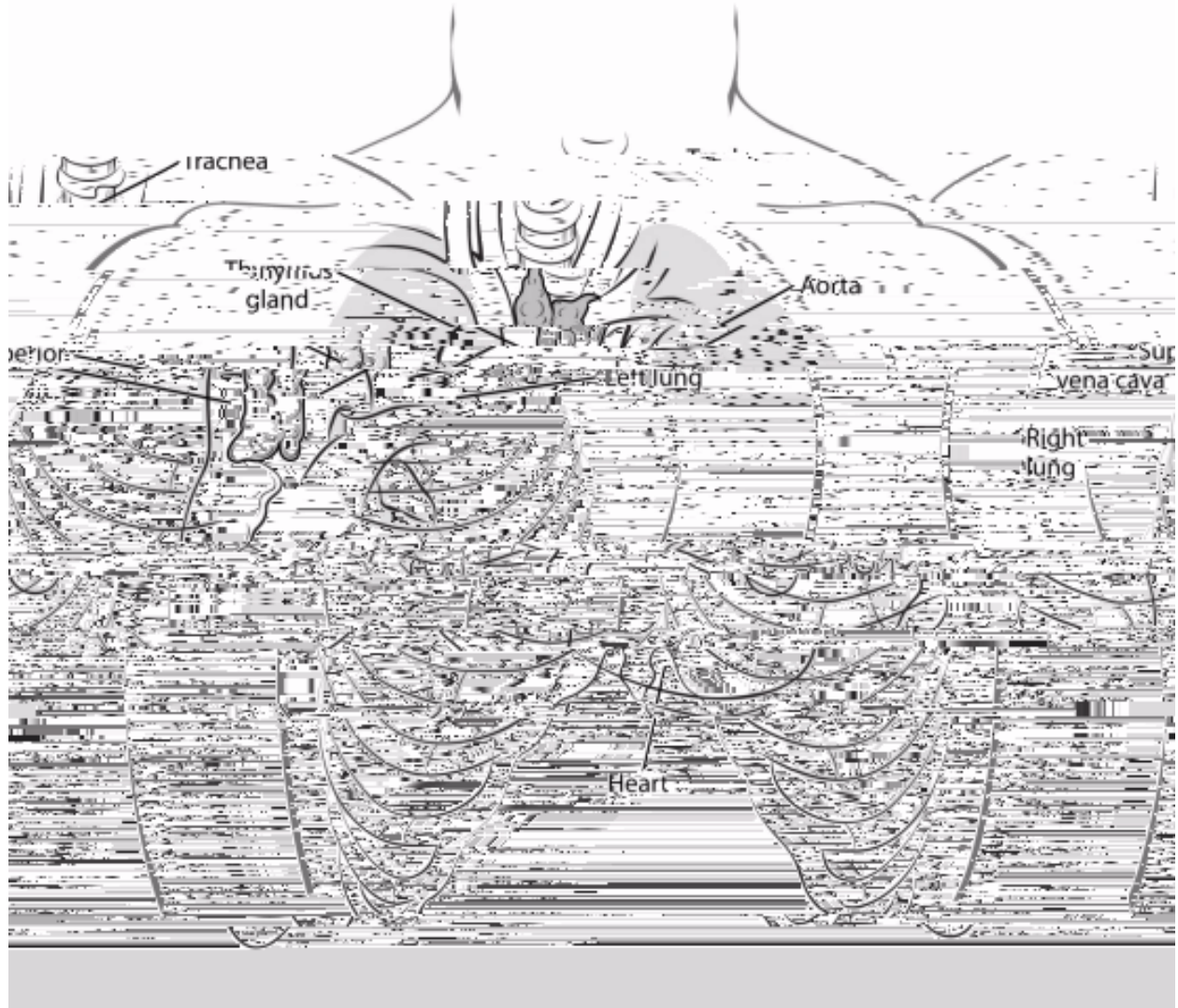




What Is Thymus Cancer?

- [Thymomas and thymic carcinomas](#)
[Thymic neuroendocrine tumors \(TNETs\)](#)



[What Is Cancer?](#) ¹

Cancer starts when cells in the body begin to grow out of control. Cells in nearly any part of the body can become cancer cells. Learn more here.

Lymphatic System

[Anatomy Gallery: Lymphatic System](#) ²

Explore our 3D interactive tour of the lymphatic system.

The thymus has 2 halves, called **lobes**. It has an irregular shape. There are a lot of small bumps called **lobules** on its surface. The thymus has 3 main layers:

- The **medulla** is the inner part of the thymus.
- The **cortex** is the outer layer that surrounds the medulla.
- The **capsule** is the thin covering over the outside of the thymus.

WHO classification system for thymomas

Thymomas are classified by how they look under a microscope and by tests done on the tissue samples. This is called the **histologic type**. The system used for this classification, which is from the World Health Organization (WHO), assigns letters to the different types of thymomas.

Type A: The cells in these tumors are spindle-shaped or oval epithelial cells that are fairly normal looking. This is the rarest type of thymoma, but it seems to have the best outlook.

Type AB: This type, also known as a **mixed thymoma**, looks mostly like type A, but there are also areas of lymphocytes mixed in the tumor.

Type B1: This type looks a lot like the normal structure of the thymus. It has a lot of lymphocytes along with normal-looking thymus cells.

Type B2: This type also has a lot of lymphocytes, but the thymus epithelial cells are larger with abnormal nuclei (the DNA-containing part of the cell).

Type B3: This type has few lymphocytes and is mostly made of thymus epithelial cells that look close to normal.

Types AB and B2 are the most common types of thymoma. Type A is the least common.

Type A tends to have the best outlook, and the outlook for type B3 tends to be the best, common typey 0 mn5

These tumors are rare, so not a lot is known about them. But they are usually treated like similar NETs that start in other parts of the body.

There are several types of TNETs:

- **Typical carcinoid tumors (TCs):** These are low-grade (slow-growing) tumors that rarely spread.
- **Atypical carcinoid tumors (ACs):** These tumors tend to grow a little faster than typical carcinoids and are somewhat more likely to spread to other organs.
- **Large cell neuroendocrine carcinoma (LCNEC).** This is a high-grade cancer that tends to grow quickly and is likely to spread to other parts of the body.
- **Small cell carcinoma.** This is a high-grade cancer, with cells that look like small cell cancers in other parts of the body (such as small cell lung cancer). These cancers tend to grow quickly and to spread to other parts of the body.

For more on how these tumors are typically treated, see [Treating Lung Carcinoid Tumors](#)⁷ and [Treating Small Cell Lung Cancer](#)⁸.

Other cancers and tumors in the mediastinum

Other types of cancers and tumors can also occur in the mediastinum.

Cancers can start in the **esophagus** ([esophageal cancer](#)⁹), in the **heart** (and the tissue surrounding it), in the **and the tissud0h 0 0 rg /GS212 gs ((Tj 0 g20 0.2 0.118 | S0 g ETOhe (((Cg**

1. www.cancer.org/cancer/understanding-cancer/what-is-cancer.html
2. www.cancer.org/cancer/understanding-cancer/anatomy-gallery/lymphatic-system.html
3. www.cancer.org/cancer/types/hodgkin-lymphoma.html
4. www.cancer.org/cancer/types/non-hodgkin-lymphoma.html
5. www.cancer.org/cancer/types/thymus-cancer/detection-diagnosis-staging/staging.html
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7. www.cancer.org/cancer/types/lung-carcinoid-tumor/treating.html
8. www.cancer.org/cancer/types/lung-cancer/treating-small-cell.html
9. www.cancer.org/cancer/types/esophagus-cancer.html
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11. www.cancer.org/cancer/types/thyroid-cancer.html
12. www.cancer.org/cancer/types/lung-cancer.html

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Last Revised: January 15, 2025

Key Statistics About Thymus Cancers

Although thymic tumors (thymomas and thymic carcinomas) are the most common tumors in the anterior mediastinum (the front part of the space between the lungs), overall they are rare. They occur at a rate of only 1.3 cases for every million people each year in the US. This works out to about 400 cases per year. (The exact number diagnosed each year is not known.)

Survival statistics for thymomas are discussed in [Survival rates for thymus cancer](#)¹.

Hyperlinks

1. www.cancer.org/cancer/types/thymus-cancer/detection-diagnosis-staging/survival-rates.html

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Kaidar-Person O, Zagar T, Haithcock BE, Weiss J. Chapter 70: Diseases of the Pleura and Mediastinum. In: Niederhuber JE, Armitage JO, Doroshow JH, Kastan MB, Tepper JE, eds. *Abeloff's Clinical Oncology*. 6th ed. Philadelphia, Pa. Elsevier: 2019.

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Last Revised: December 6, 2024

What's New in Thymus Cancer Research?

There's always research going on in the area of thymic tumors (thymomas and thymic carcinomas). Scientists are looking for causes of thymic tumors, and doctors are looking for better ways to find, classify, and treat them.

- [Testing thymus tumors](#)
- [Treating thymus tumors](#)

Testing thymus tumors

Researchers are looking for more accurate ways of predicting how aggressive a tumor is so the best treatment can be chosen. This includes looking at the gene changes

recovery time.

For smaller thymus tumors, some surgeons now operate through several smaller cuts, using long, thin surgical instruments, including one with a tiny video camera on the end. This is known as a **minimally invasive thymectomy (MIT)**.

This can be done with the surgeon either holding the tools directly (**video-assisted thoracoscopic surgery, or VATS**), or sitting at a control panel and moving very precise robotic arms with tools on the ends (**robotic-assisted thoracoscopic surgery, or RATS**). These approaches generally result in less pain after surgery (because of the smaller incisions), as well as a quicker recovery time. They might have other

Chemotherapy can often help shrink thymus tumors, but it doesn't always work, and it can have serious side effects. Other types of drugs might be helpful in some situations.

Targeted drugs

As researchers have learned more about what makes cancer cells different from normal cells, they have been able to make drugs that target these differences. These [targeted drugs](#)² affect parts of cancer cells that make them different, or even the blood vessels they need to grow.

Some targeted drugs might be an option to treat thymus tumors, typically when chemo is no longer working. Many other targeted drugs are now being studied for use against thymus tumors as well.

Immunotherapy

[Immunotherapy](#)³ uses medicines to help the body's own immune system attack cancer cells. It's becoming an increasingly important part of the treatment of many types of cancer.

Some studies have shown that immunotherapy might be helpful in treating thymus tumors as well. This is an active area of research.

Hyperlinks

1. www.cancer.org/cancer/types/thymus-cancer/treating/radiation-therapy.html
2. www.cancer.org/cancer/managing-cancer/treatment-types/targeted-therapy.html
3. www.cancer.org/cancer/managing-cancer/treatment-types/immunotherapy.html

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