

## FACT SHEET

# Stomach (Gastric) Cancer

### INCIDENCE

In 2020, approximately 27,600 people in the United States will be diagnosed with Stomach Cancer, and the average age of diagnosis will be 68. Stomach Cancer is much more common outside of the U.S., particularly in less developed countries, and more than 1.03 million people will be diagnosed with Stomach Cancer Worldwide.

- The risk for a man to develop stomach cancer in his lifetime is approximately 1 in 95.
- The risk for a woman to develop stomach cancer in her lifetime is approximately 1 in 154.

### RISK FACTORS

Many factors appear to influence the risk of developing gastric cancer. The factors that appear to increase risk include:

- Helicobacter pylori infection
- Male gender
- Age over 50
- Certain ethnic backgrounds
- Certain geographic locations
- Stomach lymphoma
- Nitrate/nitrite heavy diet
- Smoking and Alcohol Consumption
- Being overweight/obese
- Previous stomach surgery
- History of pernicious anemia
- Type A blood
- Certain workplace exposures
- A family history of stomach cancer
- Inherited cancer syndromes

## TYPES OF GASTRIC CANCER

**Adenocarcinoma:** These make up 90-95% of stomach cancers and develop from the cells that form the stomach's innermost layer.

**Lymphoma:** a cancer of the immune system that can be found in the wall of the stomach.

**GIST:** gastrointestinal stromal tumors (GISTs) can be benign (non-cancerous) or malignant (cancerous) and form in the wall of the stomach.

**Carcinoid:** this type of tumor starts in the stomach's hormone-producing cells and typically does not spread to other organs.

## HEREDITARY CAUSES

If an individual has no family history of stomach cancer and does not have a hereditary predisposition, their likelihood of developing stomach cancer in their lifetime is less than 1%. If an individual has a family history of stomach cancer in a close blood relative, their likelihood of developing stomach cancer in their lifetime is increased. Being born with a hereditary cancer syndrome, such as those outlined in the table below, can further increase lifetime risk for developing stomach cancer.

<b>Hereditary Syndrome</b>	<b>Gene(s) Associated</b>	<b>Stomach Cancer Lifetime Risk</b>	<b>Other Cancer Risks</b>
Hereditary Diffuse Gastric Cancer (HDGC)	CDH1, possibly CTNNA1	Approximately 56% for women and 70% for men	Lobular breast, possibly colorectal
Lynch syndrome (also known as Hereditary Non-Polyposis Colorectal Cancer or HNPCC)	MLH1, MSH2, MSH6, PMS2, EPCAM	Varies depending on which gene has a mutation; risk ranges from 0.2-9%	Colorectal, uterine, ovary, renal-pelvis, small bowel, pancreas, prostate, breast
Peutz-Jeghers syndrome (PJS)	STK11	29%	Breast, colon, small bowel, pancreas, ovary, testes, lung

Other hereditary gene mutations may also increase the risk of developing stomach cancer.

## BENEFITS OF GENETIC COUNSELING AND TESTING

If you or a close family member have been diagnosed with stomach cancer at a younger age (under age 50) or if you have a significant family history of stomach cancer or cancers associated with the syndromes listed in the table above, then genetic testing could be warranted. A genetic counseling and testing appointment can help provide you with more information about your potential risk of developing cancer(s). This is critically important for stomach cancer as these cancers are often more aggressive so early detection can lead to significantly better outcomes. If you have/had a diagnosis, you can provide information on possible hereditary causes and estimate the risk to develop future cancer. This information can also benefit your relatives to give them information on their potential risks and help guide their physicians on appropriate screening and management of those risks. Genetic testing is a personal choice, and your genetic counselor can help guide you through the options and have a discussion tailored to your situation so you can determine how you want to proceed.

## INSURANCE ISSUES

It is essential to be aware of and consider the many implications of genetic test results, especially regarding different types of insurance. The Genetic Information Non-Discrimination Act (GINA) of 2008 provides some protections at the federal level regarding genetic testing. Genetic test results CANNOT be used to determine rates, coverage, or be considered a pre-existing condition for health insurance. Genetic test results also CANNOT be used against a person regarding employment. However, there are no federal restrictions preventing life insurance, disability insurance, or long-term care insurance from asking questions about genetic test results and incorporating that information into their decisions about offering a policy/rates for a policy/coverage. More information on the legal protections and limitations of GINA can be found here: <http://www.ginahelp.org/>.

## REFERENCES

GeneReviews: <https://www.ncbi.nlm.nih.gov/books/NBK1139/>

NIH-NHGRI: <https://www.genome.gov/about-genomics/policy-issues/Genetic-Discrimination>

No Stomach For Cancer: <https://www.nostomachforcancer.org/>

CancerCare: <https://www.cancerca.org/>