of the cancer. If the cancer is very slow growing, it may be watched and treated only if it starts to cause problems.

Because these cancers can be hard to treat, [clinical trials](http://content/cancer/en/cancer/salivaryglandcancer/detailedguide/salivary-gland-cancer) of new and maybe better treatments are a good option.

**Hyperlinks**


References


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

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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Living as a Salivary Gland Cancer Survivor

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

- Living as a Salivary Gland Cancer Survivor

Cancer Concerns After Treatment

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

- Can I Get Another Cancer After Having Salivary Gland Cancer?

Living as a Salivary Gland Cancer Survivor

For some people with salivary gland cancer, treatment can 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 away completely. Some people may get
regular treatment with chemotherapy or targeted therapy or other treatments 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**

Even if you have completed treatment, you will likely have follow-up visits with your doctor for many years. It’s very important to go to all your follow-up appointments. During these visits, your doctors will ask if you are having any problems and may do exams and lab tests or imaging tests to look for signs of cancer or treatment side effects.

Some treatment side effects might last a long time or might not even show up until years after you have finished treatment. Your doctor visits are a good time to ask questions and talk about any changes or problems you notice or concerns you have. It’s very important to report any new symptoms to the doctor right away.

Most doctors recommend follow-up exams every few months for the first couple of years, and then less often after that if nothing abnormal is found.

Imaging tests such as CT scans may be done after treatment to get a baseline idea of what the head and neck area look like. More imaging tests may be done if you later develop any signs or symptoms that might be due to a return of the cancer.

If you had radiation therapy¹ to the neck, your doctor will probably want to get blood tests as well to check your thyroid function.

You may be advised to see your dentist after treatment to check on the health of your teeth. Your doctor will also want to keep a close eye on your hearing, speech, and swallowing, which can be affected by treatment. If you are having problems with any of these, your doctor may refer you to a therapist for help with rehabilitation.

**Ask your doctor for a survivorship care plan**

Talk with your doctor about developing a survivorship care plan 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

**Your appearance and other changes**

Surgery or other treatments can affect nerves and other structures in the face and neck. This can affect how you look. Ask your doctor about reconstructive surgery options that might be available for you.

Surgery around the jaw or neck can sometimes lead to ear numbness, weakness in raising your arm above your head, and weakness of the lower lip. If this happens, your doctor can refer you to a physical therapist, who can teach you exercises to improve your neck and shoulder strength and movement.

Treatment of salivary gland cancer can sometimes cause problems such as trouble speaking or swallowing, dry mouth, or even tooth loss. This can make it hard to eat, which can lead to weight loss and weakness due to poor nutrition.

Some people may need to change what they eat during and after treatment or may need nutritional supplements to help make sure they get the nutrients they need. A team of doctors and nutritionists can work with you to help you manage your individual nutritional needs and maintain a healthy weight.
If treatment affects how you speak, there might be both surgical and non-surgical options that can help. Your doctor will probably refer you to a speech therapist, a professional who is trained in helping people with speech problems. Some people might need to learn new ways of speaking. The speech therapist can play a major role in helping with this.

Dental care is often very important at this time as well, especially if you your mouth is dry as a result of surgery. If needed, your doctor can refer you to a dentist, who can help you care for your teeth and offer ways to help with dry mouth, such as using artificial saliva.

Tell your doctor or nurse about any other problems you’re having. There are also groups that can provide support and help teach you how to manage any lingering problems you may have.

**Can I lower my risk of the salivary gland cancer progressing or coming back?**

If you have (or have had) salivary gland 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 smoking⁴, eating well⁵, getting regular physical activity⁶, and staying at a healthy weight⁷ 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 salivary gland cancer or other cancers.

**About dietary supplements**

So far, no dietary supplements⁸ (including vitamins, minerals, and herbal products) have been shown to clearly help lower the risk of 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 do not 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 of Recurrent Salivary Gland Cancer⁹.

For more general information on recurrence, you may also want to see Understanding Recurrence¹⁰.

Could I get a second cancer after treatment?

People who’ve had salivary gland cancer can still get other cancers. In fact, salivary gland cancer survivors are at higher risk for getting some other types of cancer. Learn more in Second Cancers After Salivary Gland 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 Cancer¹¹.

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Can I Get Another Cancer After Having Salivary Gland 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.

Unfortunately, being treated for 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 salivary gland cancers can get any second cancer, but they have an increased risk of:

- Another salivary gland cancer (this is different than the first cancer coming back)
- Cancer of the oral cavity (mouth)\(^1\)
- Lung cancer\(^2\)
- Thyroid cancer\(^3\)
Follow-up after treatment

After completing treatment for salivary gland cancer, 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 salivary gland cancer or lung cancer. 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 salivary gland cancers should follow the [American Cancer Society guidelines for the early detection of cancer](https://www.cancer.org/healthy/find-cancer-early/cancer-screening-guidelines.html) and [stay away from tobacco products](https://www.cancer.org/healthy/stay-away-from-tobacco.html). 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](https://www.cancer.org/healthy/find-cancer-early/cancer-screening-guidelines.html)
- Consume a [healthy diet](https://www.cancer.org/healthy/find-cancer-early/cancer-screening-guidelines.html), with an emphasis on plant foods
- Limit consumption of [alcohol](https://www.cancer.org/healthy/find-cancer-early/cancer-screening-guidelines.html) to no more than 1 drink per day for women or 2 per day for men

These steps may also lower the risk of some cancers.

See [Second Cancers in Adults](https://www.cancer.org/healthy/find-cancer-early/cancer-screening-guidelines.html) for more information about causes of second cancers.

**Hyperlinks**

cancer.html

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