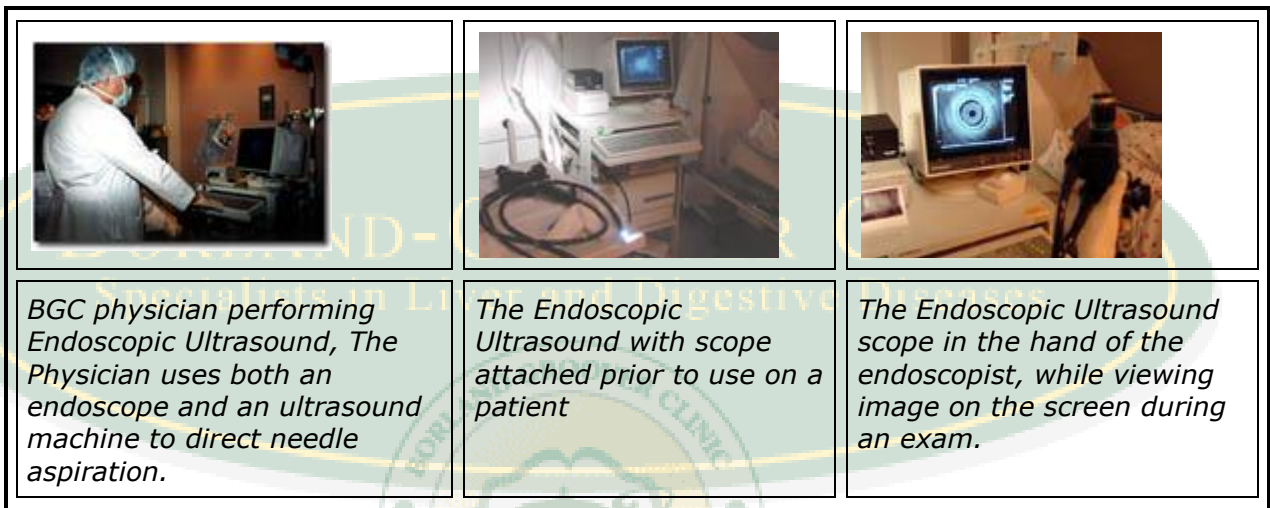


ENDOSCOPIC ULTRASOUND

Endoscopic Ultrasound (EUS) is an endoscopic technique that utilizes an endoscope with an ultrasound probe at its tip. This technique allows your Borland-Groover Clinic physician the ability to see beyond the endoscopic image provided by standard endoscopes.



Endoscopic ultrasound is a technology that has been available in the United States for over 10 years and has been available in the Jacksonville market for approximately eight years. The proliferation of endoscopic ultrasound in the Jacksonville market now includes three centers with full endoscopic ultrasound capability. An endoscopic ultrasound is essentially an endoscope that has optic visualization of the digestive tract but, in addition, has attached to it an ultrasound probe, which allows ultrasound images that are recorded live of what is seen immediately in front of the endoscope and beyond the digestive lumen. Endoscopic ultrasound is a novel technology in that it allows us now to look just beyond the outer surface of the digestive tract to structures that surround the intestinal tract. As such, endoscopic ultrasound has taken on interesting new therapeutic capabilities. The current literature would clearly suggest that endoscopic ultrasound is an ideal intraluminal form of staging gastrointestinal tract malignancies. The ability of the ultrasound probe to look at a tumor within the digestive tract and detect its penetration within the layers of the wall of the digestive tract allows very specific and sensitive diagnostic information from the clinician with

respect to whether the tumor has spread beyond the serosal wall. As such, endoscopic ultrasound has been proven to be more sensitive than CT scanning for the staging of esophageal cancer. In addition, it has added value in the staging of rectal cancers.

More interesting though is its application extra-luminally. In this respect, endoscopy ultrasound is now being employed to look at lymph nodes surrounding the digestive tract and determining whether malignancies have spread into the lymph node system. In addition, endoscopic ultrasound employ a working channel in which a thin needle can be deployed under real-time ultrasonography through the digestive tract wall into lymph nodes. Subsequently, the lymph node can be aspirated for cytologic analysis. As such, we can now diagnose whether the tumor has gone beyond the digestive wall and, in addition, we can aspirate lymph nodes to see whether tumor has spread into those lymph nodes, theoretically upstaging the tumor and having a significant clinical impact in the future therapeutic options offered to the patient. In addition to the above, endoscopic ultrasound has been used to aid in the aspiration and resolution of pancreatic pseudocysts and the diagnosis of pancreatic cancers and in the management of chronic pancreatic pain by the use of injecting anesthetic into the celiac plexus under endoscopic ultrasound guidance.

The use of endoscopic ultrasound has gradually increased over the years in Jacksonville. This has especially become the case with the introduction of the linear endoscopic ultrasound which allows therapeutic options such as fine needle aspiration, celiac blocks, and pseudocyst drainage. In a recent paper to be submitted for presentation by the Borland Groover Clinic, we studied its increased utilization over a 7 year time span. (Below Graph). In this study, we demonstrated the increased utilization of endoscopic ultrasound with the introduction of its therapeutic options via the introduction of the linera endoscopic ultrasound scope that allows us to perform fine needle aspiration for cytology and helps in pseudocyst drainage.

Borland-Groover Clinic physicians have been instrumental in the development of this technique in conjunction with endoscopic pseudocyst drainage. We where the first to publish the utility of the addition of Doppler ultrasound via the technique of endoscopic ultrasound in locating a safe location within the gastric wall prior to making a cut for pseudocyst drainage (Endoscopic drainage of pancreatic pseudocysts: Patient selection and evaluation of outcome by endoscopic ultrasonography. Endoscopy 27:329-333, 1995).

Lastly, endoscopic ultrasound may be used soon to provide chemotherapy, radiation therapy and other future applications of minimally invasive therapies in the treatment of cancer and other conditions.

For the more up-to-date information on Endoscopic Ultrasound, please visit our Hot Topics article on the subject.

