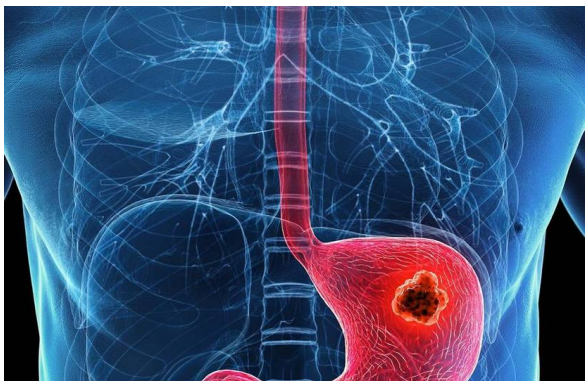
Prof. Mohammad Abu Hilal
MD, PhD, FRCS, FACS, DocEur

Stomach Cancer



Stomach (gastric) cancer is one of the most common cancers worldwide. As with most digestive cancers, **gastric adenocarcinoma** usually starts in the inner lining of the stomach. It may then gradually spread to the lymph nodes near the stomach and, at advanced stages, to neighbouring organs such as the pancreas, colon, spleen and liver. Cancer cells can also travel in the bloodstream to distant organs such as the lungs and liver, and in some cases the disease spreads to the peritoneum (the lining of the abdomen).

Several factors can increase the risk of stomach cancer, most notably **infection with the bacterium Helicobacter pylori**, a family history of stomach cancer, eating a lot of red meat and salted, smoked or preserved foods, eating little fruit and vegetables, and smoking.

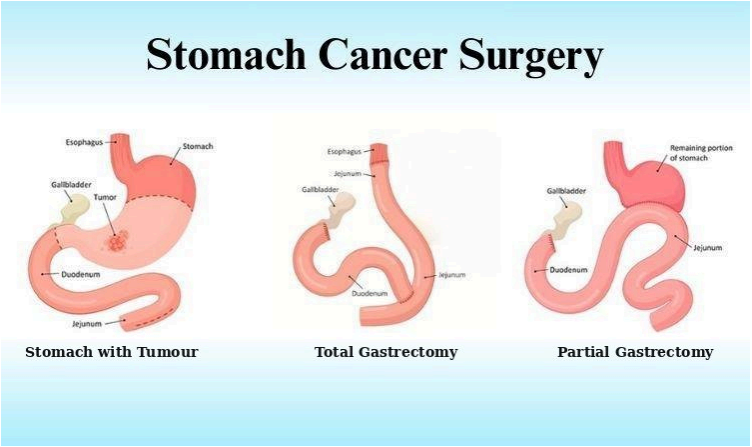
Alongside **gastroscopy**, the tests used to stage the disease include endoscopic ultrasound (EUS) and CT scans of the chest and abdomen. In some cases a **PET-CT scan** may be used to see how far the disease has spread.

Treatment of stomach tumours

Treatment of stomach cancer differs from patient to patient according to their general health, the results of the assessment before surgery, and the stage of the tumour. **Surgery** is one of the most important treatments for cases that can be operated on. In some cases surgery is the first treatment, while in others it is preceded by chemotherapy to shrink the tumour and improve the chances of removing it completely.

The most common operations are:

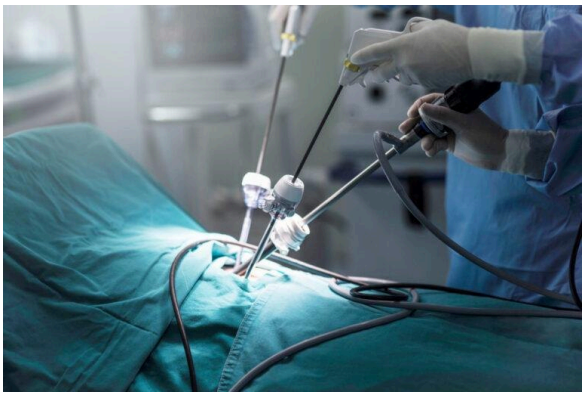
- **Total gastrectomy:** removal of the whole stomach.
- **Partial or subtotal gastrectomy:** removal of the affected part of the stomach, which may be about two-thirds of it, depending on the location and extent of the tumour.



The operation is not limited to the stomach itself: the **regional lymph nodes** around the stomach are removed at the same time, as they may contain cancer cells.

Laparoscopic and robotic surgery

When the patient's condition and the nature of the tumour allow, stomach cancer surgery is preferably performed with **laparoscopic or robotic surgery**, as these offer a less invasive approach than traditional open surgery.



In **minimally invasive surgery**, the surgeon does not need to make a large cut in the abdominal wall to reach the stomach. Instead, the operation is done through several small openings, with a limited incision when needed to take out the part that has been removed.

Laparoscopic surgery uses long, fine surgical instruments and a camera that shows a clear, magnified image on screens in the operating theatre, so that the whole surgical team can follow every step of the operation at the same time. Fondazione Poliambulanza has high-definition 4K imaging, and some operations can be performed with three-dimensional (3D) imaging, which gives a sense of depth and helps the surgeon see anatomical detail during the operation.

These technologies aim to make surgery more precise while keeping to core surgical and cancer-treatment principles, helping to improve recovery after the operation.

Robotic surgery with the da Vinci system

The **da Vinci** system is an advanced development in minimally invasive surgery. Fondazione Poliambulanza uses the **da Vinci Xi**, an advanced robotic surgical system.

The system has two main units in the operating theatre:

- **The surgeon's console:** where the surgeon sits and precisely controls the movement of the surgical instruments.
- **The robotic platform:** four robotic arms, guided by the surgeon, that hold the camera and the surgical instruments working inside the patient's abdomen.

The value of robotic surgery lies in **very precise instrument movement and a clear, detailed view of the operating field**, which helps the surgeon carry out the fine steps of the operation, especially in complex anatomical areas. The da Vinci system is used routinely in operations for stomach, colon and rectal tumours.

Chemotherapy and its role in stomach cancer

In some cases where the tumour is large or locally advanced, so that removing it completely seems difficult, **chemotherapy before surgery** can be given to shrink the tumour, make complete removal more likely and give the best chance of curative surgery.

Chemotherapy may also be used after surgery, especially when the pathology results show factors that increase the risk of the disease coming back, such as spread of the main tumour or cancer cells in the regional lymph nodes.

For patients with **distant metastases**, systemic treatment, including chemotherapy, is the mainstay of treatment, according to the features of the tumour and the patient's condition.

Follow-up after surgery and enhanced recovery

After surgery, patients are followed up regularly from both the **oncological and nutritional** points of view, with attention to weight, nutritional status, and vitamin and mineral levels, which can be affected after removal of part or all of the stomach. As with other digestive cancers, patients with stomach cancer follow a structured care pathway based on the principles of **ERAS (Enhanced Recovery After Surgery)**, also known as fast-track recovery. This approach aims to help patients get back their normal body functions sooner, reduce complications linked to surgery and shorten the hospital stay, while making sure of careful medical and nutritional follow-up during recovery.