STOMACH CANCER AWARENESS

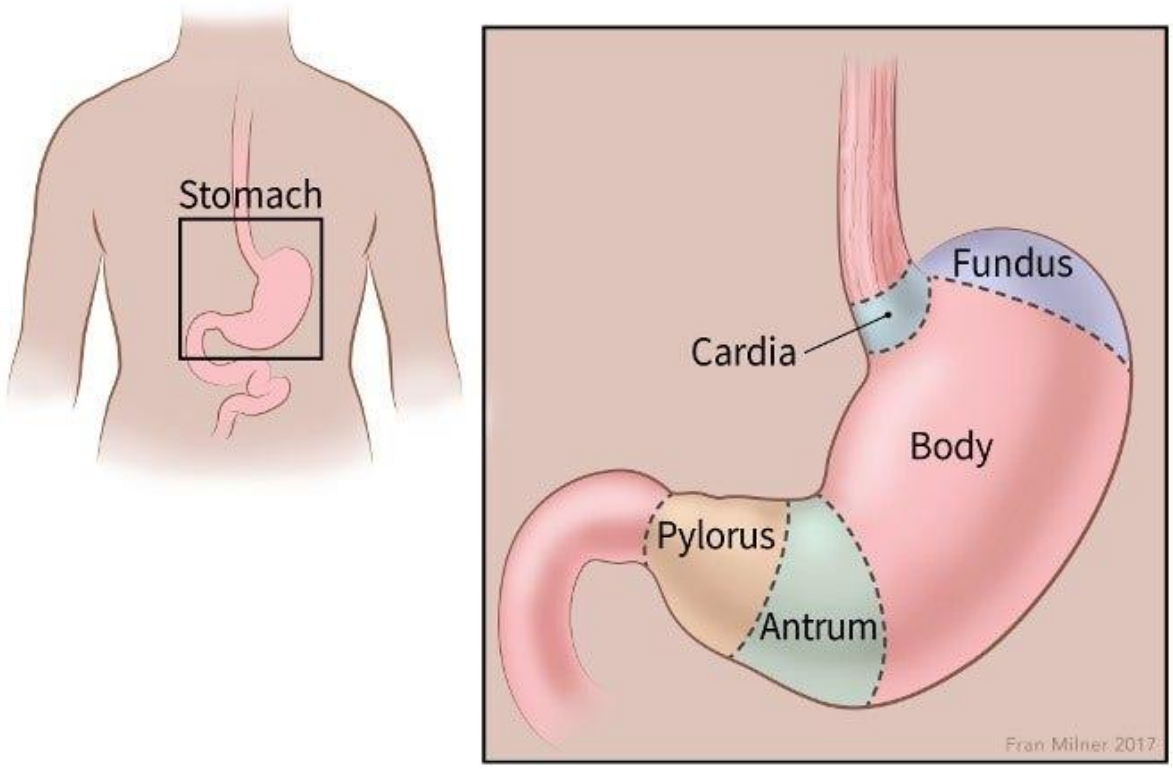
In November 2022 the United States Senate passed the resolution recognizing November as stomach cancer awareness month. The goal for stomach cancer month is to heighten awareness and provide education on this silent but deadly disease.

STATISTICS: in 2023 the American Cancer Society (ACS) estimates for stomach cancer in the United States are:

- Approximately 26,500 new cases of stomach cancer (15,930 in men and 10,570 in women)
- Approximately 11,130 deaths will occur (6,690 men and 4,440 women)
- 1.5% of al new cancers diagnosed in the US each year
- The average age of people diagnosed is 68
- About 6 of every 10 people diagnosed with stomach cancer each year are 65 or older
- The lifetime risk of developing stomach cancer is higher in men about (1 in 96) than in women (1 in 152)
- New cases have been dropping about 1.5% annually over the past 10 years.

WHAT IS STOMACH CANCER? - also called gastric cancer begins when cells in the stomach grow out of control. The stomach is a sac-like organ that is an integral part of the digestive system. The esophagus is a tube that carries food after it is chewed and swallowed into the stomach. The esophagus joins the stomach at the gastro-esophageal (GE) junction which is just below the diaphragm (thin sheet of breathing muscle under the lungs). The stomach starts to digest the food by secreting gastric juice. The food and gastric juice are mixed and then emptied into the first part of the small intestines called the duodenum. It is very important to differentiate stomach pain from abdominal or belly pain.(ACS). Many people use the word “stomach” to refer to

the belly area. The abdomen contains many organs. The small intestine, colon, liver,



spleen and pancreas are all organs near the stomach.

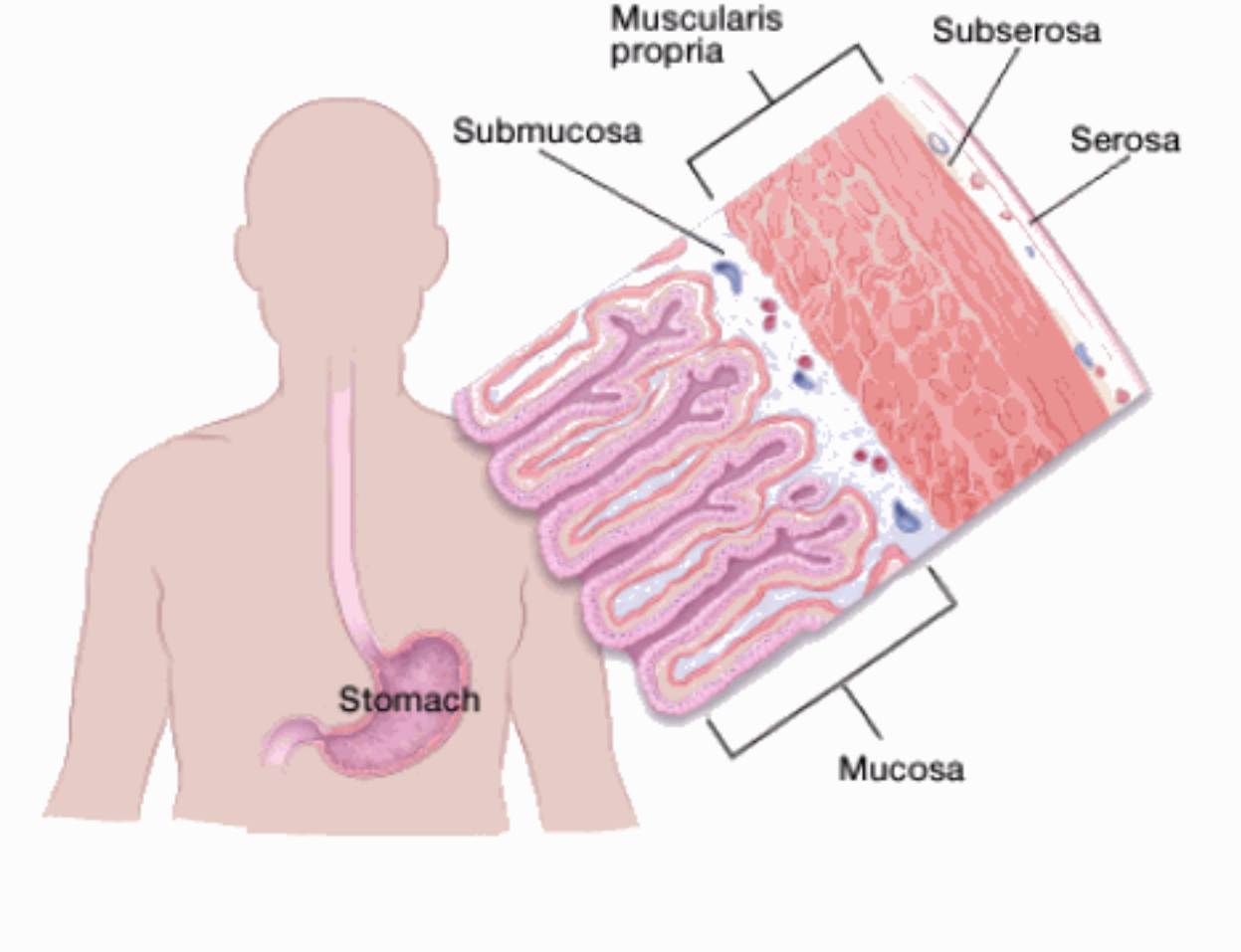
The stomach consists of 5 parts:
The first 3 parts consist of the proximal stomach:

- Cardia: the first part, closest to the esophagus
- Fundus: the upper part closest to the cardia
- Body (corpus): the main part of the stomach between the upper and lower parts

The lower 2 parts make up the distal stomach;

- Antrum: the lower portion (near the small intestine), where the food mixes with gastric juice
- Pylorus: the last part of the stomach, acts as a valve to control the emptying of the stomach contents into the small intestines.

The stomach wall has 5 layers (ACS)



- The innermost layer is the mucosa. The mucosa is where stomach acid and digestive enzymes are made. Most stomach cancers start in this innermost layer.
- The submucosa is the supporting layer
- The muscularis propria is (outside of the submucosa) a thick layer of muscle that mixes and moves the stomach contents.
- The outer 2 layers, the subserosa and the outermost serosa wrap the stomach (ACS)

The layers are important in identifying the stage of the cancer which determines a person's treatment options and prognosis. When cancer grows from the mucosa into deeper layers, the stage becomes more advanced and treatment might need to be more extensive. Stomach cancers usually develop slowly over many years. Pre-cancerous changes often develop in the mucosa of the stomach before true cancer develops. These early changes usually go undetected as they rarely cause symptoms. Cancers starting in different areas of the stomach can present with different symptoms and exhibit different outcomes. The cancer's location can affect treatment options(ACS)

TYPES OF STOMACH CANCER

Adenocarcinomas - about 90-95% of stomach cancers are adenocarcinomas and develop from the gland cells in the mucosa (innermost lining of the stomach). There are two main types of stomach adenocarcinomas (ACS):

- Intestinal - usually has a better prognosis. Might allow for targeted drug therapy
- Diffuse - usually spreads more quickly, less common than intestinal and is harder to treat

These are other types of cancer that can start in the stomach

- Gastrointestinal stromal tumors (GISTs) this cancer can start anywhere in the digestive tract but most do begin in the stomach. These are uncommon tumors which start very early in the interstitial cells of the stomach (ACS).

- Neuroendocrine tumors (NETs) can start in the stomach or other parts of the digestive tract that act like nerve cells sometimes and like hormone-making cells there times. Most NETs seem to grow slowly, do not spread to other organs, but some can grow and spread quickly (ACS).

- Lymphomas usually start in the lymphocytes cells of the immune system. Lymphomas usually start in other parts of the body but some may start in the wall of the stomach (ACS).

The other types of cancer like squamous cell carcinomas, small cell carcinomas and leiomyosarcomas are very rare but can start in the stomach (ACS).

RISK FACTORS FOR STOMACH CANCER (ACS):

- Sex - stomach cancer is more common in men than women

- Age - risk factor increases with age with most diagnosed in their 60s, 70s or 80s. Occurs in younger people

- Ethnicity - in the United States stomach cancer is more common in Hispanic Americans, African Americans, Native Americans, Asian Americans, Pacific Islanders than it is in non-Hispanic White people.

- Geography - more common in East Asia, Eastern Europe, South and Central America. Less common in Africa and North America.

- Helicobacter pylori infection - infection with Helicobacter pylori (H pylori) bacteria seems to be a major cause of stomach cancer. Long-term infection of the stomach with this bacteria may result in atrophic gastritis and other pre-cancerous changes of the lining of the stomach.

- Diet - with large amounts of foods preserved by salting, like salted fish, meat and pickled vegetables. Grilled, processed, or charcoaled meats regularly seems to increase the risk of non-cardia stomach cancers. Eating few or no fruits likely increases the risk. Eating lots of fresh fruits and raw vegetables seems to lower the risk of stomach cancer

- Alcohol use - probably increases the risk. Strongest link noted in people who have 3 or more drinks a day

- Tobacco use - risk is doubled in smokers. Increases stomach cancer risk specially for cancers of the upper part of the stomach near the esophagus.

- Previous stomach surgery - more likely to develop in people who had part of their stomach removed for non-cancerous diseases like ulcers. Usually develops many years after surgery.

- Some types of stomach polyps - most polyps are non cancerous but adenomatous polyps (adenomas) can sometimes develop into cancer.

- Pernicious anemia - certain cells in the stomach lining make a substance known as intrinsic factor (IF) which the body utilizes to absorb Vitamin B12 from foods. Insufficient IF may cause Vitamin B12 deficiency which affect's one's ability to make new red blood cells which results in pernicious anemia.

- Menetrier Disease (Hypertrophic Gastropathy) - excess growth of the stomach's inner lining causes large folds in the lining which leads to low levels of stomach acid. Rare condition. Unknown how much this increases risk for stomach cancer.

- Inherited Cancer Syndromes - inherited gene mutations from parents. Small percentage of stomach cancer worldwide.

- Hereditary Diffuse Gastric Cancer (HDGC) - this syndrome greatly increases the risk for stomach cancer. Women with this syndrome have an increased risk for invasive lobular breast cancer.

- Lynch Syndrome (Hereditary Non-Polyposis Colorectal Cancer or HNPCC) - is an inherited genetic disorder that increases the risk of colorectal cancer, stomach cancer and some other cancers

- Familial Adenomatous Polyposis (FAP) - presents with polyps in the colon, stomach and intestines at an early age. High risk for colorectal cancer and a slightly increased risk of getting stomach cancer.

- Li-Fraumeni Syndrome - risk of developing several types of cancer including stomach cancer at an early age

- Peutz-Jeghers Syndrome (PJS) - presents with polyps in the stomach and intestines as well as bother areas in the body. The polyps in the stomach and intestines are called hamartomas.

- Family History of Stomach Cancer - people with first-degree relatives (parents, siblings or children) who have had stomach cancer are more likely to develop stomach cancer. Most people who get stomach cancer do not have a family history.

- Common Variable Immune Deficiency (CVID) - the immune system cannot make enough antibodies to protect against germs. This may result in frequent infections, atrophic gastritis and pernicious anemia. Likely to get gastric lymphoma and stomach cancer.

- Epstein-Barr Virus (EBV) - causes infectious mononucleosis known as (mono). Most people are infected with this virus at sometime in their lives usually as children or teenagers. Also found in about 5 to10% of people with stomach cancer although it is unclear if the virus actually causes stomach cancer. Usually slow growing with less tendency to spread

- Certain Occupations - workers in the coal, metal and rubber industries

- Type A Blood - for unknown reason have a higher risk of getting stomach cancer.

PREVENTION

Can stomach can be prevented? There is no sure way to prevent stomach cancer but below are ACS recommendations for lowering the risk:

- Body weight - being overweight increases the risk of some types of stomach cancer.
- Get to and maintain a healthy body weight
- Diet - follow a healthy eating pattern which includes a wide variety of colorful fruits and vegetables including whole grains. Avoid or limit processed meats, sugars-sweetened beverages and highly processed foods.
- Avoid or limit alcohol
- Quit smoking or seek help
- Get regular physical activity but check with your doctor before starting any exercise program.
- Treat H Pylori infection - remains unclear if people with this chronic infection should be treated. The research is ongoing.
- Aspirin or non-steroidal anti-inflammatory drugs (NSAIDS) seems to lower the risk of stomach cancer. These medicines can also lower the risk of developing colon polyps

and colon cancer. Prescribers routinely do not recommend NSAIDS to prevent stomach cancers.

- HDGC is a rare inherited condition which increases a person's risk of stomach cancer. It is important to recognize people with this gene and refer to genetic professionals for genetic testing

SIGN AND SYMPTOMS - early stage stomach cancer rarely causes symptoms. In country's like United States routine screening of stomach cancer is not done therefore most cancers are not found until they have increased in size or have spread outside of the stomach.

- Poor appetite
- Weight loss without trying
- Abdominal belly pain
- Vague discomfort in the abdomen usually above the navel
- Feeling full after eating only a small meal
- Indigestion or heartburn
- Nausea
- Vomiting with or without blood
- Swelling or fluid build-up in the abdomen
- Blood in the stool
- Feeling tired or weak due to decreased red blood cells
- Jaundice (yellowing of the skin) if the cancer spreads to the liver

STAGING SYSTEM

Cancer staging describes where the cancer is located if or where it has spread and if it affects other parts of the body. One tool used for staging is TNM:

- Tumor (T) states how deeply the primary tumor has spread into the stomach wall
- Node (N) has the tumor spread to the local lymph nodes? If it has where and how many?
- Metastasis (M) has the cancer invaded other body parts? (www.cancer.net)

STAGE GROUPS

Stomach cancer staging describes the extent of cancer in the body, the size of the tumor, if it has spread and how far it has spread from its original site. It is imperative to know the stage of the stomach cancer to plan the best treatment. Each stomach cancer stage is rated on a numbered scale, with the higher numbers indicating increased severity. These categories are then grouped into stomach cancer stages 0-4 (cancercare.net).

TREATMENT

Treatment options and recommendations depend on several factors which includes the type and stage of the cancer, side effects, health of the patient and their preference. The treatment plan should be throughly discussed and understood. Sometimes a combination of treatments are needed. Some treatment options are (cancer.net):

- Surgery - removal of the tumor and some surrounding healthy tissue. The type of surgery done depends on the stage of the cancer. The surgery can range from simple to extensive depending on the stage and size of the cancer.

- Chemotherapy - use of drugs to destroy cancer cells. This treatment usually works by preventing the cancer cells from growing, dividing and making more cells. A specific treatment schedule will be set up.

- Targeted therapy - this targets the cancer's specific genes, proteins, or the tissue environment that contributes to cancer growth and survival. It also limits damages to healthy cells.

- Immunotherapy - uses the body's natural defenses to fight cancer by strengthening its immune system's ability to attack the cancer.

ACS states stomach cancer has decreased from being the leading cause of death in the early 20th century. The reasons are not completely clear but may be related to increased use of refrigeration to store food with has resulted in less consumption of salted or smoked foods. Another reason, there has been a decline in the number of people infected with H pylori a major cause of stomach cancer.

If you are diagnosed with stomach cancer remember it can be difficult to cure. Take time to discuss your treatment options, ask questions and understand the response. Discuss with your health care provider the goals of each treatment and your expectations while receiving the treatment. These conversations are called "shared decision-making." Shared decision making occurs when you and your doctors work together and decide what treatments fit the goals of your care. Treatment plans should reflect a mutual understanding of the patient's goals and profits, while including the physicians judgements that optimize treatment for the patient and family (cancercare.org).
Cancer support groups are in your area so reach out and seek help remember its their specialty and they do care.