

Endoscopic Ultrasound (EUS)

Endoscopic Ultrasound (EUS) combines endoscopy and ultrasound in order to obtain images and information about the digestive tract and the surrounding tissue and organs. Endoscopy refers to the procedure of inserting a long flexible tube via the mouth or the rectum to visualize the digestive tract whereas ultrasound uses high-frequency sound waves to produce images of the organs and structures inside the body such as liver, gallbladder, pancreas, or aorta.

Traditional ultrasound sends sound waves to the organ(s) and back with a transducer placed on the skin overlying the organ(s) of interest. Images obtained by traditional ultrasound are not always of high quality. In EUS a small ultrasound transducer is installed on the tip of the endoscope. By inserting the endoscope into the upper or the lower digestive tract one can obtain high quality ultrasound images of the organs inside the body.

Preparation

To obtain the full benefits of the exam and achieve the highest degree of accuracy, the stomach must be emptying and free of food. Rectal ultrasound may involve taking a laxative and enemas. Our experienced staff will provide instructions on how to do this. It involves following dietary restrictions.

Medication Adjustments

Most medications can be continued as usual, but certain medications can interfere with the preparation or the examination. Inform your doctor about medications you are taking, particularly aspirin, arthritis medications, anti-coagulants and blood thinners (such as warfarin, heparin), clopidogrel, diabetes medications, and blood pressure medications.

The Procedure

EUS is usually performed on an outpatient basis at a hospital based surgery center. You are moderately or deeply sedated to help you relax. The endoscope is then inserted through your mouth and advanced into the esophagus, stomach, and proximal small intestine. The endoscope does not interfere with your breathing. The procedure takes approximately 30-60 minutes, although you should plan on two to three hours for waiting, preparation, and recovery. A recovery area is available to monitor vital signs until you are fully awake.

Why is EUS done?

EUS provides your doctor with more information than other imaging tests by providing detailed images of your digestive tract. Your doctor can use EUS to diagnose certain conditions that may cause abdominal pain or abnormal weight loss.

EUS is also used to evaluate known abnormalities, including lumps or lesions, which were detected at a prior endoscopy or were seen on x-ray tests, such as a computed tomography (CT) scan. EUS provides a detailed image of the lump or lesion, which can help your doctor determine its origin and help treatment decisions. EUS can be used to diagnose diseases of the pancreas, bile duct and gallbladder when other tests are inconclusive or conflicting.

Additionally EUS can be used to obtain Ultrasound guided deep tissue biopsies of lesions otherwise unreachable by conventional methods and is specially useful in pancreas, bile duct and liver lesions. Remember, biopsies can be taken for many reasons, and your doctor may take a biopsy even if he or she does not suspect cancer.

Why is EUS used for patients with cancer?

EUS helps your doctor determine the extent of spread (staging) of certain cancers of the digestive systems e.g. esophageal, rectal, stomach and pancreas. EUS allows your doctor to accurately assess the cancer's depth and whether it has spread to adjacent lymph glands or nearby vital structures, such as major blood vessels. In some patients, EUS can be used to obtain a needle biopsy of a lump or lesion to help your doctor determine the proper treatment.

Possible Risks

Although complications can occur, they are rare when doctors with specialized training and experience perform the EUS examination. Bleeding might occur at a biopsy site, but it's usually minimal and rarely requires follow-up. You might have a slight sore throat for a day or so. Nonprescription anesthetic-type throat lozenges help soothe a sore throat.

Other potential but uncommon risks of EUS include a reaction to the sedatives used, aspiration of stomach contents into your lungs, infection, and complications from heart or lung diseases. One major but very uncommon complication of EUS is perforation. This is a tear through the lining of the intestine that might require surgery to repair.

The possibility of complications increases slightly if a needle biopsy is performed during the EUS examination, including an increased risk of pancreatitis or infection. These risks must be balanced against the potential benefits of the procedure and the risks of alternative approaches to the condition. Other potential risks include allergic or adverse drug reactions to the medications, blood pressure changes and/or cardiac or respiratory problems with the use of sedatives. The physician, anesthesiologist, and the endoscopy team also have advanced training to deal with these rare complications. Overall, EUS is considered a very safe procedure!