About Small Intestine Cancer

Overview and Types

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

- What Is a Small Intestine Cancer?

Research and Statistics

See the latest estimates for new cases of small intestine cancer and deaths in the US and what research is currently being done.

- Key Statistics for Small Intestine Cancer
- What's New in Small Intestine Cancer (Adenocarcinoma) Research?

What Is a Small Intestine Cancer?

Cancer starts when cells in the body begin to grow out of control. Cells in nearly any part of the body can become cancer, and can spread to other areas of the body. To learn more about how cancers start and spread, see What Is Cancer?[1]

Small intestine cancer starts when cells in the small intestine start to grow out of control. The small intestine is part of the gastrointestinal (GI) tract, also known as the digestive tract. The GI tract processes food for energy and rids your body of solid waste.

Although the small intestine makes up the largest part of the GI tract, small intestine cancers are much less common than most other types of GI cancers (such as colon, rectal, stomach, and esophagus cancers) in the United States.

How the small intestine works

To understand small intestine cancer, it helps to know about the small intestine and how it works.

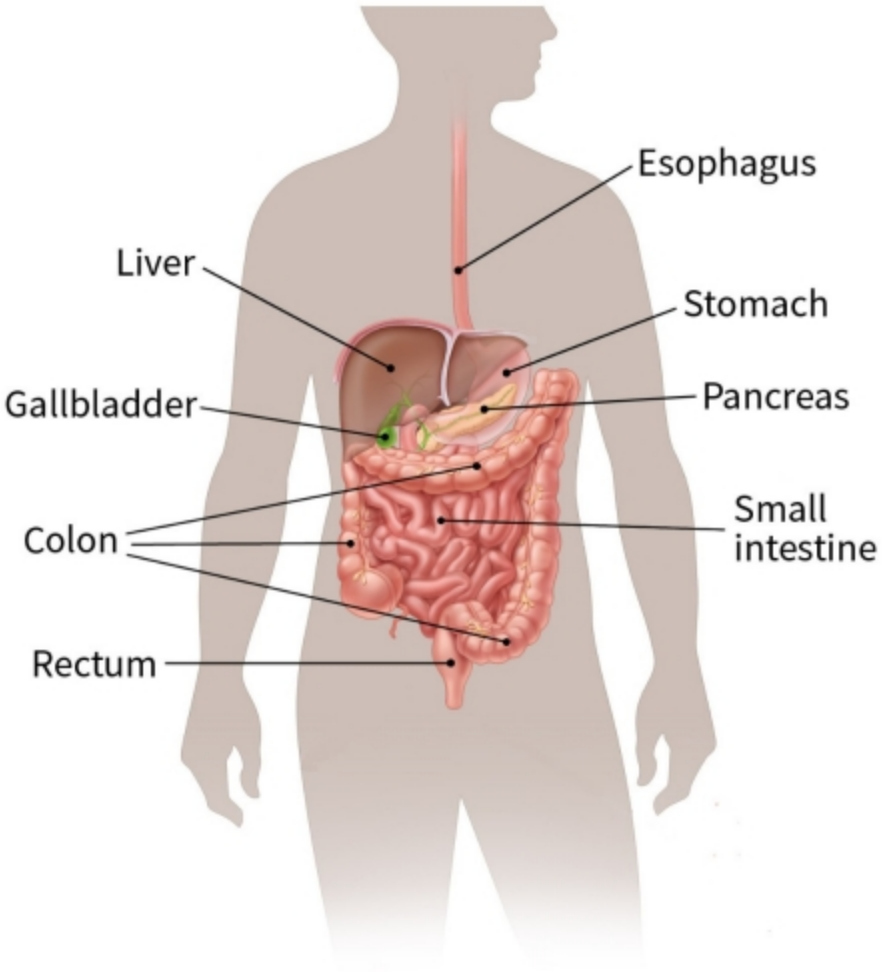
After you chew and swallow your food, it goes through the **esophagus**, a tube that carries food through the neck and chest and into the **stomach**. The stomach is a sac-like organ that helps the digestive process by mixing the food with gastric juices.

The food and gastric juices are mixed into a thick fluid, which is then emptied into the **small intestine** (also known as the **small bowel**). The small intestine continues breaking down the food and absorbs most of the nutrients. Even though it's called the small intestine, it's actually the longest section of the GI tract (about 20 feet long).

The small intestine has 3 sections.

- The **duodenum:** This is the first section and is only about a foot long. A short distance from where the duodenum attaches to the stomach, the pancreatic duct and bile duct enter the duodenum at the *ampulla of Vater.* Fluids from the pancreas and liver enter the small intestine here, helping to further digest the food.
- The **jejunum** and **ileum:** These parts make up most of the small intestine, and are where most of the nutrients in food are absorbed into the bloodstream.

The ileum empties into the **colon** (the first part of the large intestine). This muscular tube is about 4 to 5 feet long. It absorbs water and some remaining mineral nutrients from the food matter. The waste left after this process goes into the **rectum**, where it is stored until it passes out of the body through the **anus**.



Types of small intestine cancers

The small intestine is made up of many different types of cells, so different types of cancer can start here. The 4 major types of small intestine cancers are:

- **Adenocarcinomas:** These cancers start in the gland cells that line the inside of the intestine. They account for about 1 in 3 small intestine cancers.
- **Carcinoid tumors:** These tumors are a type of neuroendocrine tumor (NET), and they tend to be slow growing. They are the most common type of small intestine tumor. To learn more, see Gastrointestinal Carcinoid Tumors[2].
- **Lymphomas:** These cancers start in immune cells called lymphocytes. Lymphomas can start almost anywhere in the body, including the small intestine. For more on these cancers, see Non-Hodgkin Lymphoma[3].
- **Sarcomas:** These are cancers that start in connective tissues, such as muscle.

The most common sarcomas in the intestine are known as gastrointestinal stromal tumors (GISTs)[4].

Most experts think that cancer of the small intestine develops much like colorectal cancer. It first begins as a small growth on the inner lining of the intestine, called a *polyp*. Over time, the polyp can change into a cancer.

Most small intestinal cancers (especially adenocarcinomas) develop in the duodenum. Cancers that develop in the duodenum are often found at the ampulla of Vater. But because this area is closely associated with the pancreas, cancers of the ampulla of Vater (also known as ampullary cancers) are treated like pancreatic cancer[5].

Hyperlinks

1. www.cancer.org/cancer/cancer-basics/what-is-cancer.html
2. www.cancer.org/cancer/gastrointestinal-carcinoid-tumor.html
3. www.cancer.org/cancer/non-hodgkin-lymphoma.html
4. www.cancer.org/cancer/gastrointestinal-stromal-tumor.html
5. www.cancer.org/cancer/pancreatic-cancer.html

References

Chamberlain RS, Krishnaraj M, Shah SA. Chapter 54: Cancer of the Small Bowel. In: DeVita VT, Lawrence TS, Rosenberg SA, eds. *DeVita, Hellman, and Rosenberg's Cancer: Principles and Practice of Oncology*. 10th ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2015.

Doyon L, Greenstein A, Greenstein A. Chapter 76: Cancer of the Small Bowel. In: Niederhuber JE, Armitage JO, Doroshow JH, Kastan MB, Tepper JE, eds. *Abeloff's Clinical Oncology*. 5th ed. Philadelphia, Pa: Elsevier; 2014.

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Key Statistics for Small Intestine Cancer

Although the small intestine makes up the largest part of the gastrointestinal (GI) tract, small intestine cancers are rare in the United States. In fact, they account for fewer than 1 in 10 cancers of the gastrointestinal (GI) tract, and fewer than 1 in 100 cancers overall.

The American Cancer Society estimates for these cancers in the United States for 2020 are:

- About 11,110 people will be diagnosed with some type of small intestine cancer.
- About 1,700 people will die of small intestine cancer.

Cancers of the small intestine tend to occur more often in older people. They are most often found in people in their 60s and 70s.

Visit the American Cancer Society's Cancer Statistics Center[1] for more key statistics.

Hyperlinks

1. https://cancerstatisticscenter.cancer.org/

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American Cancer Society. *Cancer Facts & Figures 2020*. Atlanta, GA: American Cancer Society; 2020.

Chamberlain RS, Krishnaraj M, Shah SA. Chapter 54: Cancer of the Small Bowel. In: DeVita VT, Lawrence TS, Rosenberg SA, eds. *DeVita, Hellman, and Rosenberg's Cancer: Principles and Practice of Oncology*. 10th ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2015.

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What's New in Small Intestine Cancer (Adenocarcinoma) Research?

*(**Note:** This information is about small intestine cancers called adenocarcinomas. To learn about other types of cancer that can start in the small intestine, see Gastrointestinal Carcinoid Tumors[1], Gastrointestinal Stromal Tumors[2], or Non-Hodgkin Lymphoma[3].)*

Important research on small intestine cancers is going on in many university hospitals, medical centers, and other institutions around the world. Scientists are learning more about what causes the disease and how best to treat it.

Small intestine cancer is studied less often than some of the other gastrointestinal (GI) cancers because it is much less common. Still, some studies are looking at better ways to treat this disease.

Most small intestine cancers look very similar to colon cancers under a microscope, but detailed studies of the chromosomes and DNA in their cancer cells have found some differences. Researchers hope that these findings will eventually lead to more specific and effective treatments for small intestine cancer.

In the meantime, some studies are looking for better ways to treat this cancer with chemotherapy[4]. For example, a few small studies have explored the use of intraperitoneal chemotherapy, in which chemo is put directly into the abdomen right after surgery, to treat small intestine cancer that has spread throughout the abdomen.

Researchers are also studying whether giving treatments such as chemotherapy or radiation therapy either before surgery (neoadjuvant treatment) or after surgery (adjuvant treatment) can help improve outcomes.

Other studies are looking to see if targeted therapy[5] drugs could be helpful. Unlike chemotherapy, these drugs attack specific parts of cancer cells (or nearby cells) that make them different from normal cells. Several types of targeted drugs are now being studied. One example is bevacizumab (Avastin), a drug that targets the new blood vessels that tumors need to grow. Some early research has found it might be helpful when added to chemotherapy.

A promising newer area of cancer treatment is immunotherapy[6], which helps a person's own immune system attack cancer cells. Immunotherapy drugs called checkpoint inhibitors[7] have been found to be helpful in treating many types of cancer, and some of them are now being studied for use against small intestine cancer. These drugs might be especially useful in people whose cancers have changes in certain genes (called *mismatch repair*, or MMR genes).

Some studies of colon cancer other GI cancers may also prove useful for small intestine cancer. These studies involve early detection, drug treatment, surgical methods, and understanding the cause of these cancers.

Hyperlinks

1. www.cancer.org/cancer/gastrointestinal-carcinoid-tumor.html
2. www.cancer.org/cancer/gastrointestinal-stromal-tumor.html
3. www.cancer.org/cancer/non-hodgkin-lymphoma.html
4. www.cancer.org/cancer/small-intestine-cancer/treating/chemotherapy.html
5. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/targeted-therapy.html
6. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/immunotherapy.html
7. www.cancer.org/treatment/treatments-and-side-effects/treatment-types/immunotherapy/immune-checkpoint-inhibitors.html

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