Thyroid 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 Thyroid Cancer Be Found Early?
- Signs and Symptoms of Thyroid Cancer
- Tests for Thyroid Cancer

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.

- Thyroid Cancer Stages
- Thyroid Cancer Survival Rates, by Type and Stage

Questions to Ask About Thyroid Cancer

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

- What Should You Ask Your Health Care Team About Thyroid Cancer?
Can Thyroid Cancer Be Found Early?

Many cases of thyroid cancer can be found early. In fact, most thyroid cancers are now found much earlier than in the past and can be treated successfully.

Most early thyroid cancers are found when patients see their doctors because of neck lumps or nodules they noticed. If you have unusual symptoms such as a lump or swelling in your neck, you should see your doctor right away.

Other cancers are found by health care professionals during a routine checkup. There is no recommended screening test to find thyroid cancer early. Some doctors also recommend that people examine their necks twice a year to look and feel for any growths or lumps.

Early thyroid cancers are also sometimes found when people have ultrasound tests for other health problems, such as narrowing of carotid arteries (which pass through the neck to supply blood to the brain) or for enlarged or overactive parathyroid glands.

Blood tests or thyroid ultrasound can often find changes in the thyroid, but these tests are not recommended as screening tests for thyroid cancer unless a person is at increased risk, such as because of a family history of thyroid cancer.

People with a family history of medullary thyroid cancer (MTC), with or without type 2 multiple endocrine neoplasia (MEN 2), might have a very high risk for developing this cancer. Most doctors recommend genetic testing for these people when they are young to see if they carry the gene changes linked to MTC. For those who may be at risk but don’t get genetic testing, blood tests can help find MTC at an early stage, when it may still be curable. Thyroid ultrasounds may also be done in high-risk people.

References

See all references for Thyroid Cancer
(https://www.cancer.org/content/cancer/en/cancer/thyroid-cancer/references.html)

Last Medical Review: March 31, 2016 Last Revised: April 15, 2016
Signs and Symptoms of Thyroid Cancer

Thyroid cancer can cause any of the following signs or symptoms:

- A lump in the neck, sometimes growing quickly
- Swelling in the neck
- Pain in the front of the neck, sometimes going up to the ears
- Hoarseness or other voice changes that do not go away
- Trouble swallowing
- Trouble breathing
- A constant cough that is not due to a cold

If you have any of these signs or symptoms, talk to your doctor right away. Many of these symptoms can also be caused by non-cancerous conditions or even other cancers of the neck area. Lumps in the thyroid are common and are usually benign. Still, if you have any of these symptoms, it’s important to see your doctor right away so the cause can be found and treated, if needed.

References

See all references for Thyroid Cancer  
(https://www.cancer.org/content/cancer/en/cancer/thyroid-cancer/references.html)

Last Medical Review: March 31, 2016 Last Revised: April 15, 2016

Tests for Thyroid Cancer

Thyroid cancer may be diagnosed after a person goes to a doctor because of symptoms, or it might be found during a routine physical exam or other tests. If there is a reason to suspect you might have thyroid cancer, your doctor will use one or more tests to find out. Signs and symptoms might suggest you have thyroid cancer, but you will need tests to confirm the diagnosis.
Medical history and physical exam

If you have any signs or symptoms that suggest you might have thyroid cancer, your health care professional will want to know your complete medical history. You will be asked questions about your possible risk factors, symptoms, and any other health problems or concerns. If someone in your family has had thyroid cancer (especially medullary thyroid cancer) or tumors called pheochromocytomas, it is important to tell your doctor, as you might be at high risk for this disease.

Your doctor will examine you to get more information about possible signs of thyroid cancer and other health problems. During the exam, the doctor will pay special attention to the size and firmness of your thyroid and any enlarged lymph nodes in your neck.

Biopsy

The actual diagnosis of thyroid cancer is made with a biopsy, in which cells from the suspicious area are removed and looked at under a microscope. However, this might not be the first test done if you have a suspicious lump in your neck. The doctor might order other tests first, such as blood tests, an ultrasound exam, or a radioiodine scan to get a better sense of whether you might have thyroid cancer. These tests are described below.

If your doctor thinks a biopsy is needed, the simplest way to find out if a thyroid lump or nodule is cancerous is with a fine needle aspiration (FNA) of the thyroid nodule. This type of biopsy can usually be done in your doctor’s office or clinic.

Before the biopsy, local anesthesia (numbing medicine) may be injected into the skin over the nodule, but in most cases an anesthetic is not needed. Your doctor will place a thin, hollow needle directly into the nodule to aspirate (take out) some cells and a few drops of fluid into a syringe. The doctor usually repeats this 2 or 3 more times, taking samples from several areas of the nodule. The biopsy samples are then sent to a lab, where they are looked at under a microscope to see if the cells look cancerous or benign.

Bleeding at the biopsy site is very rare except in people with bleeding disorders. Be sure to tell your doctor if you have problems with bleeding or are taking medicines that could affect bleeding, such as aspirin or blood thinners.

This test is generally done on all thyroid nodules that are big enough to be felt. This means that they are larger than about 1 centimeter (about 1/2 inch) across. Doctors often use ultrasound to see the thyroid during the biopsy, which helps make sure they
are getting samples from the right areas. This is especially helpful for smaller nodules. FNA biopsies can also be used to get samples of swollen lymph nodes in the neck to see if they contain cancer.

Sometimes an FNA biopsy will need to be repeated because the samples didn’t contain enough cells. Most FNA biopsies will show that the thyroid nodule is benign. Rarely, the biopsy may come back as benign even though cancer is present. Cancer is clearly diagnosed in only about 1 of every 20 FNA biopsies.

Sometimes the test results first come back as “suspicious” or “of undetermined significance” if FNA findings don’t show for sure if the nodule is either benign or malignant. If this happens, the doctor may order tests on the sample to see if the BRAF or RET/PTC genes are mutated (changed). Finding these changes makes thyroid cancer much more likely, and may also play a role in determining the best treatment for the cancer.

If the diagnosis is not clear after an FNA biopsy, you might need a more involved biopsy to get a better sample, particularly if the doctor has reason to think the nodule may be cancerous. This might include a core biopsy using a larger needle, a surgical “open” biopsy to remove the nodule, or a lobectomy (removal of half of the thyroid gland). Surgical biopsies and lobectomies are done in an operating room while you are under general anesthesia (in a deep sleep). A lobectomy can also be the main treatment for some early cancers, although for many cancers the rest of the thyroid will need to be removed as well (during an operation called a completion thyroidectomy).

**Imaging tests**

Imaging tests may be done for a number of reasons, including helping find suspicious areas that might be cancer, to learn how far cancer may have spread, and to help determine if treatment is working.

People who have or may have thyroid cancer will get one or more of these tests.

**Ultrasound**

Ultrasound uses sound waves to create images of parts of your body. For this test, a small, wand-like instrument called a transducer is placed on the skin in front of your thyroid gland. It gives off sound waves and picks up the echoes as they bounce off the thyroid. The echoes are converted by a computer into a black and white image on a computer screen. You are not exposed to radiation during this test.
This test can help determine if a thyroid nodule is solid or filled with fluid. (Solid nodules are more likely to be cancerous.) It can also be used to check the number and size of thyroid nodules. How a nodule looks on ultrasound can sometimes suggest if it is likely to be a cancer, but ultrasound can’t tell for sure.

For thyroid nodules that are too small to feel, this test can be used to guide a biopsy needle into the nodule to obtain a sample. Even when a nodule is large enough to feel, most doctors prefer to use ultrasound to guide the needle.

Ultrasound can also help determine if any nearby lymph nodes are enlarged because the thyroid cancer has spread. Many thyroid specialists recommend ultrasound for all patients with thyroid nodules large enough to be felt.

**Radioiodine scan**

Radioiodine scans can be used to help determine if someone with a lump in the neck might have thyroid cancer. They are also often used in people who have already been diagnosed with differentiated (papillary, follicular, or Hürthle cell) thyroid cancer to help show if it has spread. Because medullary thyroid cancer cells do not absorb iodine, radioiodine scans are not used for this cancer.

For this test, a small amount of radioactive iodine (called $\text{i-131}$) is swallowed (usually as a pill) or injected into a vein. Over time, the iodine is absorbed by the thyroid gland (or thyroid cells anywhere in the body). A special camera is used several hours later to see where the radioactivity is.

For a thyroid scan, the camera is placed in front of your neck to measure the amount of radiation in the gland. Abnormal areas of the thyroid that have less radioactivity than the surrounding tissue are called cold nodules, and areas that take up more radiation are called hot nodules. Hot nodules usually are not cancerous, but cold nodules can be benign or cancerous. Because both benign and cancerous nodules can appear cold, this test by itself can’t diagnose thyroid cancer.

After surgery for thyroid cancer, whole-body radioiodine scans are useful to look for possible spread throughout the body. These scans become even more sensitive if the entire thyroid gland has been removed by surgery because more of the radioactive iodine is picked up by any remaining thyroid cancer cells.

Radioiodine scans work best if patients have high blood levels of thyroid-stimulating hormone (TSH, or thyrotropin). For people whose thyroid has been removed, TSH levels can be increased by stopping thyroid hormone pills for a few weeks before the test. This leads to low thyroid hormone levels (hypothyroidism) and causes the pituitary
gland to release more TSH, which in turn stimulates any thyroid cancer cells to take up the radioactive iodine. A downside of this is that it can cause the symptoms of hypothyroidism, including tiredness, depression, weight gain, sleepiness, constipation, muscle aches, and reduced concentration. One way to raise TSH levels without withholding thyroid hormone is to give an injectable form of thyrotropin (Thyrogen®) before the scan.

Because any iodine already in the body can affect this test, people are usually told not to ingest foods or medicines that contain iodine in the days before the scan.

Radioactive iodine can also be used to treat differentiated thyroid cancer, but it is given in much higher doses. This type of treatment is described in the section Radioactive iodine (radioiodine) therapy\(^5\).

**Chest x-ray**

If you have been diagnosed with thyroid cancer (especially follicular thyroid cancer), a plain x-ray of your chest may be done to see if cancer has spread to your lungs.

**Computed tomography (CT) scan**

The CT scan\(^6\) is an x-ray test that produces detailed cross-sectional images of your body. It can help determine the location and size of thyroid cancers and whether they have spread to nearby areas, although ultrasound is usually the test of choice. A CT scan can also be used to look for spread into distant organs such as the lungs.

One problem using CT scans is that the CT contrast dye contains iodine, which interferes with radioiodine scans. For this reason, many doctors prefer MRI scans for differentiated thyroid cancer.

**Magnetic resonance imaging (MRI) scan**

Like CT scans, MRI scans\(^7\) can be used to look for cancer in the thyroid, or cancer that has spread to nearby or distant parts of the body. But ultrasound is usually the first choice for looking at the thyroid. MRI can provide very detailed images of soft tissues such as the thyroid gland. MRI scans are also very helpful in looking at the brain and spinal cord.

**Positron emission tomography (PET) scan**

A PET scan\(^8\) can be very useful if your thyroid cancer is one that doesn’t take up
radioactive iodine. In this situation, the PET scan may be able to tell whether the cancer has spread.

**Blood tests**

Blood tests are not used to find thyroid cancer. But they can help show if your thyroid is working normally, which may help the doctor decide what other tests may be needed. They can also be used to monitor certain cancers.

**Thyroid-stimulating hormone (TSH)**

Tests of blood levels of thyroid-stimulating hormone (TSH or thyrotropin) may be used to check the overall activity of your thyroid gland. Levels of TSH, which is made by the pituitary gland, may be high if the thyroid is not making enough hormones. This information can be used to help choose which imaging tests (such as ultrasound or radiiodine scans) to use to look at a thyroid nodule. The TSH level is usually normal in thyroid cancer.

**T3 and T4 (thyroid hormones)**

These are the main hormones made by the thyroid gland. Levels of these hormones may also be measured to get a sense of thyroid gland function. The T3 and T4 levels are usually normal in thyroid cancer.

**Thyroglobulin**

Thyroglobulin is a protein made by the thyroid gland. Measuring the thyroglobulin level in the blood can’t be used to diagnose thyroid cancer, but it can be helpful after treatment. A common way to treat thyroid cancer is to remove most of the thyroid by surgery and then use radioactive iodine to destroy any remaining thyroid cells. These treatments should lead to a very low level of thyroglobulin in the blood within several weeks. If it is not low, this might mean that there are still thyroid cancer cells in the body. If the level rises again after being low, it is a sign that the cancer could be coming back.

**Calcitonin**

Calcitonin is a hormone that helps control how the body uses calcium. It is made by C cells in the thyroid, the cells that can develop into medullary thyroid cancer (MTC). If MTC is suspected or if you have a family history of the disease, blood tests of calcitonin
levels can help look for MTC. This test is also used to look for the possible recurrence of MTC after treatment. Because calcitonin can affect blood calcium levels, these may be checked as well.

**Carcinoembryonic antigen (CEA)**

People with MTC often have high blood levels of a protein called carcinoembryonic antigen (CEA). Tests for CEA can help monitor this cancer.

**Other blood tests**

You might have other blood tests as well. For example, if you are scheduled for surgery, tests will be done to check your blood cell counts, to look for bleeding disorders, and to check your liver and kidney function.

Medullary thyroid carcinoma (MTC) can be caused by a genetic syndrome that also causes a tumor called pheochromocytoma. Pheochromocytomas can cause problems during surgery if the patient is under anesthesia. This is why patients with MTC who will have surgery are often tested to see if they have a pheochromocytoma, as well. This can mean blood tests for epinephrine (adrenaline) and a related hormone called norepinephrine, and/or urine tests for their breakdown products (called metanephrines).

**Other tests**

**Vocal cord exam (laryngoscopy)**

Thyroid tumors can sometimes affect the vocal cords. If you are going to have surgery to treat thyroid cancer, a procedure called a laryngoscopy will probably be done first to see if the vocal cords are moving normally. For this exam, the doctor looks down the throat at the larynx (voice box) with special mirrors or with a laryngoscope, a thin tube with a light and a lens on the end for viewing.

**References**

See all references for Thyroid Cancer ([https://www.cancer.org/content/cancer/en/cancer/thyroid-cancer/references.html](https://www.cancer.org/content/cancer/en/cancer/thyroid-cancer/references.html))
Thyroid Cancer Stages

After someone is diagnosed with thyroid 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.

Thyroid cancers range from stages 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. And within a stage, an earlier letter means a lower stage. Although each person’s cancer experience is unique, cancers with similar stages tend to have a similar outlook and are often treated in much the same way.

**How is the stage determined?**

The staging system most often used for thyroid cancer is the **AJCC** (American Joint Committee on Cancer) **TNM** system, which is based on 3 key pieces of information:

- The extent (size) 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 the distant organs such as the lungs or liver?

The systems described below are the most recent AJCC systems effective January 2018 and applies to differentiated, anaplastic and medullary thyroid cancers.

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](http://cancer.org).
The staging system in the table below uses 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, and imaging tests. The clinical stage will be used to help plan treatment. Sometimes, though, the cancer has spread further than the clinical stage estimates, and might not predict the patient’s outlook as accurately as a pathologic stage.

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

**Differentiated (papillary or follicular) thyroid cancer in patients younger than 55**

Younger people have a low likelihood of dying from differentiated (papillary or follicular) thyroid cancer. The TNM stage groupings for these cancers take this fact into account. So, all people younger than 55 years with these cancers are stage I if they have no distant spread and stage II if they have distant spread. This table includes patients 55 or older as well as younger than 55.

<table>
<thead>
<tr>
<th>AJCC Stage</th>
<th>Age at diagnosis</th>
<th>Stage grouping</th>
<th>Differentiated Thyroid Cancer Stage description*</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Younger than 55 years</td>
<td>Any T</td>
<td>The cancer is any size (Any T) and might or might not have spread to nearby lymph nodes (Any N). It has not spread to distant sites (M0).</td>
</tr>
<tr>
<td>OR</td>
<td>55 years or older</td>
<td>T1 N0 or NX M0</td>
<td>The cancer is no larger than 2 cm [0.8 inches] across and confined to the thyroid (T1). It has not spread to nearby lymph nodes (N0) or to distant sites (M0).</td>
</tr>
<tr>
<td>OR</td>
<td>55 years</td>
<td>T2</td>
<td>The cancer is larger than 2 cm [0.8 inches] across but no</td>
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<tr>
<td>Stage</td>
<td>Age</td>
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<td>N</td>
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<tr>
<td>I</td>
<td>55 years or older</td>
<td>T1</td>
<td>N1</td>
</tr>
<tr>
<td></td>
<td>Younger than 55 years</td>
<td>Any T</td>
<td>Any N</td>
</tr>
<tr>
<td></td>
<td>or older</td>
<td>N0 or NX</td>
<td>M0</td>
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<tr>
<td></td>
<td></td>
<td>larger than 4 cm and confined to the thyroid (T2).</td>
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<td></td>
<td></td>
<td>It has not spread to nearby lymph nodes (N0) or to distant sites (M0).</td>
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<tr>
<td></td>
<td></td>
<td>The cancer can be any size (Any T). It might or might not have spread to nearby lymph nodes (Any N).</td>
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<td></td>
<td></td>
<td>It has spread to other parts of the body, such as distant lymph nodes, internal organs, bones, etc. (M1).</td>
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</tr>
<tr>
<td>II</td>
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<td>T2</td>
<td>N1</td>
</tr>
<tr>
<td>III</td>
<td>55 years or older</td>
<td>T3a or T3b</td>
<td>Any N</td>
</tr>
<tr>
<td></td>
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<td>larger than 4 cm but confined to the thyroid (T3a) or it has grown into the strap muscles around the thyroid (T3b).</td>
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<td></td>
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<td>It might or might not have spread to nearby lymph nodes (Any N). It has not spread to distant sites (M0).</td>
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<tr>
<td></td>
<td>55 years or older</td>
<td>T4a</td>
<td>Any N</td>
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<tr>
<td></td>
<td>55 years or older</td>
<td>T4b</td>
<td>Any N</td>
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<tr>
<td></td>
<td>55 years or older</td>
<td>Any N</td>
<td>M0</td>
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<tr>
<td></td>
<td></td>
<td>larger than 4 cm and confined to the thyroid (T2).</td>
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<td></td>
<td></td>
<td>It has not spread to nearby lymph nodes (N0) or to distant sites (M0).</td>
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<td></td>
<td>The cancer is any size and has grown extensively beyond the thyroid gland into nearby tissues of the neck, such as the larynx (voice box), trachea (windpipe), esophagus (tube connecting the throat to the stomach), or the nerve to the larynx (T4a).</td>
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<td></td>
<td></td>
<td>It might or might not have spread to nearby lymph nodes (Any N). It has not spread to distant sites (M0).</td>
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<tr>
<td>IVA</td>
<td>55 years</td>
<td>T4b</td>
<td>Any N</td>
</tr>
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<td>larger than 4 cm and confined to the thyroid (T2).</td>
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<td>It has not spread to nearby lymph nodes (N0) or to distant sites (M0).</td>
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<tr>
<td></td>
<td></td>
<td>The cancer is any size and has grown extensively beyond the thyroid gland into nearby tissues of the neck, such as the larynx (voice box), trachea (windpipe), esophagus (tube connecting the throat to the stomach), or the nerve to the larynx (T4a).</td>
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<tr>
<td></td>
<td></td>
<td>It might or might not have spread to nearby lymph nodes (Any N). It has not spread to distant sites (M0).</td>
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<tr>
<td>AJCC Stage</td>
<td>Stage grouping</td>
<td>Anaplastic Thyroid Cancer Stage description*</td>
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<tr>
<td>IVA</td>
<td>T1, T2 or T3a</td>
<td>The cancer is any size but confined to the thyroid (T1, T2, or T3a). It has not spread to nearby lymph nodes (N0) or to distant sites (M0).</td>
<td></td>
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<tr>
<td></td>
<td>N0 or NX</td>
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<td></td>
<td>M0</td>
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<tr>
<td>IVB</td>
<td>T1, T2 or T3a</td>
<td>The cancer is any size but confined to the thyroid (T1, T2, or T3a). It has spread to nearby lymph nodes (N1). It has not spread to distant sites (M0).</td>
<td></td>
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<tr>
<td></td>
<td>N1</td>
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<td></td>
<td>M0</td>
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### AJCC Stage Grouping

<table>
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<tr>
<th>AJCC Stage</th>
<th>Stage Grouping</th>
<th>Medullary Thyroid Cancer Stage Description*</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td></td>
<td>The cancer is 2cm (0.8 inches) or smaller and confined to the thyroid (T1).</td>
</tr>
</tbody>
</table>

### Medullary Thyroid Cancer

Age is not a factor in the stage of medullary thyroid cancer.

* 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.
<table>
<thead>
<tr>
<th>Stage</th>
<th>T Classification</th>
<th>N Classification</th>
<th>M Classification</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>I</td>
<td>N0 M0</td>
<td></td>
<td></td>
<td>It has not spread to nearby lymph nodes (N0) or to distant sites (M0).</td>
</tr>
<tr>
<td>II</td>
<td>T2 N0 M0</td>
<td></td>
<td></td>
<td>The cancer is larger than 2cm but no more than 4cm across and confined to the thyroid (T2). It has not spread to nearby lymph nodes (N0) or to distant sites (M0).</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OR T3 N0 M0</td>
</tr>
<tr>
<td>III</td>
<td>T1, T2, or T3</td>
<td>N1a</td>
<td>M0</td>
<td>The cancer is any size and might be growing outside of the thyroid but not involving nearby structures (T1, T2, T3). It has spread to lymph nodes in the neck (pretracheal, paratracheal, prelaryngeal, or upper mediastinal) (N1a) but not to other lymph nodes or to distant sites (M0).</td>
</tr>
<tr>
<td>IVA</td>
<td>T4a Any N</td>
<td></td>
<td>M0</td>
<td>The cancer is any size and has grown beyond the thyroid gland into nearby tissues of the neck, such as the larynx (voice box), trachea (windpipe), esophagus (tube connecting the throat to the stomach), or the nerve to the larynx (T4a). It might or might not have spread to nearby lymph nodes (Any N). It has not spread to distant sites (M0).</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OR T1, T2, or T3 N1b M0</td>
</tr>
<tr>
<td>IVB</td>
<td>T4b</td>
<td>The cancer is any size and has grown either back toward the spine or into nearby large blood vessels (T4b).</td>
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<tr>
<td></td>
<td>Any N M0</td>
<td>It might or might not have spread to nearby lymph nodes (Any N). It has not spread to distant sites (M0).</td>
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</table>

<table>
<thead>
<tr>
<th>IVC</th>
<th>Any T</th>
<th>The cancer is any size and might have grown into nearby structures (Any T).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Any N M1</td>
<td>It might or might not have spread to nearby lymph nodes (Any N). It has spread to distant sites such as the liver, lung, bone or brain (M1).</td>
</tr>
</tbody>
</table>

* 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**

2. [https://www.cancer.org/content/cancer/en/treatment/understanding-your-diagnosis/staging.html](https://www.cancer.org/content/cancer/en/treatment/understanding-your-diagnosis/staging.html)

**References**


See all references for Thyroid Cancer ([https://www.cancer.org/content/cancer/en/cancer/thyroid-cancer/references.html](https://www.cancer.org/content/cancer/en/cancer/thyroid-cancer/references.html))
Thyroid Cancer Survival Rates, by Type and Stage

Survival rates tell you what portion of people with the same type and stage of cancer are still alive a certain amount of time (usually 5 years) after their cancer is diagnosed. These numbers can’t tell you how long you will live, but they may help give you a better understanding about how likely it is that your treatment will be successful. Some people will want to know the survival rates for their cancer type and stage, and some people won’t. If you don’t want to know, you don’t have to.

What is a 5-year survival rate?

Statistics on the outlook for a certain type and stage of cancer are often given as 5-year survival rates, but many people live longer—often much longer—than 5 years. The 5-year survival rate is the percentage of people who live at least 5 years after being diagnosed with cancer. For example, a 5-year survival rate of 50% means that an estimated 50 out of 100 people who have that cancer are still alive 5 years after being diagnosed. Keep in mind, however, that many of these people live much longer than 5 years after diagnosis.

Relative survival rates are a more accurate way to estimate the effect of cancer on survival. These rates compare people with cancer to people in the overall population. For example, if the 5-year relative survival rate for a specific type and stage of cancer is 50%, it means that people who have that cancer are, on average, about 50% as likely as people who don’t have that cancer to live for at least 5 years after being diagnosed.

But remember, survival rates are estimates—your outlook can vary based on a number of factors specific to you.

Survival rates don’t tell the whole story

Survival rates are often based on previous outcomes of large numbers of people who had the disease, but they can’t predict what will happen in any particular person’s case.
Your doctor can tell you how the numbers below may apply to you, as he or she is familiar with the aspects of your particular situation.

The following survival statistics were published in 2010 in the 7th edition of the AJCC Cancer Staging Manual. They are based on the stage of the cancer when the person is first diagnosed.

### Papillary thyroid cancer*

<table>
<thead>
<tr>
<th>Stage</th>
<th>5-Year Relative Survival Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>near 100%</td>
</tr>
<tr>
<td>II</td>
<td>near 100%</td>
</tr>
<tr>
<td>III</td>
<td>93%</td>
</tr>
<tr>
<td>IV</td>
<td>51%</td>
</tr>
</tbody>
</table>

*Based on patients diagnosed 1998 to 1999

### Follicular thyroid cancer*

<table>
<thead>
<tr>
<th>Stage</th>
<th>5-Year Relative Survival Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>near 100%</td>
</tr>
<tr>
<td>II</td>
<td>near 100%</td>
</tr>
<tr>
<td>III</td>
<td>71%</td>
</tr>
<tr>
<td>IV</td>
<td>50%</td>
</tr>
</tbody>
</table>

*Based on patients diagnosed 1998 to 1999

### Medullary thyroid cancer**

<table>
<thead>
<tr>
<th>Stage</th>
<th>5-Year Relative Survival Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>near 100%</td>
</tr>
</tbody>
</table>
- II  98%
- III  81%
- IV  28%

**Based on patients diagnosed between 1985 and 1991

Anaplastic thyroid cancer

The 5-year relative survival rate for anaplastic (undifferentiated) carcinomas, all of which are considered stage IV, is around 7% (based on patients diagnosed between 1985 and 1991).

References

See all references for Thyroid Cancer
(https://www.cancer.org/content/cancer/en/cancer/thyroid-cancer/references.html)

Last Medical Review: March 31, 2016 Last Revised: April 15, 2016

What Should You Ask Your Health Care Team About Thyroid Cancer?

As you deal with thyroid cancer and the process of treatment, you need to have honest, open discussions with your cancer care team. You should feel free to ask any question on your mind, no matter how minor it might seem. Some of the questions you might want to ask are:

When you’re told you have thyroid cancer

- What kind of thyroid cancer do I have?
- Has my cancer spread beyond the thyroid gland?
What is the stage of my thyroid cancer? What does this mean in my case?

Are there other tests that need to be done before we decide on treatment?

Is this form of thyroid cancer hereditary? Should my family be tested?

Will I need to see other doctors?

If I’m concerned about the costs and insurance coverage for my diagnosis and treatment, who can help me?

When deciding on a treatment plan

- How much experience do you have treating this type of cancer?
- How much surgery do I need? Should I get other treatments as well?
- What are my treatment choices?
- Should I get a second opinion? How do I do that? Can you recommend a doctor or cancer center?
- What should I do to be ready for treatment?
- What are the risks and possible side effects of treatment?
- Will I need to take thyroid hormone for the rest of my life?
- How long will treatment last? What will it involve? Where will it be done?
- Will treatment affect my daily activities?
- When can I go back to my normal activities after treatment?
- Will this treatment affect my ability to have children? Do I need to avoid pregnancy for a while?
- What are the chances that my cancer will come back after treatment?
- What will we do if the treatment doesn’t work or if the cancer recurs?

During treatment

Once treatment begins, you’ll need to know what to expect and what to look for. Not all of these questions may apply to you, but getting answers to the ones that do may be helpful.

- How will we know if the treatment is working?
- Is there anything I can do to help manage side effects?
- What symptoms or side effects should I tell you about right away?
- How can I reach you on nights, holidays, or weekends?
- Do I need to change what I eat during treatment?
• Are there any limits on what I can do?
• Should I exercise? What should I do, and how often?
• Can you suggest a mental health professional I can see if I start to feel overwhelmed, depressed, or distressed?

After treatment

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

No doubt you will have other questions about your situation. Be sure to write your questions down so that you remember to ask them during each visit with your cancer care team. For example, you might want to ask about clinical trials you may be eligible for. Keep in mind, too, that doctors are not the only ones who can give you information. Other health care professionals, such as nurses and social workers, may have the answers to your questions. You can find more information about communicating with your health care team in our document about talking with your doctor.

References

See all references for Thyroid Cancer
(https://www.cancer.org/content/cancer/en/cancer/thyroid-cancer/references.html)

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Written by

The American Cancer Society medical and editorial content team
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