**Comparison of Fiberoptic Endoscopic Evaluation of Swallowing (FEES) with Modified Barium Swallow Study (MBSS)**

# **Fiberoptic Endoscopic Evaluation of Swallowing (FEES)**

Also called video endoscopic evaluation of dysphagia and bedside endoscopic swallowing test, it is a technique performed to assess swallowing function and associated structures by using a flexible fiberoptic laryngoscope passed transnasally. The scope used is not passed between the vocal folds but rather hangs above the vocal folds. The swallowing function can be viewed on a monitor in real-time as the patient is offered a variety of food items with different consistencies. Additionally, the study can be recorded and saved to be viewed later.

## **The Modified Barium Swallow Study (MBSS)**

Also called Videofluoroscopic Swallow Study (VFSS), it is an older procedure compared to FEES. It is still commonly used for the assessment of dysphagia. The process is performed in the videofluoroscopy suite within a hospital and involves a radiologist, a radiology technologist, and a speech-language pathologist. During MBSS, the patient is seated in a functional feeding position while he is fed barium coated food, and an X-ray is being performed. The study is time-limited in order to reduce the radiation exposure for the patient.

### **FEES VS. MBSS**

Following its introduction, FEES was not readily accepted by the skeptics. However, over time, it has repeatedly established its superiority over MBSS by demonstrating a sensitivity higher, or at least equal, to that of MBSS when it comes to determining whether a patient is experiencing aspiration, delay in swallowing initiation, penetration or pharyngeal secretions.

### **Benefits of FEES Over MBSS**

* FEES is not time-limited, and there is no exposure to radiations during the process.
* FEES can be performed by a speech-language pathologist, and there is no need to coordinate with the radiology department.
* FEES equipment is portable and can be used while the patient is sitting in an upright position.
* The patient does not have to swallow unpleasant, barium coated food that often leads to constipation.
* In contrast to MBSS, FEES can be used for morbidly obese patients.
* FEES can be performed on patients under mechanical ventilation and medically complex patients unable to leave the bed, room, ward, or sit in an upright position.
* FEES can be used for surgical purposes.
* The process can be recorded and viewed later that allows for a better understanding of minor details and pathologies that might be missed by unaided eye in real-time.
* Portable FEES equipment allows for the procedure to be performed anywhere i-e hospital, outpatient clinic, the patient's home, wheelchair, or bedside.
* In order to reduce the radiation exposure, the fluoroscope is turned off after each swallow leading to a possibility of missing post-swallowing behaviors.
* FEES can be recorded as both videos and still pictures that can be saved in the patient's record and viewed later.

Additionally, FEES can be cost-effective compared to MBSS. However, it should be kept in mind that usefulness often varies depending upon the individual case and the state of the patient. In some settings, MBSS can be preferable over FEES as FEES fails to assess the oral and esophageal stages of swallowing.