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ESSENTIALS OF COMMUNICATION SCIENCES & DISORDERS

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evaluate a patient's swallowing typically are based on three general areas of concern (Logemann, 1998; Swigert, 2007):

- The patient appears to be at risk for aspirating food or liquid based on the medical diagnosis.
- Difficulties have been observed related to feeding and the intake of food or liquid.
- The patient appears not to be taking in adequate nourishment.

Clinical (Bedside) Swallow Evaluation

A clinical or “bedside” evaluation of a patient who may have dysphagia is a multi-step process (ASHA, 2005; Swigert, 2007).

- A careful review of the patient's medical chart
- Screening of the patient, which includes interviewing the patient to understand his perceptions of the problem and to determine whether he has a sufficiently strong protective cough to clear food or liquid from the airway
- An oral-mechanism examination with careful observation of the anatomy and physiology of the articulatory structures
- Observation of the patient drinking different consistencies or thicknesses of liquids (i.e., *regular* [thin], *nectar*, *honey*, and *pudding*) and eating foods of different textures (i.e., *regular* [normal diet with all textures], *mechanically altered* [food easily chewed into a cohesive bolus], and *puree* [blended food or baby-food texture])
- Determination of the risk for aspiration and the need for an instrumental evaluation to clarify the kind of swallowing disorder the patient has (e.g., oropharyngeal) and the underlying physiological deficits
- Documentation in the patient's medical chart of all assessment procedures and results

Instrumental Evaluation of Swallowing

The accurate assessment of the anatomic and physiological mechanisms involved in swallowing can be accomplished only through instrumental swallowing studies (Corbin-Lewis & Liss, 2015; Kendall, 2013; Logemann, 1998). In addition, it is essential for clinicians to see the actual responses that patients have to various techniques designed to increase swallowing safety. Two of the most commonly used instrumental evaluation procedures are the **modified barium swallow study (MBSS)** and the **fiber-optic endoscopic evaluation of swallowing (FEES)**.

Modified Barium Swallow Study (MBSS)

The modified barium swallow study (also known as a *videofluoroscopy swallow study* [VFSS]) is considered the “gold standard” instrumental evaluation for viewing the physiology of the swallow and determining the presence or absence of aspiration (Logemann, 1998; Swigert, 2007) (**FIGURE 18-3**). The MBSS is a *dynamic* (moving) *radiographic* (X-ray) imaging procedure that examines the process of swallowing—that is, a video recording of real-time movement of the bolus from the mouth to the stomach. The MBSS provides the most thorough information on the physiology of the swallowing process (ASHA, 2004a; Brady & Donzelli, 2013). It is performed in the radiology (X-ray) suite, with the speech-language pathologist and the radiologist working as a team.

During the MBSS, the clinician presents to the patient various liquid consistencies that have been mixed with *barium* and food textures that have been

Modified barium swallow study (MBSS): A dynamic (moving) imaging radiographic (X-ray) procedure focusing on the mouth, pharynx, larynx, and cervical esophagus used to examine the process of swallowing; a video recording of real-time movement of a bolus from entering the mouth to entering the stomach.

Fiber-optic endoscopic evaluation of swallowing (FEES): A procedure used to provide visual information about the pharyngeal phase of swallowing. A flexible endoscope is passed through the nasal passageway into the nasopharynx to view the laryngopharynx and the patient is asked to swallow food or liquid that has been dyed green for contrast.



FIGURE 18-3 A speech-language pathologist performing a modified barium swallow study (MBSS). Note the X-ray equipment.

Joan Kelly Arsenault, MA, CCC/SLP, BCS-S demonstrating MBSS on MassTex Imaging's Mobile Clinic 2016" MassTex Imaging providers Mobile Dysphagia Consultations throughout New England. (www.masstextimaging.com).



FIGURE 18-4 A speech-language pathologist viewing the video image of a modified barium swallow study (MBSS).

SLP & MD reviewing MBSS on MassTex Imaging's Mobile Clinic 2016", compliments of Joan E. Baumer, MD, FAAFP, President/CMO and Joan Kelly Arsenault, MA, CCC/SLP, BCS-S, CEO (www.masstextimaging.com).

coated with barium (a radiopaque substance that stops the passage of X-rays and is used to outline the interior of hollow spaces, such as the oral cavity and esophagus). The SLP carefully observes on the video screen the patient's oral preparatory, oral, pharyngeal, and esophageal phases of swallowing (**FIGURE 18-4**). Beyond diagnosing oropharyngeal dysphagia, the clinician has the patient try various compensatory swallowing techniques to see which techniques allow for a safe and efficient swallow—for example, modified liquid consistencies and food textures, postural adjustments of the patient, and swallowing maneuvers. Training in these techniques can later be reinforced during the dysphagia therapy (Corbin-Lewis & Liss, 2015; Groher & Crary, 2015; Swigert, 2007).