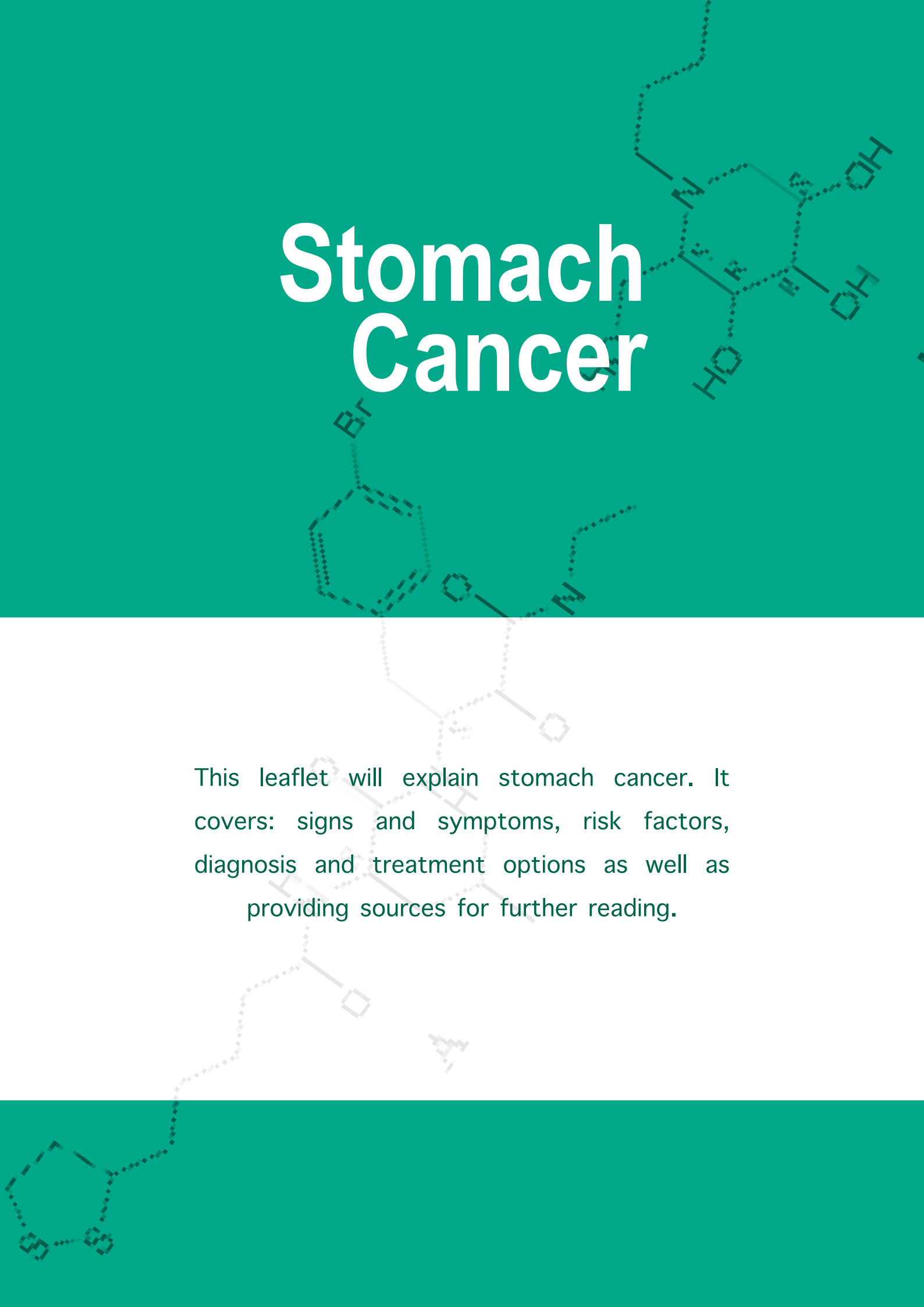


Stomach Cancer

The background features a teal color scheme. At the top, there are several chemical structures rendered in a dotted, wireframe style. A prominent structure on the right is a complex molecule with multiple hydroxyl groups (OH) and a nitrogen atom. Below it, another structure shows a ring with a bromine atom (Br) and a nitrogen atom. A dotted path winds through the page, starting from the top right, moving down and left, then curving around the text, and ending at the bottom left. The bottom of the page has a solid teal band.

This leaflet will explain stomach cancer. It covers: signs and symptoms, risk factors, diagnosis and treatment options as well as providing sources for further reading.

Contents

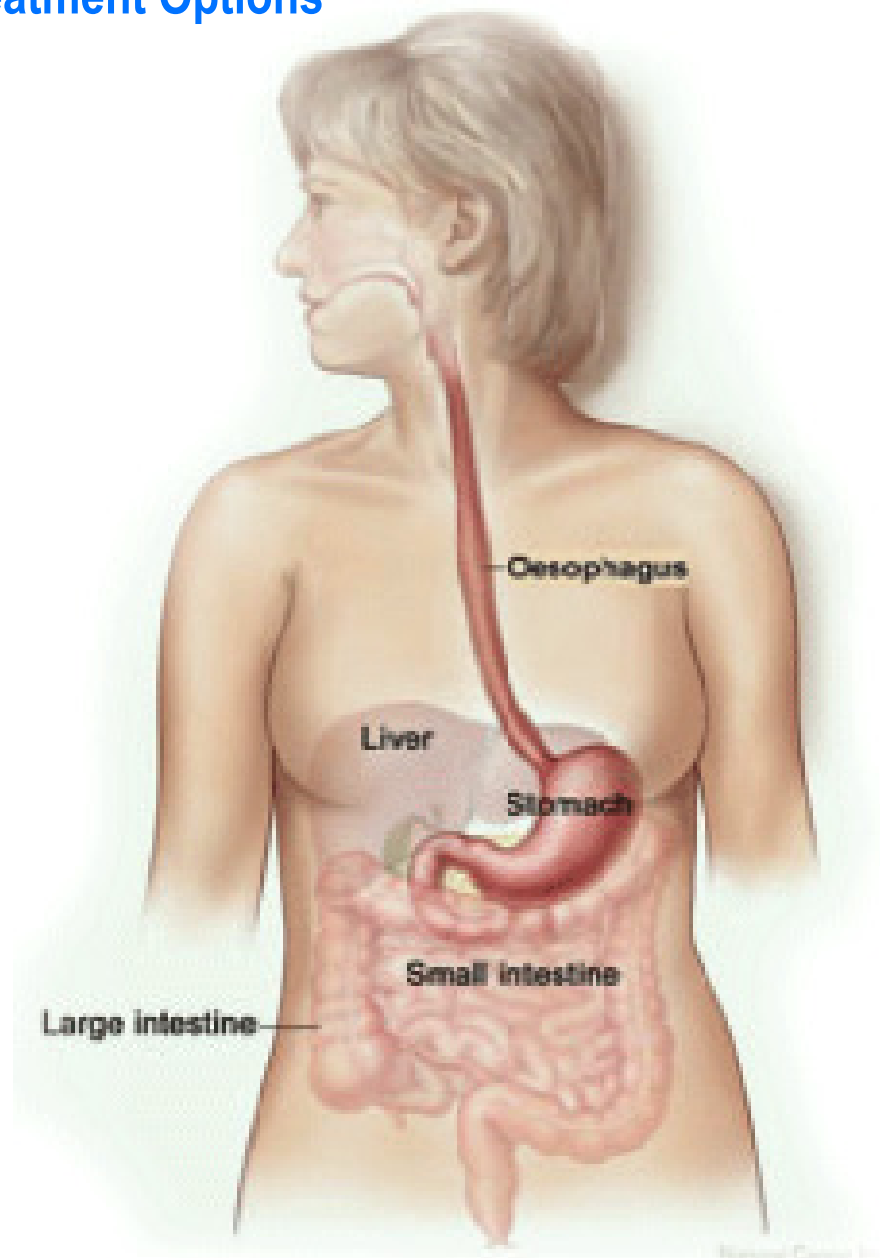
01 Risk Factors

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03 Diagnosing Stomach Cancer

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01

Risk Factors

Age, diet, and stomach disease can affect the risk of developing gastric cancer.

Risk factors for gastric cancer include the following:

- Having any of the following medical conditions
- *Helicobacter pylori* (*H. pylori*) infection of the stomach.
- Chronic gastritis (inflammation of the stomach).
- Pernicious anaemia.
- Intestinal metaplasia (a condition in which the normal stomach lining is replaced with the cells that line the intestines).
- Familial adenomatous polyposis (FAP) or gastric polyps.
- A diet high in salted, smoked foods and low in fruits and vegetables.
- Eating foods that have not been prepared or stored properly.
- Being older or male.
- Smoking cigarettes.
- Having a mother, father, sister, or brother who has had stomach cancer (family link).

02

Signs and Symptoms

Possible signs of gastric cancer include indigestion and stomach discomfort or pain.

These and other symptoms may be caused by gastric cancer. Other conditions may cause the same symptoms.

In the early stages of gastric cancer, the following symptoms may occur:

- Indigestion and stomach discomfort.
- A bloated feeling after eating.
- Mild nausea.
- Loss of appetite.
- Heartburn.

In more advanced stages of gastric cancer, the following symptoms may occur:

- Blood in the stool
- Vomiting.
- Weight loss for no known reason.
- Stomach pain.
- Jaundice (yellowing of eyes and skin).
- Ascites (build-up of fluid in the abdomen).
- Trouble swallowing.

A doctor should be consulted if any of these problems occur.

03

Diagnosing Stomach Cancer

Tests that examine the stomach and oesophagus are used to detect (find) and diagnose gastric cancer.

The following tests and procedures may be used:

- **Physical exam and history** - an examination of the body to check general signs of health, and 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 used 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 in the organ or tissue that produces it.
- **Complete blood count (CBC)** - a procedure in which a sample of blood is drawn and checked for the following -
 - The number of red blood cells, white blood cells, and platelets.
 - The amount of haemoglobin (the protein that carries oxygen) in the red blood cells.
 - The portion of the sample made up of red blood cells.
- **Upper endoscopy** - a procedure to look inside the oesophagus, stomach, and duodenum (first part of the small intestine) to check for abnormal areas. An endoscope (a thin, lighted tube) is passed through the mouth and down the throat into the oesophagus.

-
- **Upper endoscopy** - a procedure to look inside the oesophagus, stomach, and duodenum (first part of the small intestine) to check for abnormal areas. An endoscope (a thin, lighted tube) is passed through the mouth and down the throat into the oesophagus.
 - **Faecal occult blood test** - a test to check stool (solid waste) for blood that can only be seen with a microscope. Small samples of stool are placed on special cards and returned to the doctor or laboratory for testing.
 - **Barium swallow** - a series of x-rays of the oesophagus and stomach. The patient drinks a liquid that contains barium (a silver- white metallic compound). The liquid coats the oesophagus and stomach, and x-rays are taken. This procedure is also called an upper GI series.
 - **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, computerised tomography, or computerised axial tomography.
 - **Biopsy** - the removal of cells or tissues so they can be viewed under a microscope to check for signs of cancer. A biopsy of the stomach is usually done during the endoscopy.

One or more of the following tests may be done on the samples of tissue that are removed:

- **Immunohistochemistry:** A test that uses antibodies to check for certain antigens in a sample of tissue. The antibody is usually linked to a radioactive substance or a dye that causes the tissue to light up under a microscope. This test may show the difference between different cancers.
- **FISH (fluorescence in situ hybridization):** A laboratory technique used to look at genes or chromosomes in cells and tissues. Pieces of DNA that contain a fluorescent dye are made in the laboratory and added to cells or tissues on a glass slide. When these pieces of DNA bind to specific genes or areas of chromosomes on the slide, they light up when viewed under a microscope with a special light. The sample of blood or bone marrow is checked for HER2/neu to help decide the best treatment.

04

Recovery and Treatment

The prognosis (chance of recovery) and treatment options depend on the following:

- The stage and extent of the cancer (whether it is in the stomach only or has spread to lymph nodes or other places in the body).
- The patient's general health.

When gastric cancer is found very early, there is a better chance of recovery. Gastric cancer is often in an advanced stage when it is diagnosed. At later stages, gastric cancer can be treated but rarely can be cured.

Treatment options

There are different types of treatment for patients with gastric cancer. Different types of treatments are available for patients with gastric cancer. Some treatments are standard (the currently used treatment), and some are being tested in clinical trials. Before starting treatment, patients may want to think about taking part in a clinical trial. 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.

Four types of standard treatment are used:

Surgery

Surgery is a common treatment of all stages of gastric cancer. The following types of surgery may be used:

- **Subtotal gastrectomy** - removal of the part of the stomach that contains cancer, nearby lymph nodes, and parts of other tissues and organs near the tumour. The spleen may be removed. The spleen is an organ in the upper abdomen that filters the blood and removes old blood cells.
- **Total gastrectomy** - removal of the entire stomach, nearby lymph nodes, and parts of the oesophagus, small intestine, and other tissues near the tumour. The spleen may be removed. The oesophagus is connected to the small intestine so the patient can continue to eat and swallow.

If the tumour is blocking the stomach but the cancer cannot be completely removed by standard surgery, the following procedures may be used:

- **Endoluminal stent placement** - a procedure to insert a stent (a thin, expandable tube) in order to keep a passage (such as arteries or the oesophagus) open. For tumours blocking the passage into or out of the stomach, surgery may be done to place

a stent from the oesophagus to the stomach, or from the stomach to the small intestine to allow the patient to eat normally.

- **Endoluminal laser therapy** - a procedure in which an endoscope (a thin, lighted tube) with a laser attached is inserted into the body. A laser is an intense beam of light that can be used as a knife.

Chemotherapy

Chemotherapy is a cancer treatment that uses drugs to stop the growth of cancer cells, either by killing the cells or by stopping them 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 spinal column, 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.

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 uses a machine outside the body to send radiation toward the cancer. Internal radiation therapy 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.

Chemoradiation

Chemoradiation combines chemotherapy and radiation therapy to increase the effects of both. Chemoradiation treatment given after surgery to increase the chances of a cure is called adjuvant therapy. If it is given before surgery, it is called neo-adjuvant therapy.

05

Further Reading

For more information about Stomach Cancer, the following websites are informative and respected in providing patient and families with important facts.

NHS Choices

<http://www.nhs.uk/conditions/Cancer-of-the-stomach/Pages/Introduction.aspx>

Macmillan Cancer Support

<http://www.macmillan.org.uk/information-and-support/stomach-cancer>

Cancer Research UK

<http://www.cancerresearchuk.org/about-cancer/type/stomach-cancer/>

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