ON STOMACH CANCER
What is a stomach? Where is it located?
The stomach is a muscular, bag-like organ that lies in the upper left side of the abdomen below the main muscle of breathing – the diaphragm. The stomach connects the food pipe to the small intestine. It stores food for the first 2-4 hours after eating. In these two hours, the food is acted upon by acid produced by the stomach and by enzymes from the mouth that have travelled down along with the food. The stomach muscles then contract to help break the large portions of food into smaller pieces, so that once the food enters the small intestine, the enzymes there can better act to digest the food. Major organs lying around the stomach include the liver, the spleen and the pancreas. The stomach is divided into 3 parts and cancers may arise in any of these parts. The type of surgery will depend on the location of the tumour.

Why have I developed Stomach Cancer?
Development of Stomach Cancer cannot be attributed to any single factor. There are multiple factors suggested to be responsible for causing Stomach Cancer. These include diet, Helicobacter pylori (H. pylori) infection, smoking and long-term acid reflux. High intake of salted, pickled or smoked foods, as well as dried fish, meat and refined carbohydrates significantly increase the risk of developing Stomach Cancer. However, patients may develop these cancers even without any of the above risk factors being present.

What are the symptoms of Stomach Cancer?
The presentation of Stomach Cancer is very non-specific. Loss of appetite, heart-burn, difficulty in swallowing, loss of weight are some of the symptoms associated with the cancer. Unexplained anaemia is another form of presentation and hence such patients need to undergo Endoscopy to rule out Stomach Cancer. Vomiting is another sign of Stomach Cancer, if associated with the other symptoms mentioned above. Patients, who present heart-burn and reflux for the first time after the age of 40 years, need to undergo an Endoscopy to rule out Stomach Cancer amongst other causes. Lump in the abdomen and back pain are late signs of the disease and usually indicate an advanced disease.

What investigations will I be subjected to?
The best investigation to diagnose Stomach Cancer is Endoscopy with a biopsy of the tumour. A Computed Tomography (CT) scan of the abdomen and pelvis will help to support the diagnosis of the
cancer as well to determine whether the cancer is at an early stage or whether it has spread to the lymph nodes, liver or other organs, and if the cancer has infiltrated the surrounding organs. Tumour markers can be used to follow response to treatment and surveillance. Liver function tests, X-ray of the chest, etc. are other investigations to decide the stage of the disease. If an operation is being planned, some more tests may be necessary to decide the fitness of the patient for general anaesthesia.

**Are there different types of Stomach Cancer?**

Yes, there are different types of Stomach Cancer depending on the type of cell/tissue from which the cancer is arising. Adenocarcinoma is one of the common types of Stomach Cancer. There are a few rare types of cancer affecting the stomach, including Gastrointestinal Stromal Tumour (GIST), Lymphoma and Leiomyosarcoma. The treatment depends on the type of cancer.

**At what stage is the cancer?**

Accurate staging of the cancer is based on Histopathology and will be possible only after surgery. Based on clinical and radiological findings, Stomach Cancer can be broadly classified into:

**Stage 1:** Early cancer - cancer only within the stomach with no spread of disease outside of it.

**Stage 2 or 3:** Locally advanced cancer - when the cancer appears large and/or invading other surrounding organs, with enlarged lymph nodes.

**Stage 4:** Metastatic - when the cancer has spread far from the stomach, e.g. to the liver, lungs, brain, ovary, etc. These patients also usually have some fluid building up in the abdomen.

If the cancer comes back after initial treatment, it is known as recurrent cancer.

**Now that I have been diagnosed to have Stomach Cancer, how will I be treated?**

A team of multi-disciplinary specialists, including a surgeon, medical Gastroenterologists, Radiation and Medical Oncologist, Radiologist and Pathologist, will discuss the treatment that would be best for you. The treatment is usually decided based on the stage of the disease and in early stages of cancer the optimal treatment will be
surgery. In locally advanced tumours, the treatment will be with Chemotherapy first. If the cancer responds well and shrinks, surgery may be offered after Chemotherapy.

In metastatic/advanced tumours, the treatment is usually Chemotherapy or treatment directed towards controlling the symptoms (symptomatic care).

In some patients, surgery may have to be performed even when the disease is locally advanced, especially if they develop complications of the cancer such as bleeding that is causing severe anaemia requiring blood transfusions, or if the stomach is obstructed and the patient cannot retain anything they eat or drink due to profuse vomiting, or if the cancer has resulted in a hole in the stomach with leakage of stomach contents into the abdomen.

**What kind of surgery is done for Stomach Cancer?**

The type of surgery depends on the location of the cancer and extent. Removal of a portion of the stomach is called Gastrectomy. There are Curative and Palliative gastrectomies.

Curative surgeries are done with an aim to remove the entire cancer with a margin of normal tissue around and all the lymph nodes involved (Lymphadenectomy). These include:

- **Distal/Subtotal Gastrectomy** - for tumours located in the lower portion of the stomach.
- **Proximal or Total Gastrectomy** - for tumours located in the upper portion of the stomach.
- **Wedge Resection** - for GIST tumours.

Lymph nodes around the stomach are removed at the same time to check if the cancer cells have spread into them.

Our department specialises in Open & Laparoscopic (keyhole) Cancer Surgery. Recent studies have shown that Laparoscopic surgery for Stomach Cancer is as effective as Open Surgery, if done by experts, although, it is yet to be proven on Randomised Trials. Laparoscopic Cancer Surgery has better short term results.

Palliative Surgery is done for symptoms control and not with the intent for cure. This is because these surgeries are done in patients with advanced disease who have developed complications of the cancer (mentioned above). In an obstructing advanced cancer, only a bypass of the block (Gastrojejunostomy) may be possible. Sometimes, even if a patient is taken up for emergency surgery due to a complication of the cancer, no resection may be possible if the disease is very advanced and the abdomen will just have to be
closed without any further surgical intervention. In some patients with an obstruction who are not fit for surgery, endoscopic stenting of the tumour may be attempted.

**Are there any alternatives besides a surgery?**

Till date, surgery is the only proven curative option for Stomach Cancer.

**How do I prepare myself for the surgery?**

The preparation is generally similar to any major surgery. If you are a smoker, it is absolutely essential to stop smoking. Breathing exercises using the incentive Spirometer and football bladder should be started. Follow the anaesthetist’s advice regarding continuation of medications, if you are on any. A high protein diet is preferred to improve nutrition.

**How major is the surgery? What are the possible complications?**

Gastrectomy with Lymphadenectomy and other gastric surgeries are deemed as major surgeries with a risk of complications (4-10%) and a very small risk of death (<2%). This means that if 100 people are operated, less than 2 of them have a chance of death.

The complications of Gastrectomy (removal of the stomach and lymph nodes and joining back) (Anastomosis) the healthy bowel/intestine) include:

- Leak of Anastomosis
- Bleeding from the Anastomosis
- Prolonged vomiting

**For how long do I stay in the hospital?**

In an uncomplicated case, hospital stay after the surgery is 9 -14 days. This may be longer when there are complications.

**Will I need any further treatment after the surgery?**

The decision about adjuvant treatment is based on the final Histopathology report which will be available approximately 7-10 days following the surgery. If any of the lymph nodes are positive and your general condition is good enough, then you may be referred to the medical (GI) Oncologist for consideration for Chemotherapy in some cases.
What will be my survival chances after the surgery? Are there any chances of the cancer coming back?

The survival depends on the stage of the disease. The average 5-years survival after curative surgery for Stomach Cancer is 25-35%. This means that 25-35 out of a 100 people with Stomach Cancer will survive and be disease-free at the end of 5 years. As of date, there is no foolproof way of predicting which patients will have recurrence and which patient will not.

Are there any special precautions that I need to take to prevent cancer from coming back?

There are no proven precautions, but it is logical to exercise regularly, avoid using tobacco, drink alcohol in moderation and maintain a good diet. Following Gastrectomy, since the size of the stomach is now reduced, you should eat smaller meals at regular intervals.

How frequently should I follow up after the surgery?

After completion of the treatment, you will be advised to follow up once in 3 - 4 months in the first 2 years. Then the frequency will be reduced to once in 6 months for the next 2-3 years. Subsequent follow up will be once a year. During each follow up you will be asked to do certain blood tests. You may also be advised to get an Ultrasound of the abdomen.