

MEET OUR CONSULTANT



Dr. Rajesh Kumar Paramasviam
Consultant Gastroenterologist, Hepatologist & Physician

*MD, MRCP (Glasgow), Fellowship Gastroenterology (MAL, AUS),
Fellowship Interventional Endoscopy (Bangkok, Mumbai)*

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| Location: Suit Number G2 | Schedule: Monday – Saturday :8.30am – 1.00pm Monday – Friday :2.00pm – 5.00pm | Contact Number: +603-6287 1259 |
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FOR APPOINTMENT & ENQUIRIES:

+603-6287 1365 • +6018 220 1108

Monday - Friday : 8.30am - 5.30pm • Saturday : 8.30am - 12.30pm

Endoscopic Ultrasound: The Third Eye

What is EUS?

Endoscopic ultrasound (EUS) is a minimally invasive procedure used to assess digestive (gastrointestinal) and chest cavity (mediastinum) related diseases. It is a special and sophisticated endoscope that uses high frequency sound waves on top of conventional digital imaging to produce detailed images of the lining and walls of the digestive tract as well as nearby organs. This is made possible by installing a small ultrasound device at the tip of endoscope.

This technology allows a cross sectional view of organs such as the lymph nodes in the chest cavity, right lobe of liver, pancreas, bile duct and small nodes surrounding the digestive tract that can be missed by CT scan. In short, it allows the gastroenterologist to have eyes beyond the walls of the stomach; dubbed as the 'third eye'. Of late, the gastroenterologist can also have a 'feel' of what is seen with the advent of elastography; a technology that allows assessment of the stiffness of the lesion.

When combined with a procedure called fine needle aspiration, EUS allows the doctor to sample fluid and tissue from the abdomen or chest for analysis. EUS with fine needle aspiration can be a minimally invasive alternative to more invasive means of acquiring sample. EUS enables one to reach crevices in the body that were once thought to be difficult or impossible to reach.

EUS can also be used in advanced treatments such as draining pancreatic pseudocyst, drainage of pus (abscess), facilitating gall bladder collection drainage and accessing bile duct when conventional method fails.

Why It Is done?

EUS as a diagnostic tool; is used extensively to determine the extent of diseases in the digestive tract and organs surrounding it. EUS is crucial in evaluation of:

- Cancers arising from oesophagus, stomach, colon and rectum, lungs, pancreas and ampulla of Vater
 - Assess the depth of tumour penetration
 - Determine if cancer has spread (metastasized) to the lymph nodes or other organs
- Sub-epithelial lesion
- Neuroendocrine tumours
- Pancreatitis and pancreatic cysts
 - Further characterize abnormal findings from CT scan/MRI
- Bile duct stones
- Faecal incontinence
 - Evaluate muscles of lower rectum and anal canal

EUS as an interventional tool; has become a significant part of therapeutic armamentarium.

- Acquire tissue from tumours or cystic lesions
- Guide drainage of pseudocysts and other abnormal collections of fluid in the abdomen
- Celiac plexus neurolysis/block used in pain relief for pancreatic cancer/chronic pancreatitis
- Bile duct access when ERCP fails
- Permit precise targeting in delivering radiotherapy directly into the pancreas, liver and other organs by means of fiducial placement

EUS is performed as an outpatient procedure and is well-tolerated by most people. It is done under either deep or conscious sedation. The procedure may take anywhere between thirty minutes to one hour depending on the complexity of the case.

One may not be a suitable candidate for EUS if abdominal surgery that changed anatomy has been performed; such as Roux-en-Y gastric bypass.

What are the risks?

EUS is generally safe when performed at a centre with an experienced and expert health care team. The physician will discuss with you the risk of complications from EUS. These risks are most commonly associated with fine needle aspiration or interventional EUS.

Risks may include:

- Bleeding
- Infection
- Tearing (perforation) of the intestinal wall or throat
- Pancreatitis

The risk of complications can be reduced by carefully following the doctor's instructions when preparing for EUS. The patients are advised to contact the doctor immediately or go to the emergency department if they experience any of the following signs or symptoms after the procedure:

- Fever
- Chest pain
- Shortness of breath
- Black or very dark-coloured stool
- Severe or persistent abdominal pain

EUS is the last frontier in the field of gastroenterology and it requires finesse as well as high level of expertise to put it to good use. EUS is a useful tool for diagnostic as well therapeutic purpose. We offer this service in our hospital and hope it will improve the quality of care for gastrointestinal diseases in the community.