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.

<table>
<thead>
<tr>
<th>Plan: Aetna Better Health</th>
<th>Submission Date: 09/04/2018</th>
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<tbody>
<tr>
<td>Policy Number: 0305</td>
<td>Effective Date:</td>
</tr>
<tr>
<td>Policy Name: Videostroboscopy</td>
<td>Revision Date:</td>
</tr>
</tbody>
</table>

Type of Submission – Check all that apply:
- [ ] New Policy
- [x] Revised Policy*
- [ ] Annual Review – No Revisions

*All revisions to the policy must be highlighted using track changes throughout the document. Please provide any clarifying information for the policy below:

CPB 305 Videostroboscopy

Clinical content was last revised on 05/12/2017. Additional non-clinical updates were made by Corporate since the last PARP submission, as documented below.

Revision and Update History since last PARP submission:
- 07/31/2018 - This CPB has been updated with additional references.
- 03/14/2019 – Tentative next scheduled review date by Corporate.

Name of Authorized Individual (Please type or print):

Dr. Bernard Lewin, M.D.

Signature of Authorized Individual:

[Signature]

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Updated 09/04/2018
Videostroboscopy

Policy

Aetna considers videostroboscopy medically necessary as a diagnostic procedure for detection of vocal cord pathology (e.g., polyps, invasive carcinoma, and vocal cord paresis and paralysis,) in members who have received both a mirror-image and an endoscopic examination, and in whom no abnormal function or clinical pathology has been found with these tests, despite persistent symptoms.

Aetna considers videostroboscopy experimental and investigational for all other indications because its effectiveness for indications other than the one listed above has not been established.

Background

The cover and body of the vocal cord have different densities and therefore different mechanical properties. The stiff underlying body is comprised of the vocalis muscle of the vocal cord and the deep lamina propria, and is responsible for the transverse movement of the cord. The loose cover

*Please see amendment for Pennsylvania Medicaid at the end of this CPB.*
consists of the overlying mucosa and the superficial lamina propria, and vibrates primarily in the vertical direction and forms the traveling mucosal wave. Ordinarily, the vibrating movements of the vocal cords are too rapid to be seen by the unaided eye. One method of getting a clear view is by means of videostroboscopy.

Evaluation of the larynx by videostroboscopy is usually performed using a stroboscopic unit coupled with a Wolf rigid laryngoscope and a video recorder. If patients exhibit extreme gagging, the transoral approach is replaced by the transnasal approach using a flexible fiberoptic laryngoscope. For the latter procedure, local anesthesia is topically applied to the nasal, pharyngeal, and laryngeal mucosa of the patient before the fiberscope is inserted transnasally into the larynx. The procedure requires the patient to cause the vocal cords to vibrate by speaking or singing during the evaluation: therefore, the procedure can not be performed on aphonic patients, patients who are unable to hold steady phonation for at least 2 to 3 seconds, and persons with a high degree of breathy voice and incomplete glottic closure.

Videostroboscopy provides detection of vibratory asymmetries, structural abnormalities, small masses, submucosal scars and other conditions that might not be visible under continuous light. It produces not only valuable information concerning the motion of the normal vocal cord movements. In contrast, stroboscopic examination revealed that half of the same patients had reduced mobility. Studies have suggested that stroboscopic examinations might be the most useful technique in the early detection of invasive cancers of the vocal cords. A careful videostroboscopic examination can differentiate, to a certain extent, epithelial hyperplasia and dysplasia from invasive carcinoma of the vocal cords. Videostroboscopy is also useful for evaluating patients with vocal cord paralysis.
Mehta and Hillman (2012) summarized recent technological advancements and insight into the role of stroboscopy in laryngeal imaging. Although stroboscopic technology has not undergone major technological improvements, recent clarifications have been made to the application of stroboscopic principles to video-based laryngeal imaging. Also recent advances in coupling stroboscopy with high-definition video cameras provide higher spatial resolution of vocal fold vibratory function during phonation. Studies indicated that the inter-rater reliability of visual stroboscopic assessment varies depending on the laryngeal feature being rated and that only a subset of features may be needed to be representative of an entire assessment. High-speed videoendoscopy (HSV) judgments have been shown to be more sensitive than stroboscopy for evaluating vocal fold phase asymmetry, pointing to the future potential of complementing stroboscopy with alternative imaging modalities in hybrid systems. The authors concluded that laryngeal videostroboscopy alone continues to be the modality of choice for imaging vocal fold vibration, but technological advancements in HSV and associated research findings are driving increased interest in the clinical adoption of HSV to complement videostroboscopic assessment.

Mendelsohn et al (2013) stated that although high-speed imaging (HSI) has been identified as a valuable tool in phonatory biomechanics research, to-date, there have only been a selected number of reports investigating the clinical utility of HSI. These researchers examined the role of HSI in the diagnosis of the dysphonic patient. The video files from 28 consecutive dysphonic patients with concurrently acquired videostroboscopy and HSI were retrospectively collected. Stroboscopy video files were edited to include vibratory motion only. Videos were then anonymously and randomly presented to 4 academic laryngologists. Experts were asked to assign a single best diagnosis for each video file. Assigned diagnoses were then compared with treatment diagnoses conferred based on medical history, phonatory evaluation, laryngeal...
examination, and response to treatment. Inter-rater analysis for the 4 laryngologists demonstrated significant and meaningful correlations for the diagnoses of polyps, cysts, nodules, and normal examination using stroboscopy (kappa > 0.40, p < 0.001). The experts demonstrated significant and meaningful correlations for the diagnoses of polyps, presbyphonia, and normal examination using HSI (kappa > 0.40, p < 0.001). Combined intra-rater analysis performed by comparing single rater’s diagnosis for single patient across both modalities resulted in poor correlation without statistical significance (kappa = 0.30, p = 0.07). Both stroboscopy- and HSI-assigned diagnoses matched the treatment diagnoses at equal predicted frequencies (32.3 %), as demonstrated through multi-variate logistic regression analysis (p < 0.001). The authors concluded that overall HSI did not improve the diagnostic accuracy above stroboscopy alone. Moreover, they stated that although specific laryngeal states such as presbyphonia may be better diagnosed with HSI, further studies are needed to define HSI's precise role in the clinical setting.

Assessment of Non-Invasive Vocal Cord Lesions (Cysts, Nodules, and Polyps):

Mehlum and colleagues (2016) stated that correct assessment of patients with a glottic lesion is crucial for ensuring proper treatment in cases of cancer or pre-malignancy and for avoiding unnecessary surgery. For years, videostroboscopy (VS) has been the gold standard for assessing such lesions, but diagnostic difficulties have been described. These researchers estimated the diagnostic accuracy of VS in differentiating early glottic cancer from non-invasive lesions by conducting a systematic review and meta-analysis of published studies. PubMed and Embase databases were searched without restrictions on publication date. A systematic review and subsequent meta-analysis were performed according to the Preferred Reporting Items for Systematic Reviews and Meta-Analysis statement. These investigators
systematically searched the literature for publications on stroboscopic diagnosis of cancer or pre-malignant lesions on the vocal cords. All retrieved studies were reviewed and qualitatively assessed. The pooled sensitivity and specificity of VS were calculated, and bubble and summary receiver operating characteristics plots were created. A meta-analysis was conducted on 5 studies with a total of 307 patients. The sensitivities of VS within the single studies ranged from 86 % to 100 % and specificities ranged from 7 % to 93 %. The meta-analysis showed that the sensitivity of the combined results was 0.96 (95 % confidence interval [CI]: 0.89 to 0.98), and the specificity was 0.65 (95 % CI: 0.21 to 0.93). The authors concluded that VS is able to identify almost all patients with cancer, but only approximately 2/3 of patients with non-invasive lesions are correctly identified as not having cancer. They stated that further research concerning assessment of patients with vocal cord lesions is needed.

Syamal and Benninger (2016) stated that vocal fold paresis is a complex, controversial, and unique clinical entity. These investigators provided guidance in assessing and evaluating these patients in this comprehensive review of the current literature and discussed the varying clinical presentation, the broad differential and general prognosis. Patients with vocal fold paresis can present with elements of hyper-function, which can often mask an underlying paresis. As such, repetitive phonatory tasks and videostroboscopic examination are critical for the assessment of patients with a suspected paresis. When analyzing stroboscopic findings, anatomical and motion asymmetries can strongly suggest the presence of a paresis. However, it is important to remember that other disorders can sometimes mimic or create a visual asymmetry when a true paresis may not be present. Laryngeal electromyography (LEMG) can serve as a valuable adjunct to confirm a paresis with the most reliable indicator being a decreased recruitment pattern. The differential is vast, including infectious, iatrogenic, systemic rheumatologic, and neurologic conditions; LEMG along with time of onset and the
underlying cause of the paresis can be valuable prognostic indicators. The authors concluded that patients with paresis often present with symptoms of a hyperkinetic voice disorder. They noted that regardless of the myriad of causes, their assessment hinges upon close clinical evaluation with videostroboscopy aided with LEMG.

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></td>
<td><strong>ICD-10 codes will become effective as of October 1, 2015:</strong></td>
</tr>
<tr>
<td></td>
<td><strong>CPT codes covered if selection criteria are met:</strong></td>
</tr>
<tr>
<td>31579</td>
<td>Laryngoscopy, flexible or rigid fiberoptic, with stroboscopy</td>
</tr>
<tr>
<td></td>
<td><strong>Other CPT codes related to the CPB:</strong></td>
</tr>
<tr>
<td>31505</td>
<td>Laryngoscopy, indirect: diagnostic (separate procedure)</td>
</tr>
<tr>
<td>31520</td>
<td>Laryngoscopy, direct, with or without tracheoscopy; diagnostic, newborn</td>
</tr>
<tr>
<td>31525</td>
<td>diagnostic, except newborn</td>
</tr>
<tr>
<td>31526</td>
<td>diagnostic, with operating microscope or telescope</td>
</tr>
<tr>
<td></td>
<td><strong>ICD-10 codes covered if selection criteria are met (not all-inclusive):</strong></td>
</tr>
<tr>
<td>C32.0</td>
<td>Malignant neoplasm of glottis, supraglottis, and subglottis [vocal cords]</td>
</tr>
<tr>
<td>C32.2</td>
<td></td>
</tr>
<tr>
<td>C78.39</td>
<td>Secondary malignant neoplasm of other respiratory organs [invasive carcinoma vocal cords]</td>
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<tr>
<td>Code</td>
<td>Code Description</td>
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<tr>
<td>D02.0</td>
<td>Carcinoma in situ of larynx [vocal cords]</td>
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<tr>
<td>D14.1</td>
<td>Benign neoplasm of larynx [vocal cord]</td>
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<tr>
<td>D38.0</td>
<td>Neoplasm of uncertain behavior of larynx [vocal cords]</td>
</tr>
<tr>
<td>D49.1</td>
<td>Neoplasms of unspecified behavior of respiratory system [vocal cords]</td>
</tr>
<tr>
<td>J38.00 - J38.7</td>
<td>Diseases of vocal cords and larynx, not elsewhere classified</td>
</tr>
</tbody>
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The above policy is based on the following references:


26. Syamal MN, Benninger MS. Vocal fold paresis: A review of clinical presentation, differential diagnosis, and


AETNA BETTER HEALTH® OF PENNSYLVANIA

Amendment to
Aetna Clinical Policy Bulletin Number:
0305 Videostroboscopy

There are no amendments for Medicaid.

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