

# LOST TEMPLE FITNESS

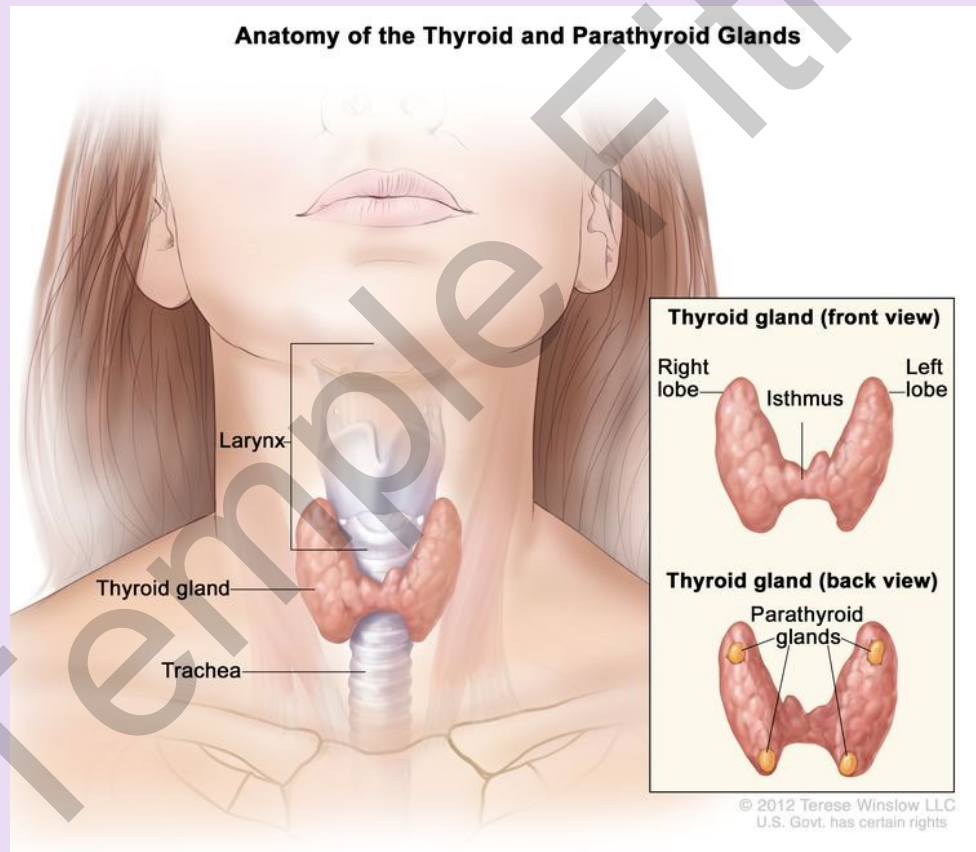
## THYROID

Information and pictures from *National Cancer Institute* unless otherwise specified

### Description

Thyroid cancer is a disease in which malignant (cancer) cells form in the tissues of the thyroid gland.

*The thyroid is a gland at the base of the throat near the trachea (windpipe). It is shaped like a butterfly, with a right lobe and a left lobe. The isthmus, a thin piece of tissue, connects the two lobes. A healthy thyroid is a little larger than a quarter. It usually cannot be felt through the skin. The thyroid uses iodine, a mineral found in some foods and in iodized salt, to help make several hormones. The parathyroid glands are four pea-sized organs found in the neck near the thyroid. The thyroid and parathyroid glands make hormones.*



Thyroid hormones do the following:

- Control heart rate, body temperature, and how quickly food is changed into energy (metabolism).
- Control the amount of calcium in the blood.

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There are four main types of thyroid cancer:

- **Papillary thyroid cancer:** The most common type of thyroid cancer.
  - Well-differentiated tumors (papillary thyroid cancer and follicular thyroid cancer) can be treated and can usually be cured.
- **Follicular thyroid cancer.**
  - Well-differentiated tumors (papillary thyroid cancer and follicular thyroid cancer) can be treated and can usually be cured.
- **Medullary thyroid cancer.**
  - Cancer that develops in C cells of the thyroid. The C cells make a hormone (calcitonin) that helps maintain a healthy level of calcium in the blood.
  - Medullary thyroid cancer is a neuroendocrine tumor that forms from cells that release hormones into the blood in response to a signal from the nervous system. Neuroendocrine tumors may make higher-than-normal amounts of hormones, which can cause many different symptoms. These tumors may be benign (not cancer) or malignant (cancer).
- **Anaplastic thyroid cancer.**
  - Poorly differentiated and undifferentiated tumors (anaplastic thyroid cancer) are less common. These tumors grow and spread quickly and have a poorer chance of recovery. Patients with anaplastic thyroid cancer should have molecular testing for a mutation in the BRAF gene.
- Papillary and follicular thyroid cancer are sometimes called differentiated thyroid cancer.
- Medullary and anaplastic thyroid cancer are sometimes called poorly differentiated or undifferentiated thyroid cancer.

**Stages** are used to describe thyroid cancer based on the type of thyroid cancer and the age of the patient:

- Papillary and follicular thyroid cancer in patients younger than 55 years
- Papillary and follicular thyroid cancer in patients 55 years and older
- Anaplastic thyroid cancer in patients of all ages
- Medullary thyroid cancer in patients of all ages
- Thyroid cancer can recur (come back) after it has been treated.

## Risk Factors

- Being between 25 and 65 years old.
- Being female.
- Being exposed to radiation to the head and neck as an infant or child or being exposed to radioactive fallout. The cancer may occur as soon as 5 years after exposure.
- Having a history of goiter (enlarged thyroid).
- Having a family history of thyroid disease or thyroid cancer.
- Having certain genetic conditions such as familial medullary thyroid cancer (FMTC), multiple endocrine neoplasia type 2A syndrome (MEN2A), or multiple endocrine neoplasia type 2B syndrome (MEN2B).
- Being Asian.

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<p><b>Treatment</b></p>	<p><b>Targeted therapy</b>  <b>Chemotherapy</b>  <b>Watchful waiting</b></p> <p><b>Surgery</b>  Surgery is the most common treatment for thyroid cancer. One of the following procedures may be used:</p> <ul style="list-style-type: none"> <li>• <b>Lobectomy:</b> Removal of the lobe in which thyroid cancer is found. Lymph nodes near the cancer may also be removed and checked under a microscope for signs of cancer.</li> <li>• <b>Near-total thyroidectomy:</b> Removal of all but a very small part of the thyroid. Lymph nodes near the cancer may also be removed and checked under a microscope for signs of cancer.</li> <li>• <b>Total thyroidectomy:</b> Removal of the whole thyroid. Lymph nodes near the cancer may also be removed and checked under a microscope for signs of cancer.</li> <li>• <b>Tracheostomy:</b> Surgery to create an opening (stoma) into the windpipe to help you breathe. The opening itself may also be called a tracheostomy.</li> </ul> <p><b>Radiation therapy</b>, including radioactive iodine therapy  Radiation therapy may be given after surgery to kill any thyroid cancer cells that were not removed.</p> <p><b>Radioactive iodine (RAI) therapy</b></p> <ul style="list-style-type: none"> <li>• Follicular and papillary thyroid cancers are sometimes treated with radioactive iodine (RAI) therapy. RAI is taken by mouth and collects in any remaining thyroid tissue, including thyroid cancer cells that have spread to other places in the body. Since only thyroid tissue takes up iodine, the RAI destroys thyroid tissue and thyroid cancer cells without harming other tissue.</li> <li>• Before a full treatment dose of RAI is given, a small test-dose is given to see if the tumor takes up the iodine.</li> </ul> <p><b>Thyroid hormone therapy</b></p> <ul style="list-style-type: none"> <li>• In the treatment of thyroid cancer, drugs may be given to prevent the body from making thyroid-stimulating hormone (TSH), a hormone that can increase the chance that thyroid cancer will grow or recur.</li> <li>• Also, because thyroid cancer treatment kills thyroid cells, the thyroid is not able to make enough thyroid hormone.</li> <li>• Patients are given thyroid hormone replacement pills.</li> </ul>
<p><b>Possible Side Effects</b></p>	<p><b>Surgery</b></p> <ul style="list-style-type: none"> <li>• <b>Total Thyroidectomy:</b> <ul style="list-style-type: none"> <li>○ Pain and aches in neck and shoulders</li> <li>○ Will need to be on replacement medication</li> <li>○ Hoarseness</li> <li>○ Sore throat</li> <li>○ Difficulty swallowing</li> <li>○ Transient (temporary) hypoparathyroidism can happen after thyroid surgery. Hypoparathyroidism is when you have too little parathyroid hormone, which can lead to low calcium levels.</li> </ul> </li> </ul>

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	<ul style="list-style-type: none"><li>● <b>Tracheotomy:</b><ul style="list-style-type: none"><li>○ Bleeding</li><li>○ Air trapped around the lungs (pneumothorax)</li><li>○ Air trapped in the deeper layers of the chest(pneumomediastinum)</li><li>○ Air trapped underneath the skin around the tracheostomy (subcutaneous emphysema)</li><li>○ Damage to the swallowing tube (esophagus)</li><li>○ Injury to the nerve that moves the vocal cords (recurrent laryngeal nerve)</li><li>○ Tracheostomy tube can be blocked by blood clots, mucus or pressure of the airway walls. Blockages can be prevented by suctioning, humidifying the air, and selecting the appropriate tracheostomy tube. (John Hopkins - Complications and Risks of Tracheostomy <a href="https://www.hopkinsmedicine.org/tracheostomy/about/complications.html">https://www.hopkinsmedicine.org/tracheostomy/about/complications.html</a>)</li></ul></li></ul> <p><b>Radioactive Iodine Treatment</b></p> <ul style="list-style-type: none"><li>● Dry eyes</li><li>● Dry mouth</li><li>● Salivary gland swelling or pain</li><li>● Neck swelling and pain</li></ul> <p><b>Radiation to the neck</b></p> <ul style="list-style-type: none"><li>● Dry, sore mouth and throat</li><li>● Hoarseness</li><li>● Difficulty swallowing</li><li>● Fatigue</li></ul>
<p><b>Recovery after surgery</b></p> <p><i>Information from CETI- Cancer Exercise Training Institute</i></p> <p><b>Please follow MD/surgeon protocol, as every situation is unique.</b></p>	<p><b>Thyroidectomy - Total</b> <b>Hospital Stay:</b> 1 day</p> <ul style="list-style-type: none"><li>➤ <b>Full Recovery:</b> 3-4 weeks</li><li>➤ <b>Restrictions:</b> No heavy lifting, bending or strenuous activity for 3-4 weeks. No lifting over 10 lbs for 2 or more weeks.</li><li>➤ <b>Exercise:</b> Walking. Gentle shoulder rolls and moving head from side to side to prevent stiffness.</li></ul> <p><b>Tracheotomy:</b></p> <ul style="list-style-type: none"><li>➤ <b>Hospital Stay:</b> 3-5 days</li><li>➤ <b>Full Recovery:</b> 6-8 weeks</li><li>➤ <b>Restrictions:</b> No heavy lifting, bending or strenuous activity for 3-4 weeks. No lifting over 5 lbs. for at least weeks.</li><li>➤ <b>Exercise:</b> Walking</li></ul>

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<b>Recommendations</b>	<ul style="list-style-type: none"><li>• Start exercises or stretches after clearance from MD</li><li>• You may have some minor muscle spasms in the upper back and neck. It will be important for you to keep these muscles relaxed, and to maintain normal posture as much as possible to reduce these spasms.</li><li>• Your voice may sound different for a few days to weeks after the surgery. Some patients are hoarse and some have “voice fatigue,” meaning their voice is “tired” at the end of the day. There are a small percentage of patients that will need special voice therapy if your voice does not return in 6-8 weeks.</li></ul>
<b>References</b>	<p>CETI- Cancer Exercise Training Institute: <a href="https://www.thecancerspecialist.com/">https://www.thecancerspecialist.com/</a></p> <p>John Hopkins - Complications and Risks of Tracheostomy <a href="https://www.hopkinsmedicine.org/tracheostomy/about/complications.html">https://www.hopkinsmedicine.org/tracheostomy/about/complications.html</a></p> <p>Thyroid Cancer Treatment (Adult) (PDQ®) – National Cancer Institute <a href="https://www.cancer.gov/types/thyroid/patient/thyroid-treatment-pdq">https://www.cancer.gov/types/thyroid/patient/thyroid-treatment-pdq</a></p> <p>Thyroid Cancer - National Cancer Institute <a href="https://www.cancer.gov/types/thyroid">https://www.cancer.gov/types/thyroid</a></p>