Prior Authorization Review Panel
MCO Policy Submission

A separate copy of this form must accompany each policy submitted for review. Policies submitted without this form will not be considered for review.

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<tr>
<th>Plan: Aetna Better Health</th>
<th>Submission Date: 07/01/2018</th>
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<tr>
<td>Policy Number: 0248</td>
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<td>Effective Date: 05/04/2018</td>
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<tr>
<td>Policy Name: Fiberoptic Endoscopic Evaluation of Swallowing (FEES)/Fiberoptic Endoscopic Evaluation of Swallowing with Sensory Testing (FEESST)</td>
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<tr>
<td>Type of Submission – Check all that apply:</td>
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<tr>
<td>☑ Revised Policy*</td>
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<tr>
<td>☐ New Policy</td>
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<tr>
<td>☐ Annual Review – No Revisions</td>
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<td>*All revisions to the policy must be highlighted using track changes throughout the document. Please provide any clarifying information for the policy below:</td>
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**CPB 0248 Fiberoptic Endoscopic Evaluation of Swallowing (FEES)/Fiberoptic Endoscopic Evaluation of Swallowing with Sensory Testing (FEESST)**

This CPB has been revised to state that portable modified barium swallow study (MBSS; also known as videofluoroscopic swallowing study) is considered experimental and investigational.

Name of Authorized Individual (Please type or print): Dr. Bernard Lewin, M.D.

Signature of Authorized Individual: [Signature]
Fiberoptic Endoscopic Evaluation of Swallowing (FEES)/Fiberoptic Endoscopic Evaluation of Swallowing with Sensory Testing (FEESST)

Policy

I. Aetna considers both fiberoptic endoscopy and videofluoroscopy medically necessary for evaluation of swallowing function. Fiberoptic endoscopic evaluation of swallowing (FEES) is the preferred test over videofluoroscopy in the evaluation of a swallowing disorder in any of the following conditions:

- A more conservative examination than videofluoroscopy is required because of...
concerns about aspiration of barium, food, and/or liquid; or

• Need to assess fatigue or swallowing status over a meal; or

• Repeat examination to assess change; to assess effectiveness or need for maneuvers; or

• Severe dysphagia with very weak or possibly absent swallow reflex and/or very limited ability to tolerate any aspiration (e.g., brainstem stroke, member tube-fed for prolonged period, very poor pulmonary status, or, poor immunologic status); or

• Therapeutic examination that requires time to try out several maneuvers, several consistencies, etc. (e.g., want to try real foods; want parent to hold baby in several positions; or want to try biofeedback); or

• To visualize the larynx directly for signs of trauma or neurological damage and assess laryngeal competence post-intubation or post-surgery (especially with coronary artery bypass grafting, carotid endarterectomy, or any surgery where the recurrent laryngeal nerve was vulnerable); or

• When positioning for fluoroscopy is problematic (e.g., member bedridden, weak, has contractures, in pain, has decubitus ulcers, quadriplegic, wearing neck halo, obese, or, on ventilator); or

• When there is a suspicion that laryngeal competence may be compromised in a member with a tracheostomy; or

• When transportation to fluoroscopy is problematic (e.g., medically fragile/unstable member in an intensive care unit, cardiac or other monitoring in place, on ventilator,
or, nursing/medical care must be with member); or

- When transportation to the hospital is problematic (e.g., nursing home issues, including cost of transportation, resources needed to accompany member, strain on member, or, member fearful of leaving familiar surroundings, etc.).

II. Aetna considers the sensory testing component (also known as “endoscopic air pulse stimulation”) of fiberoptic endoscopic evaluation of swallowing with sensory testing (FEESST) medically necessary for the evaluation of members with persistent dysphagia who meet criteria for FEES above.

III. Aetna considers portable modified barium swallow study (MBSS; also known as videofluoroscopic swallowing study) experimental and investigational because its clinical value has not been established.

Background

Oropharyngeal dysphagia is usually either a primary abnormality related to structural aberrations of the oropharynx or a secondary manifestation of neuromuscular disease. Causes for dysfunctional swallowing are protean. Both diagnosis and therapy of oropharyngeal dysphagia are based on functional assessment. Following the performance of a clinical examination, instrumental work-up includes evaluating specific aspects of swallowing function, judging the consequences of the swallowing dysfunction, and assessing factors that may be contributing to swallowing dysfunction.
Videofluoroscopy has long been viewed as the "gold standard" for evaluation of a swallowing disorder for the comprehensive information it provides. However, it is not very efficient and accessible in certain clinical and practical situations. Fiberoptic endoscopic evaluation of swallowing (FEES) has been shown to be safe and effective for assisting in swallowing evaluation, and in therapy as a visual display to help patients learn various swallowing maneuvers.

In FEES, a flexible fiberoptic endoscope is introduced transnasally to the patient's hypopharynx where the clinician can clearly view laryngeal and pharyngeal structures. The patient is then led through various tasks to evaluate the sensory and motor status of the pharyngeal and laryngeal mechanism. Food and liquid boluses are then given to the patient so that the integrity of the pharyngeal swallow can be determined. Information obtained from this examination includes ability to protect the airway, the ability to sustain airway protection for a period of several seconds, the ability to initiate a prompt swallow without spillage of material into the hypopharynx, timing and direction of movement of the bolus through the hypopharynx, ability to clear the bolus during the swallow, presence of pooling and residue of material in the hypopharynx, timing of bolus flow and airway protection, sensitivity of the pharyngeal/laryngeal structures and the effect of anatomy on the swallow.

Appropriate postural changes and swallowing maneuvers are attempted to detect problems and enable the examiner to make recommendations regarding optimal interventions to improve the safety and efficiency of the swallow, the advisability of oral feeding, and use of appropriate behavioral strategies that facilitate safe and efficient swallowing. The most
critical finding is aspiration, and the literature demonstrates that FEES is able to detect this finding with good sensitivity.

Fiberoptic endoscopic evaluation of swallowing with sensory testing (FEESST) is an alternative to modified barium swallow evaluation of patients at risk for aspiration. The procedure entails the passage of a specially equipped flexible endoscope into the oropharynx. The special equipment includes a sensory stimulator that allows quantification of stimuli, a television monitor, a video printer, and a videocassette recorder. Sensory evaluation is performed by administering pulses of air at sequentially increased pressures to elicit the laryngeal adductor reflex. Motor evaluation is carried out by delivering various food items with different consistencies while factors such as oral transit time, inhibition of swallowing, laryngeal elevation, spillage, residue, condition of swallow, laryngeal closure, reflux, aspiration, and ability to clear residue, are monitored.

A randomized controlled clinical outcome study of FEESST by Aviv et al (2000) found no significant difference in rates of pneumonia in dysphagic patients evaluated with modified barium swallow and dysphagic patients evaluated with FEESST. The use of laryngopharyngeal sensory testing is controversial. The Veterans Health Administration, Department of Defense (2003) clinical practice guideline for the management of stroke rehabilitation in the primary care setting concluded that “[t]here is insufficient evidence to recommend for or against fiber-optic endoscopic examination of swallowing with sensory testing (FEESST) for the assessment of dysphagia”. The evidence review stated that the overall quality of evidence supporting FEESST is “poor”. An evidence-based guideline on dysphagia from the Scottish
Intercollegiate Guidelines Network (SIGN, 2004) concluded that "[l]aryngopharyngeal testing has also been described but insufficient evidence was identified to recommend it". Current clinical guidelines on stroke from the Royal College of Physicians (2004) recommend FEES or some other instrumental investigation to allow visualization of the pharynx in persons who have persistent dysphagia. Although FEESST is listed in an appendix to these guidelines, the guidelines make no recommendation for its use.

Bockler (2016) noted that although FEES has been established as a valid procedure in instrumental evaluation of swallowing even in young children, the significance of the endoscopic method on infants has not yet been fully clarified. These researchers evaluated FEES in infants by focusing on its feasibility and limits. A total of 27 infants from a neuropediatric hospital presented for FEES were included in this analysis. Compared with Langmore standard FEES was carried out in a modified algorithm. In 24 of the 27 infants information about swallowing pathology could be obtained. Silent aspiration of saliva (Penetration Aspiration Scale (PAS) level 8) or silent deep penetration of test diets to the level of the glottis (PAS level 5) presented in 10 children and overt deep penetration of test diets in 3 children. In no case a sufficient insight into the subglottis or trachea could be obtained. Therefore a differentiation of silent deep penetration and aspiration of test diets was impossible. As a consequence of the FEES results, probe and diet management was changed in 7 children. The authors concluded that FEES in a modified algorithm turned out to be a feasible tool for the diagnostics of swallowing disorders in approximately 89 % of
the infants. The procedure was limited in terms of providing direct evidence on aspiration in cases of deep penetrations of test diets.

Portable Modified Barium Swallow Study:

Portable modified barium swallow study (MBSS; also known as videofluoroscopic swallowing study [VFSS]) is a fluoroscopic procedure; it is used for evaluating the oral, pharyngeal, and upper 1/3 of the esophageal phases of the swallow. This is accomplished by observing various consistencies of barium and mixed food/barium as it passes from the mouth to the stomach. However, there is insufficient evidence regarding the clinical value of portable modified barium swallow study.

Reynolds et al (2016) stated that the standard procedure to assess an infant in the neonatal intensive care unit (NICU) who is suspected of aspirating on oral feedings is a video-fluoroscopic swallowing study (VFSS). The VFSS has been used for more than 30 years to assess dysphagia and is considered the gold standard. However, there are challenges to the VFSS, including radiation exposure, transport to radiology, usage of barium, limited positioning options, and cost. An alternative approach is FEES, which uses a flexible endoscope passed trans-nasally into the pharynx to assess anatomy, movement/sensation of structures, swallow function, and response to therapeutic interventions. Fiberoptic endoscopic evaluation of swallowing has been established as a valid tool for evaluating dysphagia and utilized as an alternative or supplement to the VFSS in both adults and children. These investigators provided an overview of the current challenges in the NICU with assessing aspiration and introduced a multi-disciplinary FEES program for bottle
and breast-feeding. They performed a review of the literature of dysphagia, VFSS, and FEES in the adult, pediatric, infant, and neonatal populations. Clinical competency standards were researched and then implemented through an internal process of validation. Finally, a best practice protocol was designed as it relates to FEES in the NICU. Fiberoptic endoscopic evaluation of swallowing is a safe alternative to the VFSS. It can be utilized at the infant's bedside in a NICU for the diagnosis and treatment of swallowing disorders by allowing the clinician the ability to replicate a more accurate feeding experience, therefore, determining a safe feeding plan. These investigators noted that competency and training are essential to establishing a multi-disciplinary FEES program in the NICU. The authors concluded that further research is needed to compare the effectiveness and validity of FEES versus VFSS for infants in the NICU. Furthermore, they stated that evaluation of the effectiveness of FEES during breast-feeding is needed.

Henderson and co-workers (2016) examined the feasibility of obtaining and utilizing objective measures of timing and displacement from videofluoroscopy performed in pediatrics. Children (n = 121; mean age of 38 months, range of 9 days to 21 years, SD = 4 years) referred for videofluoroscopy were recruited. All underwent a standardized protocol including a mid-feed 20-second loop recorded at 25 frames/second. Videos were analyzed using objective digital measures of timing and displacement. Radiation dose was recorded. Quantitative measures were obtained in all children. Maximum opening of the pharyngo-esophageal segment and timing measures were correlated with increasing age. Values were congruent with validated adult
Mean radiation time was 1.58 minutes (range of 0.15 to 3.47, SD 0.66), and mean radiation dose was 30.16 cGycm2 (range of 6.5 to 85 SD 15.17). Radiation dose (p = 0.21) and radiation time (p = 0.72) were not significantly different using the increased frame rate compared with an age-matched cohort (n =100) prior to protocol change. The authors concluded that objective quantitative measures of swallowing measurements can be obtained successfully from pediatric videofluoroscopy performed at high frame rates, without increasing radiation dose. Measures were biologically consistent, reproducible, demonstrated internal cross-correlation, and mirror adult data. They stated that these measures have potential to support targeted management and objective monitoring of change by pediatric feeding teams in the future.

Giraldo-Cadavid and associates (2017) performed a systematic review and meta-analysis of the literature to compare the accuracy with which FEES and VFSS assessed oropharyngeal dysphagia in adults. Data sources included PubMed, Embase, and the Latin American and Caribbean Health Sciences Literature (LILACS) database. A review of published studies was conducted in parallel by 2 groups of researchers. They evaluated the methodological quality, homogeneity, threshold effect, and publication bias. The results are presented as originally published, then with each test compared against the other as a reference and both compared against a composite reference standard, and then pooled using a random effects model. Software use consisted of Meta-DiSc and SPSS. The search yielded 5,697
articles; 52 of them were reviewed in full text, and 6 articles were included in the meta-analysis. FEES showed greater sensitivity than VFSS for aspiration (0.88 versus 0.77; \(p = 0.03\)), penetration (0.97 versus 0.83; \(p = 0.0002\)), and laryngopharyngeal residues (0.97 versus 0.80; \(p < 0.0001\)). Sensitivity to detect pharyngeal premature spillage was similar for both tests (VFSS: 0.80; FEES: 0.69; \(p = 0.28\)). The specificities of both tests were similar (range of 0.93 to 0.98). In the sensitivity analysis there were statistically significant differences between the tests regarding residues but only marginally significant differences regarding aspiration and penetration. The authors concluded that FEES had a slight advantage over VFSS to detect aspiration, penetration, and residues. Moreover, they stated that prospective studies comparing both tests against an appropriate reference standard are needed to define which test has greater accuracy.

Audag and colleagues (2017) noted that dysphagia is frequent in pediatric patients with neuromuscular diseases (pNMD). Its detection is important for initiating early diagnosis and treatment as well as for minimizing related complications. These researchers reviewed the literature on dysphagia screening and evaluation tools in pNMD. They carried out a systematic review on the basis of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines; 3 databases (PubMed, CINAHL, and ScienceDirect) were searched. Measurement properties of tools and the quality index developed by Downs and Black were considered. The search yielded 4 studies and 4 different tools for pediatric patients with
Duchenne muscular dystrophy (DMD). The Sydney Swallow Questionnaire, surface electromyography, Neuromuscular Disease Swallowing Status Scale, and videofluoroscopic swallow study showed interesting properties for DMD. No data were available for other NMD and children under 9 years. The mean total score for the quality index was 17.5. The authors concluded that they did not identify any superior validated tools, either for screening or for evaluation of dysphagia, and no widely accepted protocol. They stated that further studies are needed to identify the simplest assessment with the best psychometric properties for pNMD; they recommended establishing a specific tool for pNMD.

CPT Codes / HCPCS Codes / ICD-10 Codes

Information in the [brackets] below has been added for clarification purposes. Codes requiring a 7th character are represented by "+":

<table>
<thead>
<tr>
<th>Code</th>
<th>Code Description</th>
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<tbody>
<tr>
<td>ICD-10 codes will become effective as of October 1, 2015:</td>
<td></td>
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<tr>
<td>CPT codes covered if selection criteria are met:</td>
<td></td>
</tr>
<tr>
<td>74230</td>
<td>Swallowing function, with cineradiography/videoradiography</td>
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<tr>
<td>92610</td>
<td>Evaluation of oral and pharyngeal swallowing function</td>
</tr>
<tr>
<td>92611</td>
<td>Motion fluoroscopic evaluation of swallowing function by cine or video recording</td>
</tr>
<tr>
<td>Code</td>
<td>Code Description</td>
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<tr>
<td>92612</td>
<td>Flexible fiberoptic endoscopic evaluation of swallowing by cine or video recording</td>
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<td>92613</td>
<td>physician interpretation and report only</td>
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<td>92614</td>
<td>Flexible fiberoptic endoscopic evaluation, laryngeal sensory testing by cine or video recording</td>
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<td>92615</td>
<td>physician interpretation and report only</td>
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<td>92616</td>
<td>Flexible fiberoptic endoscopic evaluation of swallowing and laryngeal sensory testing by cine or video recording</td>
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<tr>
<td>92617</td>
<td>physician interpretation and report only</td>
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Other CPT codes related to the CPB:

<table>
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<tr>
<th>Code</th>
<th>Code Description</th>
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<tr>
<td>92526</td>
<td>Treatment of swallowing dysfunction and/or oral function for feeding</td>
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ICD-10 codes covered if selection criteria are met (not all-inclusive):

<table>
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<tr>
<th>Code</th>
<th>Code Description</th>
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<tbody>
<tr>
<td>G45.0</td>
<td>Transient cerebral ischemic attack</td>
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<tr>
<td>G45.9</td>
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<tr>
<td>I65.01</td>
<td>Occlusion and stenosis precerebral arteries, occlusion of cerebral arteries and acute, but ill-defined cerebrovascular diseases</td>
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<tr>
<td>I67.9</td>
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<tr>
<td>I69.091, I69.191, I69.291, I69.391, I69.891, I69.991</td>
<td>Sequela of cerebrovascular disease, dysphagia</td>
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<td>J38.7</td>
<td>Other diseases of larynx</td>
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<tr>
<td>Code</td>
<td>Code Description</td>
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<tr>
<td>J69.0</td>
<td>Pneumonitis due to inhalation of food and vomit</td>
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<tr>
<td>K21.0 - K21.9</td>
<td>Gastro-esophageal reflux disease</td>
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<tr>
<td>K22.0</td>
<td>Achalasia of cardia</td>
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<tr>
<td>K22.4</td>
<td>Dyskinesia of esophagus</td>
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<tr>
<td>K22.8</td>
<td>Other specified diseases of esophagus</td>
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<tr>
<td>K23</td>
<td>Disorders of esophagus in diseases classified elsewhere</td>
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<tr>
<td>Q31.0 - Q32.4</td>
<td>Congenital malformations of larynx, trachea, and bronchus</td>
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<tr>
<td>R13.10 - R13.19</td>
<td>Dysphagia</td>
</tr>
<tr>
<td>R63.3</td>
<td>Feeding difficulties</td>
</tr>
</tbody>
</table>

The above policy is based on the following references:

4. Wu CH, Hsiao TY, Chen JC, et al. Evaluation of swallowing safety with fiberoptic endoscope:

http://qawww.aetna.com/cpb/medical/data/200_299/0248_draft.html 06/13/2018


12. Leder SB. Serial fiberoptic endoscopic swallowing evaluations in the management
20. ECRI Evidence-Based Practice Center. Diagnosis and treatment of swallowing disorders (dysphagia) in acute-care stroke patients. Evidence Report/Technology Assessment No. 8. Prepared for the Agency


43. Veterans Health Administration, Department of Defense. VA/DoD clinical practice guideline for the management of stroke rehabilitation in the primary care setting. VA/DoD Clinical Practice Guidelines.
Washington, DC: Department of Veteran Affairs; February 2003.


58. Hey C, Pluschinski P, Stanschus S, et al. A documentation system to save time and ensure proper application of the fiberoptic endoscopic evaluation of swallowing


Amendment to
Aetna Clinical Policy Bulletin Number: 0248 Fiberoptic Endoscopic Evaluation of Swallowing (FEES)/Fiberoptic Endoscopic Evaluation of Swallowing with Sensory Testing (FEESST)

There are no amendments for Medicaid.

www.aetnabetterhealth.com/pennsylvania  revised 05/04/2018