

Stomach cancer risk factor information

This document gives a general overview of risk factors. The document covers:

- About cancer and risk factors
- About stomach cancer
- Types of stomach cancer
- Known risk factors
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About cancer and risk factors

Cancer is not just one disease.

Cancer is a group of over 100 different diseases. Cancer occurs when abnormal cells grow out of control and crowd out the normal cells. It can start anywhere in the body and can spread (“metastasize”) to other parts of the body. Cancer types are named for the original location in the body and the type of cell or tissue. Different types of cancer have different causes and risk factors.

Cancer can take a long time to develop.

The cause of cancer is sometimes related to events that happened many years ago. Most cancer types are thought to take anywhere from 10 to over 50 years to develop. A few types, such as leukemia or lymphoma, are thought to take less than 10 years.

A risk factor is anything that increases your chance of getting cancer.

Some risk factors can be controlled while others cannot. Risk factors can include:

- Hereditary conditions (such as genes passed down from parents)
- Medical conditions or treatments (such as a previous cancer diagnosis)
- Infections (such as human papilloma virus [HPV])
- Lifestyle factors (such as smoking cigarettes)
- Environmental exposures (such as certain air pollutants)

Most risk factors do not directly cause cancer.

A risk factor influences the development of cancer but usually does not directly cause cancer. Instead, a combination of risk factors likely drives cancer development. For example, genetic factors can make individuals more likely to get cancer when they are exposed to a cancer-causing chemical.

Environmental risk factors depend on how, how much, and how long you are exposed.

Your risk from exposure to certain chemicals or radiation depends on the type, extent, and duration of exposure. For example, breathing a certain chemical may increase your risk of getting cancer. However, touching the same chemical may not. In addition, some substances may increase your risk only if you are exposed to high amounts over a long time.

It is difficult to identify the exact causes of cancer.

- Many cancers can develop due to random chance.
- Multiple risk factors can act in combination.
- Risk factors can change over time.
- Cancer might not develop or get diagnosed for a long time after an initiating event (such as exposure or random cell mutation).

Knowing your risk factors can help you make more informed choices.

Discuss your risk factors with your health care provider to make more informed decisions on lifestyle and health care.

About stomach cancer

Stomach cancer differs from other cancers that can occur in the abdomen.

Stomach cancer (also called gastric cancer) begins when cells in any part of the stomach start to grow out of control.¹ Cancers starting in different sections of the stomach can cause different symptoms and may affect treatment options.² Stomach cancer differs from other cancers that can occur in the abdomen, such as cancer of the colon or rectum, liver, pancreas, or small intestine.¹

The incidence (new diagnoses) of stomach cancer varies across the world.

Stomach cancer is the 5th most common cancer diagnosed in the world, with almost half of diagnoses in Asia. It is also more common in Eastern Europe and parts of South and Central America.^{4,7}

Stomach cancer makes up about 1.5% of all new cancers diagnosed in the United States each year.

The American Cancer Society estimates 30,300 people (17,720 males and 12,580 females) will be diagnosed with stomach cancer in the United States in 2025.^{1,2} Men are nearly twice as likely to be diagnosed with stomach cancer than women.^{1,4,7} Over the last 10 years, the number of new diagnoses of stomach cancer has been decreasing by 1.5% each year – however, rates have been increasing in recent years among younger females, particularly Hispanic females.^{2,4}

Most stomach cancers occur in older adults.

The risk of stomach cancer increases as a person ages, particularly after 50.^{4,7} About 60% of people diagnosed with stomach cancer each year are 65 or older.² It is most frequently diagnosed among individuals aged 65-74 with a median age at diagnosis of 68.⁵ Stomach cancer can occur in younger people but is rare in people younger than 30.^{4,7}

In the United States, stomach cancer is more common among Black, Hispanic, Asian or Pacific Islander, and American Indian or Alaska Native individuals.

In the United States, the incidence of stomach cancer among Black, Hispanic, Asian or Pacific Islander, and American Indian or Alaska Native individuals is almost two times higher compared to non-Hispanic White people.^{1,4,5}

Types of stomach cancer

Most stomach cancers are adenocarcinomas.

About 90-95% of stomach cancers are adenocarcinomas, of which there are two types: intestinal (which is more common) and diffuse (which tend to grow and spread more quickly).^{2,7}

Other cancers that can start in the stomach include gastrointestinal stromal tumors (GISTs), neuroendocrine tumors (including carcinoids), and lymphomas.² Although GISTs can start anywhere in the digestive tract, more than half start in the stomach.³ Other rare cancers that can start in the stomach include squamous cell carcinoma, small cell carcinoma, and leiomyosarcoma.²

The remainder of this risk factor summary will focus on adenocarcinomas of the stomach.

Known risk factors

Medical conditions and treatments

Previous stomach surgery:

Individuals who have had surgery to remove part of their stomach to treat non-cancerous diseases, such as ulcers, are more likely to develop stomach cancers (typically many years later).^{2,7} This may be due to the stomach making less acid (allowing more bacteria to exist) and/or reflux (backup) of bile from the small intestine after surgery.² To date, bariatric surgery (to induce weight loss) has not been linked stomach cancer risk.⁷

Pernicious anemia:

People with pernicious anemia (a condition where the body can't absorb vitamin B12 caused by certain autoimmune disorders or some types of stomach surgery) have an increased risk of stomach cancer.^{2,4,7}

Inflammation of the stomach (atrophic gastritis):

The risk of stomach cancer is higher in people with chronic atrophic gastritis (thinning of the stomach lining due to long-term inflammation). It is also higher in people with atrophic gastritis with intestinal metaplasia (a condition where cells of the stomach lining are replaced by cells that normally line the intestine).⁴

Gastroesophageal reflux disease (GERD):

GERD causes stomach acid to repeatedly flow back into the esophagus and increases the risk of cancer in the upper part of the stomach.⁴

Common variable immune deficiency (CVID):

People with CVID (a condition where the immune system can't make enough antibodies to protect against germs) are more likely to develop stomach cancer.²

Type A blood:

For unknown reasons, people with type A blood have a higher risk of developing stomach cancer.^{2,4,7}

Infections

***Helicobacter pylori* (H. pylori) infection:**

Helicobacter pylori (also called *H. pylori*) is a common bacterium that causes stomach inflammation and ulcers. While the vast majority of people who carry this bacterium never develop stomach cancer, infection with *H. pylori* increases the risk of cancer in the lower and middle parts of the stomach.^{2, 4, 6, 7}

Hereditary conditions

Family history of stomach cancer:

Although most people with stomach cancer do not have a family history, individuals with a parent, sibling, or child diagnosed with stomach cancer are more likely to develop it themselves.^{2,4,7} Although the reason is unclear, these associations may be due to shared exposures, such as tobacco smoke, inherited genetic changes, or a combination of factors.⁷

Inherited gene mutations and conditions:

A small number of people inherit a syndrome that increases the risk of stomach cancer.^{2,4,7}

- Hereditary diffuse gastric cancer (HDGC) is rare but increases the lifetime risk of stomach cancer up to 70%.
- Lynch syndrome (hereditary non-polyposis colorectal cancer, or HNPCC) is linked to an increased risk of stomach cancer, colorectal cancer, and others.
- Familial adenomatous polyposis (FAP) causes many polyps in the colon and sometimes in the stomach. It greatly increases the risk of colorectal cancer and slightly increases the risk of stomach cancer.

Other rare inherited conditions that increase the risk for stomach cancer include gastric adenoma and proximal polyposis of the stomach (GAPPS), Li-Fraumeni syndrome, and Peutz-Jeghers syndrome.

Lifestyle factors

Diet:

People whose diet includes large amounts of foods preserved with salt, such as salted fish and meat and pickled vegetables, have a higher risk for stomach cancer.^{2,7}

Tobacco use:

Smoking increases the risk of developing stomach cancer (particularly for cancers in the upper portion of the stomach closest to the esophagus) with the rate about double in smokers than non-smokers.^{2,7} Smoking also makes treatment for *H. pylori* less effective.⁴ For information about quitting tobacco use, contact the [DPH Tobacco Cessation and Prevention Program](#) at 1-800-QUIT-NOW or 1-800-784-8669.

Excess body weight:

Excess body weight (overweight or obese) increases the risk of cancer in the upper part of the stomach near the esophagus.²

Environmental exposures

Ionizing radiation:

Exposure to high-level ionizing radiation (such as survivors of atomic bombs or nuclear reactor accidents) is associated with the development of stomach cancer.^{4,7}

Possible risk factors

Medical conditions and treatment

Adenomatous polyps:

Although most types of stomach polyps (non-cancerous growths on the lining of the stomach) do not appear to increase the risk of stomach cancer, adenomatous polyps (also called adenomas) can sometimes develop into cancer.²

Non-steroidal anti-inflammatory drugs (NSAIDs):

Common NSAIDs include aspirin, ibuprofen, and naproxen. Using NSAIDs may reduce the risk of stomach cancer. However, these drugs can result in serious side effects, like bleeding of the stomach lining. Doctors do not routinely recommend taking NSAIDs to lower their risk of stomach cancer.² Individuals should talk with their doctor about the risks and benefits of taking aspirin or other NSAIDs on a regular basis.

Infections

Epstein-Barr virus:

The Epstein-Barr virus causes infectious mononucleosis (also called "mono"). Although the role that the virus may play in the development of stomach cancer is unclear, it has been found in the cancer cells of about 5% to 10% of people with stomach cancer.^{2,4,7}

Lifestyle factors

Drinking alcohol:

Drinking alcohol likely increases the risk of developing stomach cancer. The evidence is strongest for those who have 3 or more drinks per day.^{2,7}

Diet:

Regularly eating poorly preserved foods, processed meat (like hot dogs and some lunch meats), or smoked, grilled or charcoaled meats may increase the risk of stomach cancer.^{2,4,7} Eating little to no fruit may also increase the risk of stomach cancer – and eating lots of fresh fruits (especially citrus) appears to lower the risk.^{2,7}

Physical inactivity:

Getting regular physical activity appears to lower the risk of stomach cancer.²

Environmental exposures

Workplace exposure:

Workers in the coal, metal, and rubber industries seem to have a higher risk of developing stomach cancer.²

Polychlorinated biphenyls (PCBs):

A few studies provide some evidence of a link between exposure to PCBs and colorectal cancer, but findings are inconsistent.⁸

Other risk factors that have been investigated

Medical conditions

Menetrier disease (hypertrophic gastropathy)?

This condition causes large folds in the stomach lining due to excess growth and leads to low levels of stomach acid. Because this disease is very rare, it is unknown how much this may increase the risk of stomach cancer.²

Lifestyle factors

Dietary supplements?

It is unclear whether drinking tea (particularly green tea) or taking certain vitamins and other dietary supplements lowers the risk of stomach cancer.² However, most studies have not shown an association with taking beta carotene, vitamin C, vitamin E, or selenium.⁴

References / more information

This information sheet should not be considered exhaustive. For more information on other possible risk factors and health effects being researched, please see the resources below. Much of the information contained in this summary has been taken directly from these sources. This material is provided for informational purposes only and should not be considered as medical advice. Consult your physician if you have questions regarding a specific medical problem or condition.

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