About Gastrointestinal Stromal Tumor

Overview and Types

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

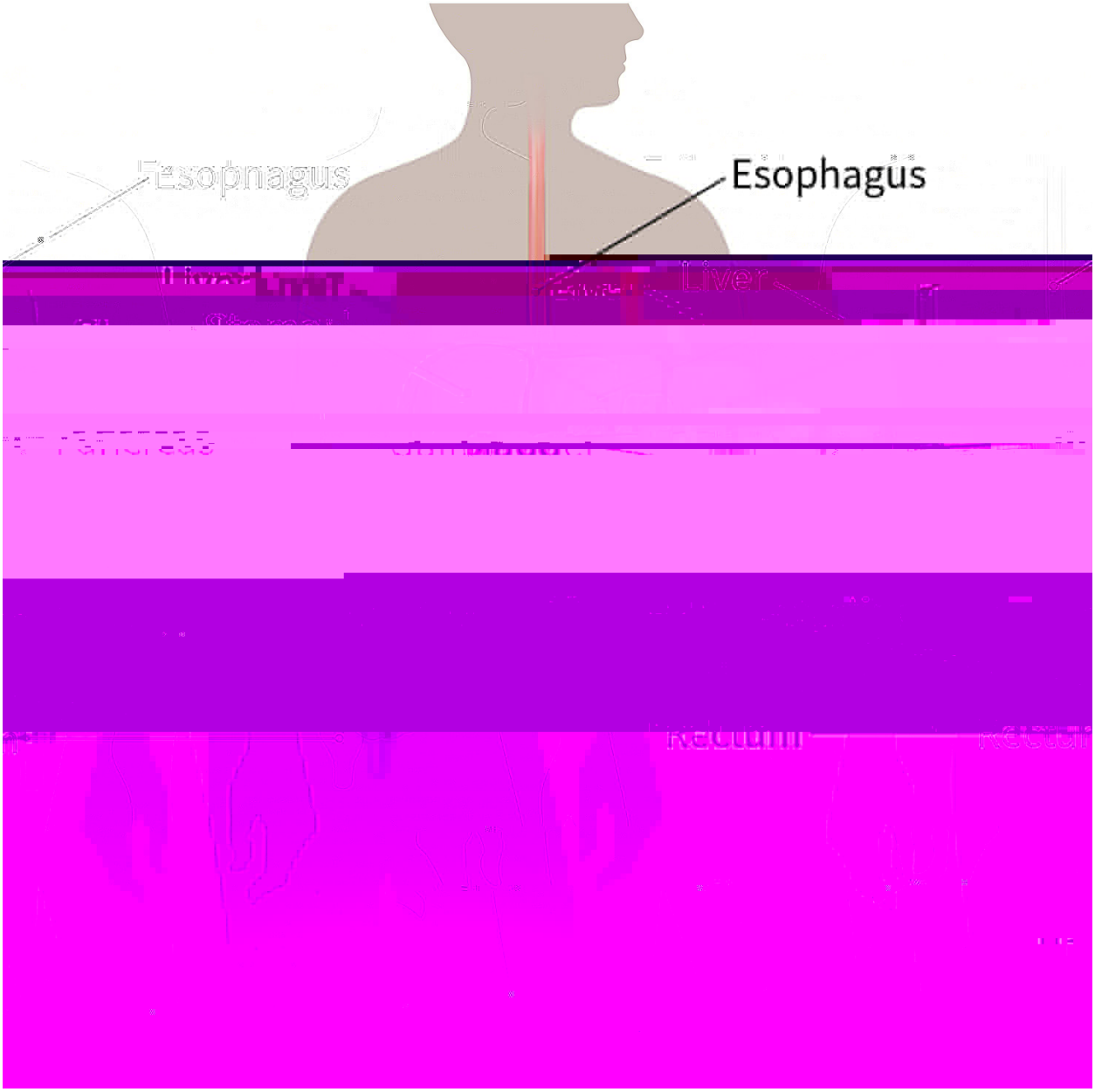
cells in the wall of the gastrointestinal (GI) tract, also known as the digestive tract. To understand GISTs, it helps to know something about the structure and function of the GI tract.

How the gastrointestinal (GI) tract works

The GI tract processes food for energy and rids the body of solid waste. After food is chewed and swallowed, it goes through the esophagus, a tube that carries food down the throat and chest to the stomach. The esophagus joins the stomach just beneath the diaphragm (the thin band of muscle below the lungs).

The stomach is a sac-like organ that helps the digestive process by mixing the food with gastric juices. The food and gastric juices are then emptied into the small intestine. The small intestine, which is about 20 feet long, continues breaking down the food and absorbs most of the nutrients into the bloodstream.

The small intestine joins the large intestine, the first part of which is the colon, a muscular tube about 5 feet long. The colon absorbs water and mineral nutrients from the remaining food matter. The waste left after this process (stool) goes into the rectum, where it is stored until it passes out of the body through the anus.



Gastrointestinal stromal tumors

Gastrointestinal stromal tumors (GISTs) start in very early forms of special cells in the wall of the GI tract called the **interstitial cells of Cajal** (ICCs). ICCs are sometimes called the “pacemakers” of the GI tract because they signal the muscles in the GI tract to contract to move food and liquid along.

More than half of GISTs start in the stomach. Most of the others start in the small intestine, but GISTs can start anywhere along the GI tract. A small number of GISTs

support and protect nerves

GISTs are different from these other types of GI tract cancers. They start in different types of cells, need different types of treatment, and have a different prognosis (outlook). This is why doctors need to figure out whether a person with a tumor in the GI tract has a GIST, some other type of cancer, or a non-cancerous condition.

Hyperlinks

1. www.cancer.org/treatment/understanding-your-diagnosis/what-is-cancer.html
2. www.cancer.org/cancer/gastrointestinal-stromal-tumor/detection-diagnosis-staging/how-diagnosed.html
3. www.cancer.org/cancer/gastrointestinal-carcinoid-tumor.html
4. www.cancer.org/cancer/soft-tissue-sarcoma.html

References

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Morgan J, Raut CP, Duensing A, Keedy VL. Epidemiology, classification, clinical presentation, prognostic features, and diagnostic work-up of gastrointestinal stromal tumors (GIST). UpToDate. 2019. Accessed at https://www.uptodate.com/contents/epidemiology-classification-clinical-presentation-prognostic-features-and-diagnostic-work-up-of-gastrointestinal-stromal-tumors-gist on October 14, 2019.

National Cancer Institute. Physician Data Query (PDQ). Gastrointestinal Stromal Tumors Treatment. 2018. Accessed at www.cancer.gov/types/soft-tissue-sarcoma/hp/gist-treatment-pdq on October 14, 2019.

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Key Statistics for Gastrointestinal Stromal Tumors

Gastrointestinal stromal tumors (GISTs) are not common, and the exact number of people diagnosed with these tumors each year is not known. Until the late 1990s, not much was known about these tumors (and doctors didn't have good ways of identifying them with lab tests), so many of them ended up being classified as other kinds of cancers.

Current estimates for the total number of GIST cases diagnosed each year in the United States range from about 4,000 to about 6,000.

These tumors can start anywhere in the GI tract, but they occur most often in the stomach (about 60%) or the small intestine (about 35%). Most of the rest are found in the esophagus, colon, and rectum. A small number develop in the abdomen outside the GI tract.

GISTs are most commonly found in people over the age of 50. These tumors are rare in people younger than 40, but they can develop in people of any age.

Survival statistics for people with GIST tumors are discussed in Survival Rates for Gastrointestinal Stromal Tumors[1].

Hyperlinks

1. www.cancer.org/cancer/gastrointestinal-stromal-tumor/detection-diagnosis-staging/survival-rates.html

References

American Joint Committee on Cancer. Chapter 43: Gastrointestinal stromal tumors. In: *AJCC Cancer Staging Manual*. 8th ed. New York, NY: Springer; 2017.

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What's New in Gastrointestinal Stromal Tumor Research?

Research on gastrointestinal stromal tumors (GISTs) is being done in many medical centers and other institutions around the world. Scientists are learning more about what causes these tumors and how best to treat them. There has been a great deal of progress in recent years, especially in treating GISTs.

Targeted therapy drugs

As researchers have come to understand more about the genetic changes[1] that cause these tumors, they've been able to use newer targeted treatments (sometimes called precision medicines) to attack cancer cells with these changes. For example, mutations in the *KIT* or *PDGFRA* genes are present in the cells of most GISTs.

Targeted therapy drugs[2] like imatinib (Gleevec), sunitinib (Sutent), regorafenib (Stivarga), and ripretinib (Qinlock) can affect cells with these gene changes and are often helpful in treating GISTs, but they tend to stop working over time. Doctors still

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