Clinical Policy Title: Speech evaluation recording (CPT 70371)

Clinical Policy Number: 15.01.02

Effective Date: February 1, 2018
Initial Review Date: January 18, 2017
Most Recent Review Date: January 11, 2018
Next Review Date: January 2019

Policy contains:
- Speech evaluation recording.
- (CPT 70371) Complex dynamic pharyngeal and speech evaluation by cine or video recording.

Related policies:
None.

ABOUT THIS POLICY: AmeriHealth Caritas has developed clinical policies to assist with making coverage determinations. AmeriHealth Caritas’ clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of “medically necessary,” and the specific facts of the particular situation are considered by AmeriHealth Caritas when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. AmeriHealth Caritas’ clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. AmeriHealth Caritas’ clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, AmeriHealth Caritas will update its clinical policies as necessary. AmeriHealth Caritas’ clinical policies are not guarantees of payment.

Coverage policy

AmeriHealth Caritas considers the use of speech evaluation recordings (complex dynamic pharyngeal and speech evaluation by cine or video) to be clinically proven and, therefore, medically necessary when all of the following criteria are met:
- Member is medically stable with medical or surgical comorbidities manageable and not requiring acute medical attention.
- Services must be diagnostic, rehabilitative with the supervision of a speech pathologist, and/or therapeutic in addition to being directly related to a written treatment plan.
- The service will determine whether a speech-language program could reasonably be expected to improve, restore, or compensate for lost function, and recommend to the member’s provider a plan of treatment.
- The service will rule out aspiration and/or make appropriate diet recommendations regardless of the presence of a communication disability.
• Medical record documentation, such as office or progress notes, must indicate that the provider’s evaluation demonstrated a need for any further diagnostic testing related to dysphagia or swallowing difficulties, as well as a need for any treatment.
• Specific plans of treatment should be developed in conjunction with a qualified therapist and include:
  - A statement of functional improvement expected.
  - Specific goals for therapy and the specific interventions to be used in achieving these goals.
  - The frequency, type, and duration of these interventions (American Speech-Language-Hearing Association [ASHA], 2015).

Early and Periodic Screening, Diagnostic, and Treatment coverage guide statement:

The Medicaid program’s benefit for children and adolescents is known as Early and Periodic Screening, Diagnostic, and Treatment, also known as EPSDT. EPSDT provides a comprehensive array of prevention, diagnostic, and treatment services for low-income infants, children, and adolescents under age 21, as specified in Section 1905(r) of the Social Security Act. The EPSDT benefit is more robust than the Medicaid benefit for adults and is designed to ensure that children receive early detection and care, so that health problems are averted or diagnosed and treated as early as possible. The goal of EPSDT is to ensure that individual children get the health care they need when they need it — the right care to the right child at the right time in the right setting (Centers for Medicare & Medicaid Services [CMS], 2014).

Limitations:

• Sign language is not considered in this policy as it does not require the services of a licensed or certified health care professional.
• Bilingualism in a child is not considered a speech or developmental delay, and speech therapy is usually not a covered health service, except when other criteria for speech therapy are met.
• Home speech therapy for the convenience of a provider or member.

Alternative covered services:

None.

Background

A language disorder is characterized by deficiencies in comprehension (understanding) and/or production (use) of spoken and written language. The impairment may involve the form of language (phonology, morphology, and syntax), the content of language (semantics), or the function of language in communication (pragmatics or social communication). Language disorders in children can result from congenital syndromes (e.g., Down syndrome, fragile X syndrome), diseases (e.g., meningitis), hearing loss, or head injury. Language disorders in adults can result from head injury and/or stroke.
According to the Speech-Language Pathology Medical Review Guidelines of ASHA (2015), treatment for language disorders constitutes intervention services for children and adults with spoken and/or written language disorders. These conditions include problems in areas of language form (phonology and alphabetic symbols, morphology and orthographic patterns, and syntax), content (semantics), and/or use (pragmatics or social communication) across spoken and written modalities. Knowledge and use of language for listening, speaking, reading, writing, and thinking may include work on print symbols, syntax, and semantics, for example. Understanding and formulating complex spoken and written sentences, as well as developing self-regulatory strategies for handling complex language and literacy demands, may be treatment goals.

The speech and language pathologist has a professional degree and should be certified by ASHA. Speech therapy may involve the management of those who need evaluation of cognitive skill and aphasia resulting from cortical dysfunction, or management of patients with laryngectomy and other head and neck surgical procedures.

A combination of interview techniques, behavioral observations, and standardized instruments is used by the speech and language pathologist to identify communication disorders as well as patterns of communication that are not pathological.

Evaluation speech and language pathologists are responsible for evaluating and developing a treatment plan that outlines the selected approaches and types of intervention to be used to enable each client to reach identified targeted outcomes. The plan should include activities that develop, improve, sustain, or restore language and communication skills. The plan should also include strategies to educate the client, family, caregivers, or others in carrying out appropriate non-skilled interventions.

Videofluoroscopic swallowing study (VFSS), or motion fluoroscopic evaluation of swallowing by cine or video recording, also known as the modified barium swallow (MBS) is a videofluoroscopic, radiographic test that differs from the traditional barium swallow procedure. MBS incorporates a set of modifications in consistency, bolus size, texture, patient positioning, and radiographic focus to facilitate optimum visualization of the oral-pharyngeal laryngeal structures and their function during swallowing. The effects of compensatory maneuvers and diet modification on aspiration prevention and/or bolus transport during swallowing can be studied radiographically to determine a safe diet and to maximize efficiency of the swallow.

Complex dynamic pharyngeal and speech evaluation by cine or video recording (CPT 70371), like the barium swallow study, assesses mouth and throat function, but, more specifically, allows the speech-language pathologist to record how the tongue, palate and other soft tissues function.

Fiberoptic Endoscopic Evaluation of Swallowing (FEES; also called flexible fiber optic) utilizes the fiber optic nasopharyngolaryngoscope to evaluate the pharyngeal swallow. Detailed information regarding swallowing function and related function of structures within the upper aerodigestive tract are obtained
and recorded by cine or video. Therapeutic maneuvers are attempted during this examination to determine a safe diet and to maximize the efficiency of the swallow.

Searches

AmeriHealth Caritas searched PubMed and the databases of:
- UK National Health Services Centre for Reviews and Dissemination.
- Agency for Healthcare Research and Quality’s National Guideline Clearinghouse and other evidence-based practice centers.
- CMS.

We conducted searches on November 16, 2017. Search terms were: “dysphagia,” “speech sound disorders,” “developmental motor speech disorders,” and “speech evaluation.”

We included:
- **Systematic reviews**, which pool results from multiple studies to achieve larger sample sizes and greater precision of effect estimation than in smaller primary studies. Systematic reviews use predetermined transparent methods to minimize bias, effectively treating the review as a scientific endeavor, and are thus rated highest in evidence-grading hierarchies.
- **Guidelines based on systematic reviews**.
- **Economic analyses**, such as cost-effectiveness, and benefit or utility studies (but not simple cost studies), reporting both costs and outcomes — sometimes referred to as efficiency studies — which also rank near the top of evidence hierarchies.

Findings

Through its Benefit Policy Manual, Medicare has established limited coverage for CPT code 70371 (complex dynamic pharyngeal and speech evaluation by cine or video), along with 70370 (radiologic examination: pharynx or larynx, including fluoroscopy and for magnification technique) and 74230 (swallowing function, with cineradiography/videoradiography). These services are covered for the following diagnoses:

- 438.82 Dysphagia, cerebrovascular disease
- 507.0 Pneumonitis due to inhalation due to food or vomitus
- 787.20-787.24 Dysphagia
- 787.29 Other dysphagia

The Medicare rules state that medical necessity for determining whether an instrumental assessment is necessary for speech disorders is based on the judgement of a physician or the determination of a qualified speech and language therapist, after completion of a medical evaluation (CMS, 2008).
Peer-reviewed literature, while including general assessments of speech evaluation practices (Mathers-Schmidt, 2003), contains no articles specific to complex dynamic pharyngeal and speech evaluation by cine or video recording. Thus, AmeriHealth Caritas considers this service to be medically necessary when the EPSDT criteria (described in the coverage section of this policy) are met.

**Policy updates:**

In the 2017 update, one publication was added to the Summary of Clinical evidence, and two were added to the reference list.

**Summary of clinical evidence:**

<table>
<thead>
<tr>
<th>Citation</th>
<th>Content, Methods, Recommendations</th>
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<tbody>
<tr>
<td><strong>Wallace (2015)</strong></td>
<td>Key points:</td>
</tr>
</tbody>
</table>
| Screening for speech and language delay in children 5 years old and younger | • This systematic review was commissioned by the U.S. Preventive Services Task Force and also published by the Agency for Healthcare Research and Quality. It updates a systematic review published by Nelson in 2006.  
  • A total of 23 studies met the overall inclusion criteria.  
  • Risk factors for language delay include male gender, low levels of parental education, family history of language or speech impairment, and perinatal risk factors.  
  • While multiple screening tools are utilized in various studies, the recording of speech for assessment purposes is not discussed.  
  • Overall, there is a lack of well-designed and well-executed research addressing whether screening for speech and language delay improves outcomes. However, most of the included treatment studies showed positive outcomes in treating children with language disorders and delays (six of 11 studies) and with speech sounds (six of eight studies). |
| **Lustyk (2014)**   | Key points:                       |
| Evaluation of disfluent speech by means of automatic acoustic measurements. | • To determine whether the level of the speech fluency disorder can be estimated by means of automatic acoustic measurements.  
  • These measures analyze, for example, the amount of silence in a recording or the number of abrupt spectral changes in a speech signal.  
  • All the measures were designed to take into account symptoms of stuttering. In the experiment, 118 audio recordings of read speech by Czech native speakers were employed.  
  • The results indicate that the human-made rating of the speech fluency disorder in read speech can be predicted on the basis of automatic measurements. The number of abrupt spectral changes in the speech segments turns out to be the most appropriate measure to describe the overall speech performance.  
  • The results also imply that there are measures with good results describing partial symptoms (especially fixed postures without audible airflow). |
| **Di Berardino (2010)** | Key points:                       |
| Influence of compact disk recording protocols on |  
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reliability and comparability of speech audiometry outcomes: acoustic analysis.

- Acoustic analysis revealed that speech material had been recorded using different protocols. The major difference was the gain between the levels at which the speech material and the calibration signal had been recorded.
- Speech recognition thresholds and maximum intelligibility thresholds differed significantly between compact disks (p < 0.05), and were influenced by the gain between the recording level of the speech material and the calibration signal.
- To ensure the reliability and comparability of speech test outcomes obtained using different compact disks, it is recommended to check for possible differences in the recording gains used to prepare the compact disks, and then to compensate for any differences before testing.

Nelson HD et al. (2006)
Screening for speech and language delay in preschool children

Key points:
- Use of risk factors to guide selective screening is not supported by studies. Several aspects of screening have been inadequately studied to determine optimal methods, including which instrument to use, the age at which to screen, and which interval is most useful.
- Trials of interventions demonstrate improvement in some outcome measures, but conclusions and generalizability are limited.
- Data are not available addressing other key issues including the effectiveness of screening in primary care settings, role of enhanced surveillance by primary care physicians before referral for diagnostic evaluation, non-speech and language and long-term benefits of interventions, and adverse effects of screening and interventions.

NessAiver (2006)
To investigate the feasibility of obtaining high quality speech recordings during cine imaging of tongue movement using a fiber optic microphone.

Key points:
- A complementary spatial modulation of magnetization (C-SPAMM)-tagged cine sequence triggered by an electrocardiogram (ECG) simulator was used to image a volunteer while speaking the syllable pairs /a/-/u/, /i/-/u/, and the words “golly” and “Tamil” in sync with the imaging sequence.
- A noise-canceling optical microphone was fastened approximately 1 – 2 inches above the mouth of the volunteer.
- The microphone was attached via optical fiber to a laptop computer, where the speech was sampled at 44.1 kHz. A reference recording of gradient activity with no speech was subtracted from target recordings.
- Good-quality speech was discernible above the background gradient sound using the fiber optic microphone without reference subtraction.
- The audio waveform of gradient activity was extremely stable and reproducible. Subtraction of the reference gradient recording further reduced gradient noise by roughly 21 dB, resulting in exceptionally high-quality speech waveforms.
- It is possible to obtain high-quality speech recordings using an optical microphone even during exceptionally loud cine imaging sequences. This opens up the possibility of more elaborate magnetic resonance imaging (MRI) studies of speech, including spectral analysis of the speech signal in all types of MRI.

References

Professional society guidelines/other:


Peer-reviewed references:


**CMS National Coverage Determinations (NCDs):**


**Local Coverage Determinations (LCDs):**


**Commonly submitted codes**

Below are the most commonly submitted codes for the service(s)/item(s) subject to this policy. This is not an exhaustive list of codes. Providers are expected to consult the appropriate coding manuals and bill accordingly.

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<thead>
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<th>CPT Code</th>
<th>Description</th>
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<td>F80.1</td>
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<td>R47.1</td>
<td>Speech and language deficits following nontraumatic subarachnoid hemorrhage</td>
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<td>J90.0</td>
<td>Pneumonitis due to inhalation of food and vomit</td>
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