

# Small Intestine Cancer

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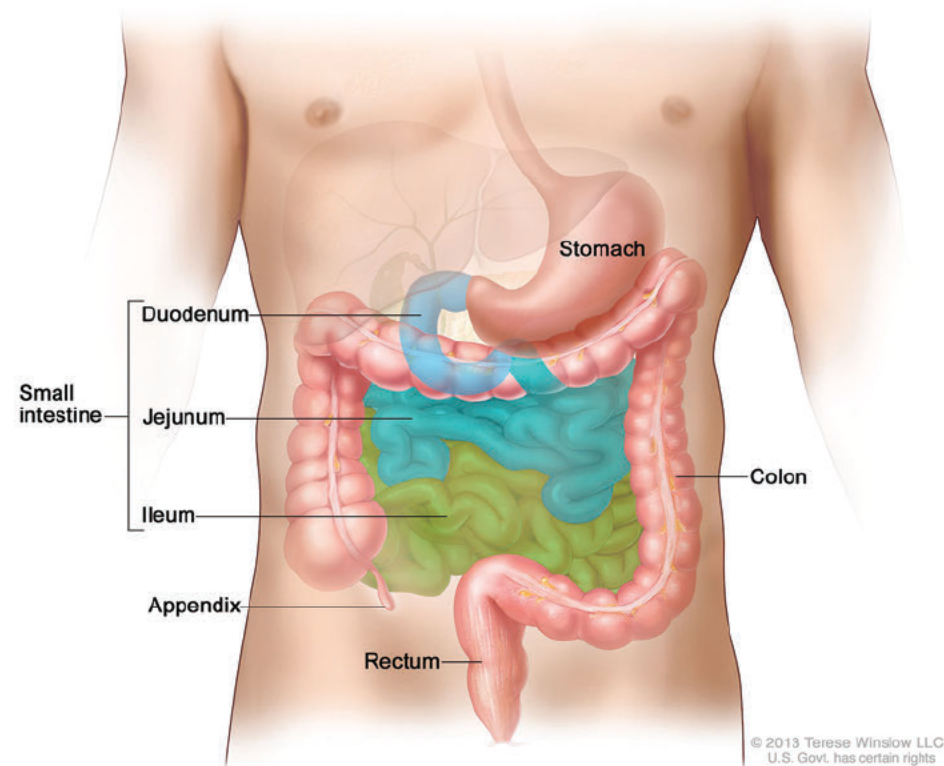
## General Information About Small Intestine Cancer

### KEY POINTS

- Small intestine cancer is a rare disease in which malignant (cancer) cells form in the tissues of the small intestine.
- There are five types of small intestine cancer.
- Diet and health history can affect the risk of developing small intestine cancer.
- Signs and symptoms of small intestine cancer include unexplained weight loss and abdominal pain.
- Tests that examine the small intestine are used to detect (find), diagnose, and stage small intestine cancer.

**Small intestine cancer** is a rare disease in which malignant (cancer) cells form in the tissues of the small intestine. The small intestine is part of the body's digestive system which also includes the esophagus, stomach, and large intestine. The digestive system removes and processes nutrients (vitamins, minerals, carbohydrates, fats, proteins, and water) from foods and helps pass waste material out of the body. The small intestine is a long tube that connects the stomach to the large intestine. It folds many times to fit inside the abdomen.

### Parts of the Small Intestine



The small intestine connects the stomach and the colon. It includes the duodenum, jejunum, and ileum.

## Types of Small Intestine Cancer

There are five types of small intestine cancer.

- Adenocarcinoma
- Sarcoma
- Carcinoid tumors
- Gastrointestinal stromal tumors (GIST)
- Lymphoma

The most common type of small intestine cancer is adenocarcinoma. This cancer starts in glandular cells in the lining of the small intestine. Most of these tumors occur in the part of the small intestine near the stomach. They may grow and block the intestine.

### Diet and health history can affect the risk of developing small intestine cancer.

Risk factors for small intestine cancer include the following:

- Eating a high fat diet.
- Having Crohn's disease.
- Having celiac disease.
- Having familial adenomatous polyposis (FAP).

## Signs and Symptoms

These and other signs and symptoms may be caused by small intestine cancer or by other conditions. Check with your doctor if you have any of the following:

- Pain or cramps in the middle of the abdomen.
- Weight loss with no known reason.
- A lump in the abdomen.
- Blood in the stool.

## Testing

Tests that examine the small intestine are used to diagnose small intestine cancer and show how far the cancer has spread. The following are tests and procedures that may be used:

- **Physical exam and health history:** An exam of the body to check general signs of health, including checking for signs of disease, such as lumps or anything else that seems unusual. A history of the patient's health habits and past illnesses and treatments will also be taken.
- **Blood chemistry studies:** A procedure in which a blood sample is checked to measure the amounts of certain substances released into the blood by organs and tissues in the body. An unusual (higher or lower than normal) amount of a substance can be a sign of disease.
- **Liver function tests:** A procedure in which a blood sample is checked to measure the amounts of certain substances released into the blood by the liver. A higher than normal amount of a substance can be a sign of liver disease that may be caused by small intestine cancer.

- **Endoscopy:** A procedure to look at organs and tissues inside the body to check for abnormal areas.

These different types of endoscopies include the following:

**Upper endoscopy:** A procedure to look at the inside of the esophagus, stomach, and duodenum (first part of the small intestine, near the stomach). An endoscope is inserted through the mouth and into the esophagus, stomach, and duodenum. An endoscope is a thin, tube like instrument with a light and a lens for viewing. It may also have a tool to remove tissue samples which are checked under a microscope for signs of cancer.

**Capsule endoscopy:** A procedure to look at the inside of the small intestine. A capsule that is about the size of a large pill and contains a light and a tiny wireless camera is swallowed by the patient. The capsule travels through the digestive tract including the small intestine and sends many pictures of the inside of the digestive tract to a recorder that is worn around the waist or over the shoulder. The pictures are sent from the recorder to a computer and viewed by the doctor who checks for signs of cancer. The capsule passes out of the body during a bowel movement.

**Double balloon endoscopy:** A procedure to look at the inside of the small intestine. A special instrument made up of two tubes (one inside the other) is inserted through the mouth or rectum and into the small intestine. The inside tube (an endoscope with a light and lens for viewing) is moved through part of the small intestine, and a balloon at the end of it is inflated to keep the endoscope in place. Next, the outer tube is moved through the small intestine to reach the end of the endoscope, and a balloon at the end of the outer tube is inflated to keep it in place. Then, the balloon at the end of the endoscope is deflated, and the endoscope is moved through the next part of the small intestine. These steps are repeated many times as the tubes move through the small intestine. The doctor is able to see the inside of the small intestine through the endoscope and use a tool to remove samples of abnormal tissue. The tissue samples are checked under a microscope for signs of cancer. This procedure may be done if the results of a capsule endoscopy are abnormal. This procedure is also called double balloon enteroscopy.

- **Laparotomy:** A surgical procedure in which an incision (cut) is made in the wall of the abdomen to check the inside of the abdomen for signs of disease. The size of the incision depends on the reason the laparotomy is being done. Sometimes organs or lymph nodes are removed, or tissue samples are taken and checked under a microscope for signs of disease.
- **Biopsy:** The removal of cells or tissues, so they can be viewed under a microscope to check for signs of cancer. This may be done during an endoscopy or laparotomy. The sample is checked by a pathologist to see if it contains cancer cells.
- **Upper GI series with small bowel follow-through:** A series of x rays of the esophagus, stomach, and small bowel. The patient drinks a liquid that contains barium (a silver white metallic compound). The liquid coats the esophagus, stomach, and small bowel. X rays are taken at different times as the barium travels through the upper GI tract and small bowel.
- **CT scan (CAT scan):** A procedure that makes a series of detailed pictures of areas inside the body taken from different angles. The pictures are made by a computer linked to an x ray machine. A dye may be injected into a vein or swallowed to help the organs or tissues show up more clearly. This procedure is also called computed tomography, computerized tomography, or computerized axial tomography.
- **MRI (magnetic resonance imaging):** A procedure that uses a magnet, radio waves, and a computer to make a series of detailed pictures of areas inside the body. This procedure is also called nuclear magnetic resonance imaging (NMRI).

## Prognosis Factors

Certain factors affect the prognosis (chance of recovery) and treatment options. The prognosis and treatment options depend on the following:

- The type of small intestine cancer.
- Whether the cancer is in the inner lining of the small intestine only or has spread into or beyond the wall of the small intestine.
- Whether the cancer has spread to other places in the body such as the lymph nodes, liver, or peritoneum (tissue that lines the wall of the abdomen and covers most of the organs in the abdomen).
- Whether the cancer can be completely removed by surgery.
- Whether the cancer is newly diagnosed or has recurred.

## Stages of Small Intestine Cancer

### KEY POINTS

- Tests and procedures to stage small intestine cancer are usually done at the same time as diagnosis.
- There are three ways that cancer spreads in the body.
- Cancer may spread from where it began to other parts of the body.
- Small intestine cancer is grouped according to whether or not the tumor can be completely removed by surgery.

Tests and procedures to stage small intestine cancer are usually done at the same time as diagnosis. Staging is used to find out how far the cancer has spread, but treatment decisions are not based on stage.

## Possible Spreading of Cancer

**There are three ways that cancer spreads in the body.** Cancer can spread through tissue, the lymph system, and the blood.

- **Tissue:** The cancer spreads from where it began by growing into nearby areas.
- **Lymph system:** The cancer spreads from where it began by getting into the lymph system. The cancer travels through the lymph vessels to other parts of the body.
- **Blood:** The cancer spreads from where it began by getting into the blood. The cancer travels through the blood vessels to other parts of the body.

Cancer may spread from where it began to other parts of the body. When cancer spreads to another part of the body, it is called metastasis. Cancer cells break away from where they began (the primary tumor) and travel through the lymph system or blood. The metastatic tumor is the same type of cancer as the primary tumor. For example, when small intestine cancer spreads to the liver, the cancer cells in the liver are actually small intestine cancer cells. The disease is metastatic small intestine cancer and not liver cancer.

**Small intestine cancer is grouped according to whether or not the tumor can be completely removed by surgery.**

Treatment depends on whether the tumor can be removed by surgery and if the cancer is being treated as a primary tumor or is metastatic cancer.

## Recurrent Small Intestine Cancer

Recurrent small intestine cancer is cancer that has recurred (come back) after it has been treated. The cancer may come back in the small intestine or in other parts of the body.

## Treatment Option Overview

### KEY POINTS

- There are different types of treatments for patients with small intestine cancer.
- Three types of standard treatments are used:
  - Surgery
  - Radiation therapy
  - Chemotherapy
- New types of treatments are being tested in clinical trials.
- Biologic therapy.
- Radiation therapy with radiosensitizers.
- Treatment for small intestine cancer may cause side effects.
- Patients may want to think about taking part in a clinical trial.
- Patients can enter clinical trials before, during, or after starting their cancer treatment.
- Follow up tests may be needed.

## Treatment Options for Patients with Small Intestine Cancer

There are different types of treatments for patients with small intestine cancer. Some treatments are standard (the currently used treatment), and some are being tested in clinical trials. A treatment clinical trial is a research study meant to help improve current treatments or obtain information on new treatments for patients with cancer. When clinical trials show that a new treatment is better than the standard treatment, the new treatment may become the standard treatment. Patients may want to think about taking part in a clinical trial. Some clinical trials are open only to patients who have not started treatment.

### Three types of standard treatments are used:

#### Surgery

Surgery is the most common treatment of small intestine cancer. One of the following types of surgery may be done:

- **Resection:** Surgery to remove part or all of an organ that contains cancer. The resection may include the small intestine and nearby organs (if the cancer has spread). The doctor may remove the section of the small intestine that contains cancer and perform an anastomosis (joining the cut ends of the intestine together). The doctor will usually remove lymph nodes near the small intestine and examine them under a microscope to see whether they contain cancer.
- **Bypass:** Surgery to allow food in the small intestine to go around (bypass) a tumor that is blocking the intestine but cannot be removed.

## Radiation Therapy

Radiation therapy is a cancer treatment that uses high energy x rays or other types of radiation to kill cancer cells or keep them from growing. There are two types of radiation therapy:

- **External radiation therapy:** This type of radiation uses a machine outside the body to send radiation toward the area of the body with cancer.
- **Internal radiation therapy:** This type of radiation uses a radioactive substance sealed in needles, seeds, wires, or catheters that are placed directly into or near the cancer.

The way the radiation therapy is given depends on the type and stage of the cancer being treated. External and internal radiation therapies are used to treat small intestine cancer.

## Chemotherapy

Chemotherapy is a cancer treatment that uses drugs to stop the growth of cancer cells either by killing the cells or by stopping the cells from dividing.

When chemotherapy is taken by mouth or injected into a vein or muscle, the drugs enter the bloodstream and can reach cancer cells throughout the body (systemic chemotherapy).

When chemotherapy is placed directly into the cerebrospinal fluid, an organ, or a body cavity such as the abdomen, the drugs mainly affect cancer cells in those areas (regional chemotherapy).

The way the chemotherapy is given depends on the type and stage of the cancer being treated.

## Biologic Therapy

Biologic therapy is a treatment that uses the patient's immune system to fight cancer. Substances made by the body or made in a laboratory are used to boost, direct, or restore the body's natural defenses against cancer. This type of cancer treatment is also called biotherapy or immunotherapy.

## Radiation Therapy with Radiosensitizers

Radiosensitizers are drugs that make tumor cells more sensitive to radiation therapy. Combining radiation therapy with radiosensitizers may kill more tumor cells.

## Recurrent Small Intestine Cancer

Treatment of recurrent small intestine cancer that has spread to other parts of the body is usually a clinical trial of new anticancer drugs or biologic therapy.

Treatment of locally recurrent small intestine cancer may include the following:

- Surgery.
- Radiation therapy or chemotherapy as palliative therapy to relieve symptoms and improve the patient's quality of life.
- A clinical trial of radiation therapy with radiosensitizers with or without chemotherapy.

## Clinical Trials

For some patients, taking part in a clinical trial may be the best treatment choice. Clinical trials are part of the cancer research process. Clinical trials are done to find out if new cancer treatments are safe and effective or better than the standard treatment.

Many of today's standard treatments for cancer are based on earlier clinical trials. Patients who take part in a clinical trial may receive the standard treatment or be among the first to receive a new treatment.

Patients who take part in clinical trials also help improve the way cancer will be treated in the future. Even when clinical trials do not lead to effective new treatments, they often answer important questions and help move research forward.

### **Patients can enter clinical trials before, during, or after starting their cancer treatment.**

Some clinical trials only include patients who have not yet received treatment. Other trials test treatments for patients whose cancer has not gotten better. There are also clinical trials that test new ways to stop cancer from recurring (coming back) or reduce the side effects of cancer treatment.

Check the list of NCI supported cancer clinical trials that are now accepting patients with small intestine cancer. For more specific results, refine the search by using other search features such as the location of the trial, the type of treatment, or the name of the drug. Talk with your doctor about clinical trials that may be right for you. General information about clinical trials is available from the following NCI website:

[www.cancer.gov/about\\_cancer/treatment/clinical\\_trials](http://www.cancer.gov/about_cancer/treatment/clinical_trials)

### **Follow-up tests may be needed.**

Some of the tests that were done to diagnose the cancer or to find out the stage of the cancer may be repeated. Some tests will be repeated in order to see how well the treatment is working. Decisions about whether to continue, change, or stop treatment may be based on the results of these tests.

Some of the tests will continue to be done from time to time after treatment has ended. The results of these tests can show if your condition has changed or if the cancer has recurred (come back). These tests are sometimes called follow up test or check ups.

## Notes

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For more information and related links visit: [www.cancer.gov/types/small-intestine](http://www.cancer.gov/types/small-intestine)

Resource: PDQ® Adult Treatment Editorial board. PDQ Small Intestine Cancer Treatment. Bethesda, MD: National Cancer Institute. Available at <https://www.cancer.gov/types/small-intestine/patient/small-intestine-treatment-pdq>. Accessed 08/06/2021.

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