



IHH Healthcare

# Endoscopic Ultrasound (EUS)

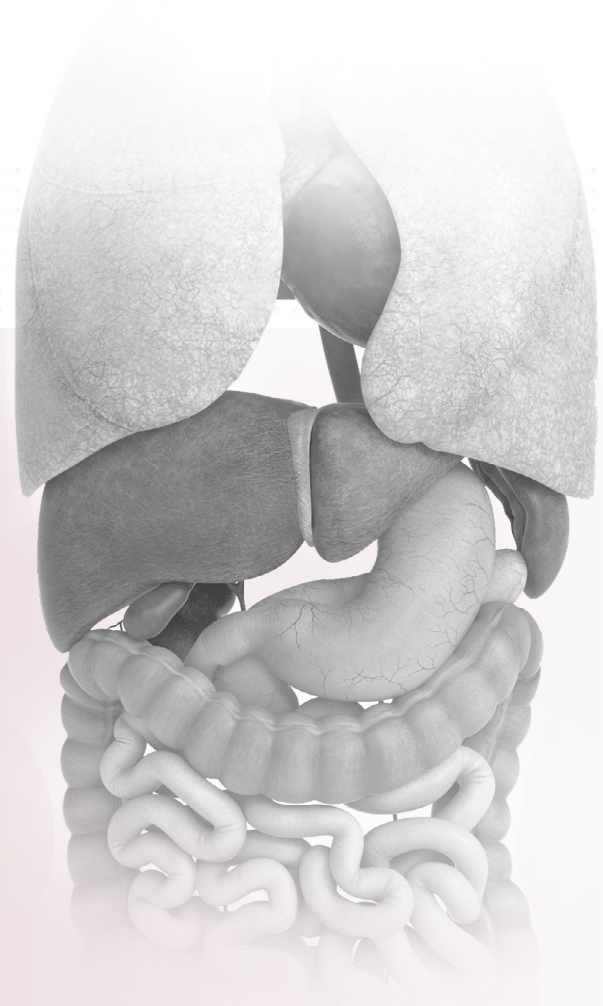
## KEY PROCEDURE HIGHLIGHTS

1

A minimally invasive procedure to **assess gastrointestinal diseases** and **examine organs near the digestive tract** such as the lungs, liver, gallbladder and pancreas.

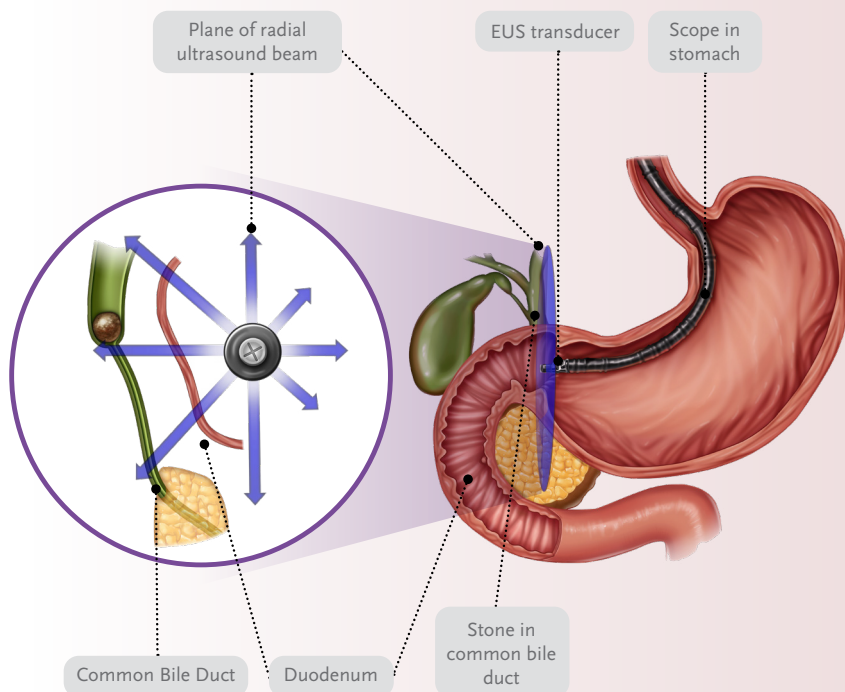
2

**Obtain tissues for diagnosis** of suspected cancers **and evaluate stages of cancer** in the oesophageal, pancreas, stomach, rectum and bile duct during FNA.<sup>1</sup>



## ENDOSCOPIC ULTRASOUND (EUS)

EUS is a procedure that assesses gastrointestinal and lung diseases using a special endoscope with an ultrasound probe. It utilizes high-frequency sound waves to produce high quality ultrasound images of the lining and walls of the digestive tract, chest, pancreas, liver, and lymph nodes.



### HOW IT WORKS:

A small ultrasound device is first installed on the tip of an endoscope.

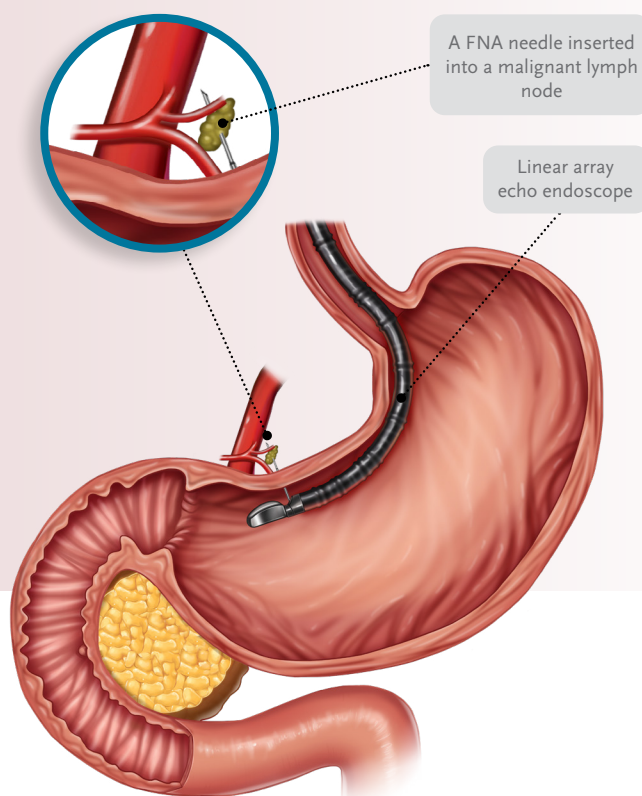
The endoscope and camera are inserted into the upper or the lower digestive tract to obtain detailed images of the organs.

The entire procedure usually takes 30 to 90 minutes, and patients can often go home on the same day of the procedure.

### EUS-GUIDED FINE NEEDLE ASPIRATION (FNA) BIOPSY

When combined with FNA, soundwaves from EUS can obtain tissue samples for biopsy from difficult to reach areas such as:<sup>2</sup>

- Lymph nodes
- Lung tumours
- Pancreatic lesions
- Biliary tract diseases
- Gastrointestinal lesions
- Subepithelial stomach lesions



## WHEN TO REFER PATIENTS FOR EUS?

EUS provides detailed images for evaluation of abnormalities (lumps and lesions) detected at prior endoscopy or x-ray tests for the following medical conditions:

- ✓ Lymphoma
- ✓ Barrett's esophagus
- ✓ Neuroendocrine tumours
- ✓ Sarcoidosis
- ✓ Bile duct stones
- ✓ Pancreatitis and pancreatic cysts
- ✓ Cancers of
  - Ampulla of vater
  - Colon
  - Esophagus
  - Lung
  - Pancreas
  - Rectum
  - Stomach

## ADVANTAGES OF EUS

EUS has several advantages over other imaging options such as CT scans, MRI and basic ultrasound.



EUS allows examination in closer proximity to the pancreas, which enables detailed and clearer imaging.



Pancreatic biopsies can be safely and easily obtained at the time of the procedure.



There is no exposure to radiation.



There is no need for contrast to be given.

## DIAGNOSTIC & GUIDED INTERVENTIONAL CAPABILITIES OF EUS

### Diagnostic Capabilities



Assess the depth of tumour penetration in abdominal wall and nearby organs



Determine the stage of cancer and if cancer has metastasized to the lymph nodes or other organs



Evaluate abnormal findings from imaging tests

### Guided Interventional Procedures



Guide drainage of pancreatic cysts, pseudocysts and other abnormal collections of abdominal fluid



Guide precise and targeted delivery of medication directly into the pancreas, liver and other organs<sup>3</sup>

## CLINICAL BENCHMARKS USED BY PARKWAY HOSPITAL SPECIALISTS

Parkway Hospitals Singapore meets the American Society for Gastrointestinal Endoscopy (ASGE)<sup>4</sup> performance standards for patients undergoing EUS-FNA.



Diagnostic rate of adequate sample in all solid lesion<sup>\*4</sup>

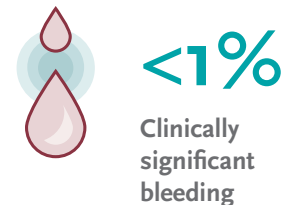


Diagnostic accuracy rate of malignancy of all pancreatic masses<sup>4</sup>



Sensitivity of malignancy among patients with pancreatic cancer<sup>4</sup>

Low incidence of adverse events after EUS-FNA as compared to the safety outcomes of ASGE.<sup>4</sup>



\* Adequate sample refers to the presence of cells/tissues from the representative lesion in question.

## REFERENCES

1. Domagk D, Oppong K, Aabakken L, et al. Performance measures for ERCP and endoscopic ultrasound: a European Society of Gastrointestinal Endoscopy (ESGE) Quality Improvement Initiative. *Endoscopy*. 2018. doi:10.1055/a-0749-8767
2. Matsumoto K, Takeda Y, Onoyama T, et al. Endoscopic ultrasound-guided fine-needle aspiration biopsy - Recent topics and technical tips. *World Journal of Clinical Cases*. 2019;7(14):1775-1783. doi:10.12998/wjcc.v7.i14.1775
3. Saumoy M, Kahaleh M. Safety and Complications of Interventional Endoscopic Ultrasound. *Clinical Endoscopy*. 2018;51(3):235-238. doi:10.5946/ce.2017.081
4. Wani S, Wallace MB, Cohen J, et al. Quality indicators for EUS. *Gastrointest Endosc*. 2015;81(1):67-80.

For more information, contact us at:



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