

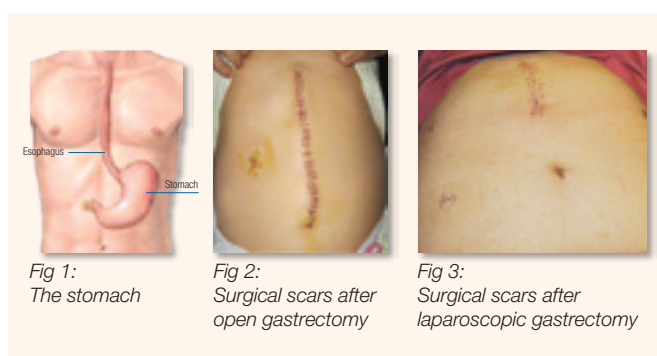
Laparoscopic Gastrectomy

Minimally Invasive Surgery for Gastric Cancer

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The stomach serves as a food reservoir and is located in the upper central abdomen (**Fig 1**). Stomach cancer is termed medically as gastric cancer. Despite advances in medical care, it remains the 4th leading cause of cancer death in Singapore and predominantly affecting the Chinese race. Increased awareness within the population, advancement in diagnostic endoscopy, improved staging modalities like multidetector CT scanner and a multidisciplinary approach have resulted in improved survival. Early recognition of alarming symptoms like loss of weight, difficulty in swallowing, persistent vomiting, passing dark black stools, presence of abdominal mass and seeking prompt medical advice improve the chance of achieving curative treatment. Patients are required to undergo a series of test to ascertain suitability for surgery both in terms of fitness and stage of disease. Surgery remains the mainstay for curative therapy in patients with gastric cancer.

The conventional surgical technique to remove the tumour with a portion of the stomach and neighbouring lymph nodes involves an approximately 15cm-long upper abdominal incision (**Fig 2**). This open surgical procedure is associated with increased post-operative pain, more respiratory complications, delayed return of bowel function, longer hospitalisation and prolonged recovery time. In order to minimise these problems, laparoscopic gastrectomy was developed. This is an advanced laparoscopic surgical procedure requiring skilled expertise to perform. Laparoscopic gastrectomy uses a telescope-like instrument called laparoscope. The laparoscope is inserted through a small incision below the belly button. It is connected to an external video monitor and is able to provide great magnification of the operative field. Carbon dioxide gas is used to fill the inside of the belly thus allowing space to work. Four other tiny stab wounds are made over the abdominal wall to allow insertion of specialised instruments for stomach and lymph node dissection. Then a 5cm upper abdominal incision is made to retrieve the resected specimen and to attach remaining portion of stomach to small intestine (**Fig 3**).



The operative time for laparoscopic gastrectomy is longer as compared to open surgery. However, laparoscopic gastrectomy has the benefits of lesser pain, decreased respiratory complications, early return of bowel function, shorter hospitalisation and recovery time. It has been shown in literature to have similar oncological outcomes compared to open surgery with no difference in survival rate. Dietary adjustments may be necessary as loss of reservoir and digestive function of stomach requires a recuperation time of several weeks both for open and laparoscopic gastrectomy. An increasing number of patients are being diagnosed with early gastric cancer; a surge in the number of laparoscopic gastrectomies will be seen for its evident advantages.

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