Medical Coverage Policy

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Speech Therapy

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should be reviewed on its own merits. Medical directors are expected to exercise clinical judgment where appropriate and have discretion in making individual coverage determinations. Where coverage for care or services does not depend on specific circumstances, reimbursement will only be provided if a requested service(s) is submitted in accordance with the relevant criteria outlined in the applicable Coverage Policy, including covered diagnosis and/or procedure code(s). Reimbursement is not allowed for services when billed for conditions or diagnoses that are not covered under this Coverage Policy (see "Coding Information" below). When billing, providers must use the most appropriate codes as of the effective date of the submission. Claims submitted for services that are not accompanied by covered code(s) under the applicable Coverage Policy will be denied as not covered. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. In certain markets, delegated vendor guidelines may be used to support medical necessity and other coverage determinations.

Overview

This Coverage Policy addresses speech therapy services including speech therapy, voice therapy, swallowing/feeding therapy and aural/auditory rehabilitation.

Coverage Policy

Under many benefit plans, coverage for outpatient speech therapy and speech therapy provided in the home is subject to the terms, conditions and limitations of the Short-Term Rehabilitative Therapy benefit as described in the applicable benefit plan's schedule of copayments. Swallowing/feeding therapy is considered a form of speech therapy.

Outpatient speech therapy is the most medically appropriate setting for these services unless the individual independently meets coverage criteria for a different level of care.

Coverage for speech therapy varies across plans. Refer to the customer's benefit plan document for coverage details.

If coverage is available for speech therapy, the following conditions of coverage apply.

Speech/Language Therapy

A prescribed course of speech therapy for the treatment of a speech/language impairment (CPT codes 92507, 92508) or for the use of a speech-generating device (CPT code 92609) is considered medically necessary when ALL of the following criteria is met:

- When accompanied by an evaluation completed within the last 12 months by a certified speech language pathologist that includes age-appropriate standardized tests or measures that quantify the extent of language/speech impairment, performance deviation, or pragmatic skill deficits.
- The therapy plan includes quantifiable, attainable short- and long-term treatment goals against which progress will be documented.
- The treatment being recommended has the support of a treating licensed healthcare provider (e.g., referral, prescription).

- The therapy being ordered requires either one-to-one intervention or group setting with supervision by a speech-language pathologist.
- The therapy is individualized, and meaningful improvement is expected from the therapy.

Continuation of speech therapy visits is considered medically necessary when ALL of the following criteria are met:

- There is documented quantifiable improvement towards established short and long-term treatment goals.
- Functional progress is being made.
- Generalization and carryover of targeted skills into natural environment is occurring.
- Goals of therapy are not yet met.
- Individual is actively participating in treatment sessions.

Voice Therapy

A prescribed course of voice therapy is considered medically necessary when provided by a certified speech-language pathologist for a significant voice disorder associated with the laryngeal structures that are associated with anatomic abnormality, neurological condition, injury (e.g., vocal nodules or polyps, vocal cord paresis or paralysis, paradoxical vocal cord motion) or provided after vocal cord surgery when ALL of the following criteria are met:

- The treatment being recommended has the support of a licensed healthcare provider (e.g., referral, prescription).
- The therapy being ordered requires the one-to-one intervention and supervision of a speech-language pathologist.
- The therapy plan includes quantifiable, attainable short- and long-term treatment goals against which progress will be documented.
- The therapy is individualized, and meaningful improvement is expected from the therapy.

Continuation of voice therapy is considered medically necessary, as indicated by ALL of the following:

- Functional progress is being made
- Generalization and carryover of targeted skills into natural environment is occurring
- Goals of therapy are not yet met
- Individual is actively participating in treatment sessions

Auditory/Aural Rehabilitation

Auditory/aural rehabilitation (CPT code 92630, 92633) is considered medically necessary for the treatment of a hearing impairment that is the result of trauma, tumor or disease, or following implantation of a cochlear or auditory brainstem device when ALL of the following criteria are met:

- The treatment being recommended has the support of a treating licensed healthcare provider (e.g., referral, prescription).
- An evaluation has been completed by a certified speech-language pathologist or licensed audiologist that includes standardized speech and/or hearing tests.
- The therapy plan includes quantifiable, attainable short- and long-term treatment goals against which progress will be documented.

- The therapy being ordered requires the one-to-one intervention and supervision of a speech-language pathologist or audiologist.
- The therapy is individualized, and meaningful improvement is expected from the therapy.

Swallowing/Feeding Therapy

Swallowing/feeding therapy is considered medically necessary for individuals with swallowing and children with a feeding disorder when ALL of the following criteria are met:

- The swallowing or feeding disorder is the result of an underlying medical condition.
- The medical necessity of the therapy has been demonstrated by results of testing with a videofluorographic swallowing study (VFSS) or other appropriate testing in combination with an evaluation by a certified speech-language pathologist.
- The therapy plan includes quantifiable, attainable short- and long-term treatment goals against which progress will be documented.
- The treatment includes a transition from one-to-one supervision to an individual or caregiver provided maintenance level on discharge.

Not Medically Necessary

The following are considered not medically necessary:

- speech therapy services for developmental speech or language delays/disorders one standard deviation (SD) or less below the mean in the areas of receptive, expressive, pragmatic or total language composite score
- any computer-based learning program for speech or voice training purposes unless used for utilization of an approved speech generating device
- school speech programs
- speech, voice therapy, auditory/aural rehabilitation or swallowing/feeding therapy that duplicates services already being provided as part of an authorized therapy program through another therapy discipline or speech therapy (e.g., occupational therapy; audiologic services)
- maintenance programs of routine, repetitive drills/exercises that do not require the skills of a speech-language therapist and that can be reinforced by the individual or caregiver
- vocational rehabilitation programs and any programs with the primary goal of returning an individual to work
- maintenance or preventive treatment provided to prevent recurrence or to maintain the patient's current status
- therapy or treatment intended to improve or maintain general physical condition
- long-term rehabilitative services when significant therapeutic improvement is not expected (e.g., when there is therapeutic plateau)
- swallowing/feeding therapy for food aversions
- voice therapy in the absence of an anatomic laryngeal/vocal cord abnormality (e.g., functional dysphonia, spasmodic dysphonia, chronic cough)
- auditory/aural rehabilitation for presbycusis

Not Covered or Reimbursable:

The following are considered not covered or reimbursable:

- speech therapy services that are educational learning services such as reading, writing, and spelling without evidence of a documented spoken language disorder

- therapy or treatment provided to improve or enhance job, school or recreational performance, including intensive educational programs even if provided by a speech therapist

Electrical stimulation for swallowing/feeding disorders is considered experimental, investigational or unproven.

General Background

Speech and Language Impairments
Aphasia
Apraxia of speech (AOS)
- **Childhood Apraxia of Speech**
- **Acquired Apraxia of Speech**

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Speech-language pathology services are considered necessary for the diagnosis and treatment of swallowing (dysphagia), speech-language, and cognitive-communication disorders that result in communication disabilities. Speech-language pathologists treat disorders of speech sound production (e.g., articulation, apraxia, dysarthria), resonance (e.g., hypernasality, hyponasality), voice (e.g., phonation quality, pitch, respiration), fluency (e.g., stuttering), language (e.g., comprehension, expression, pragmatics, semantics, syntax), cognition (e.g., attention, memory, problem solving, executive functioning), and feeding and swallowing (e.g., oral, pharyngeal, and esophageal stages).(ASHA, 2015).

A communication disorder is an impairment in the ability to receive, send, process, and comprehend concepts of verbal, nonverbal, and graphic symbol systems. A communication disorder may be evident in the processes of hearing, language, and/or speech. A communication disorder may range in severity from mild to profound. It may be congenital or acquired. Individuals may demonstrate one or any combination of communication disorders. A communication disorder may result in a primary disability, or it may be secondary to other disabilities (ASHA, 2015).

A speech disorder is an impairment of the articulation of speech sounds, fluency and/or voice:
- An articulation disorder is the atypical production of speech sounds characterized by substitutions, omissions, additions or distortions that may interfere with intelligibility.

- A fluency disorder is an interruption in the flow of speaking characterized by atypical rate, rhythm, and repetitions in sounds, syllables, words, and phrases. This may be accompanied by excessive tension, struggle behavior, and secondary mannerisms.
- A voice disorder is characterized by the abnormal production and/or absences of vocal quality, pitch, loudness, resonance, and/or duration, which is inappropriate for an individual's age and/or sex

A language disorder is impaired comprehension and/or use of spoken, written and/or other symbol systems. The disorder may involve the form of language (phonology, morphology, syntax), the content of language (semantics), and/or the function of language in communication (pragmatics) in any combination.

The Center for Disease Control and Prevention (CDC), National Center for Health Statistics, data from the National Health Interview Survey of Communication Disorders and Use of Intervention Services Among Children Aged 3–17 Years (Black, et al., 2015) includes the findings for communication disorders:

- Nearly 8% of children aged 3–17 years had a communication disorder during the past 12 months.
- Children aged 3–6 years, boys, and non-Hispanic Black children were more likely than other children to have had any communication disorder.
- Approximately 55% of children aged 3–17 years who had any communication disorder received an intervention service during the past 12 months.
- Among those with any communication disorder, younger children, boys, and non-Hispanic white children were more likely than other children to receive an intervention service for their disorder.

Speech and Language Impairments

Apraxia of speech (AOS)

Apraxia of speech (AOS) is a neurologic speech disorder that reflects an impaired capacity to plan or program sensorimotor commands necessary for directing movements that result in phonetically and prosodically normal speech. AOS has also been referred to in the clinical literature as verbal apraxia or dyspraxia.

Apraxia Pediatrics (Childhood Apraxia of Speech)

This is also referred to as:

- Articulatory dyspraxia
- Childhood verbal apraxia
- Developmental apraxia of speech
- Developmental verbal apraxia
- Developmental dyspraxia
- Developmental verbal dyspraxia
- Motor planning difficulties

Childhood apraxia of speech (CAS) is a nervous system disorder, which impacts an individual’s ability to voluntarily plan, select, execute or sequence the motor patterns necessary to produce sounds, syllables or words (ASHA-l).

Currently, there are no validated diagnostic features that differentiate CAS from other childhood speech sound disorders. However, three segmental and suprasegmental features consistent with a deficit in the planning and programming of movements for speech have gained some consensus among those investigating CAS:

- Inconsistent errors on consonants and vowels in repeated productions of syllables or words.
- Lengthened and disrupted coarticulatory transitions between sounds and syllables.
- Inappropriate prosody, especially in the realization of lexical or phrasal stress.

Assessment is accomplished using a variety of standardized and nonstandardized measures and activities. Comprehensive assessment for speech sound disorders typically includes a case history, oral mechanism examination, speech sound assessment, and language assessments, if indicated. A key consideration in the motor speech assessment is an evaluation of movement accuracy. Using a variety of tasks, the SLP looks for the presence of consensus features and other clinical characteristics of CAS to help identify the presence of motor-based planning and speech difficulties.

A comprehensive oral mechanism examination includes a motor speech assessment. This is important for differentiating CAS from childhood dysarthria and other speech sound disorders and for identifying both oral apraxia and apraxia of speech which may occur in the absence of the other.

Assessment should include performance across multiple contexts (e.g., spontaneous vs. elicited vs. imitated utterances), as results can vary by context. Fluidity (smoothness), rate, consistency, lexical stress, and accuracy should be monitored, as there may be trade-offs among these variables (e.g., the child's productions might be smoother when speaking rate is slow vs. rapid).

Dynamic assessment is important for differential diagnosis of CAS and for determining severity and prognosis. Using dynamic assessment procedures, the clinician can provide cues (e.g., gestural or tactile cues) to better judge the child's speech production and to determine how much cueing is necessary to facilitate performance.

Assessments and Measurement Tools:
- Kaufman Speech Praxis Test for Children (KSPT)
- Verbal Motor Production Assessment for Children (VMPAC)
- The Apraxia Profile
- Screening Test for Developmental Apraxia of Speech-2 (STDAS-2)

Treatment goals for children with CAS focus on facilitating overall communication and language skills may include:
- increasing speech production and intelligibility
- when indicated, using AAC, such as gestures, manual signs, voice output devices, and context-specific communication boards

It is recommended that to the extent possible, treatment takes place in naturalistic environments, is provided in a culturally appropriate manner, and involves as many important people in the child's life as possible to facilitate carryover and generalization of skills. Involving caregivers in treatment helps them understand and practice goals with the child outside the treatment setting.

Many children with CAS also have phonological impairment and language impairment. The relative contribution of motoric and linguistic deficits is considered when planning treatment. If a child has mild motoric deficits and significant phonological deficits, then linguistic approaches may need to be prioritized while also bringing in some principles of motor learning to facilitate movement accuracy.

Treatment approaches that focus directly on improving speech production can be classified:

- Motor programming approaches—use motor learning principles, including the need for many repetitions of speech movements to help the child acquire skills to accurately, consistently, and automatically make sounds and sequences of sounds.
- Linguistic approaches—focus on CAS as a language learning disorder; these approaches teach children how to make speech sounds and the rules for when speech sounds and sound sequences are used in a language.
- Combination approaches—use both motor programming and linguistic approaches.
- Rhythmic (prosodic) approaches, such as melodic intonation therapy, use intonation patterns (melody, rhythm, and stress) to improve functional speech production.

Acquired Apraxia of Speech

Apraxia, dyspraxia- related terms include:

- Conduction aphasia
- Ideomotor apraxia
- Broca's aphasia
- Oral or verbal apraxia
- Phonemic paraphasia

Apraxia of speech (AOS) is defined as "a neurologic speech disorder that reflects an impaired capacity to plan or program sensorimotor commands necessary for directing movements that result in phonetically and prosodically normal speech" (ASHA-k). The severity of AOS varies greatly from sound distortions and hesitant, groping speech to the total inability to produce any sound on a volitional basis (ASHA-k).

AOS is caused by any process or condition that compromises the structures and pathways of the brain responsible for planning and programming motor movements for speech. Causes most often include:

- stroke
- traumatic brain injury (TBI)
- tumor
- surgical trauma (e.g., tumor resection)
- progressive disease

Treatment can be restorative (i.e., aimed at improving or restoring impaired function) and/or compensatory (i.e., aimed at compensating for deficits not amenable to retraining). In the case of progressive AOS, it may also help maintain speech functioning. Approaches aimed at improving speech production and intelligibility focus on reestablishing motor plans/programs and improving the ability to select and activate them and set program parameters (e.g., speed) in specific situations. These treatment approaches include articulatory–kinematic approaches, sensory cueing, rate and/or rhythm control, and various combinations thereof.
Approaches used to compensate for AOS focus on teaching use of strategies or external aids and creating or personalizing those resources (e.g., using gestures, writing, or drawing to communicate). Some approaches may be used in both restorative and compensatory capacities.

Aphasia

Aphasia is an acquired neurogenic language disorder resulting from an injury to the brain, usually, the left hemisphere. Aphasia involves varying degrees of impairment. Depending on an individual's unique set of symptoms, impairments may result in loss of ability to use functional communication skills. A person with aphasia often has relatively intact nonlinguistic cognitive skills.

- Symptoms may not fit neatly into a single aphasia type, and classification may change over time as communication improves with recovery.

- The outcome of aphasia varies significantly from person to person and is determined by the initial severity level, lesion site and size, patient age, gender and education level, patient motivation in treatment, comorbidities, and the amount of spontaneous recovery that occurs over time.

Aphasia is an acquired neurogenic language disorder resulting from an injury to the brain—most typically, the left hemisphere. Aphasia involves varying degrees of impairment in four primary areas:

- Spoken language expression
- Spoken language comprehension
- Written expression
- Reading comprehension

Assessments and Measurement Tools:

- Stroke and Aphasia Quality of Life Scale (SAQOL) - Spanish version available as well
- Western Aphasia Battery-Revised (WAB-R)
- Boston Diagnostic Aphasia Examination Third Edition (BDAE-3)
- Communication Abilities in Daily Living-3 (CADL-3)
- American Speech and Hearing Association Functional Assessment of
- Communication Skills –Revised (ASHA FACS)
- Communication Effectiveness Index (CETI)
- The Stroke Impact Scale (SIS)
- Bedside Evaluation Screening Test-2 (BEST-2)
- Mississippi Aphasia Screening Test (MAST)
- Multilingual Aphasia Examination 3rd Edition (MAE-3)
- The Frenchay Aphasia Screening Test (FAST)
- ASHAs Person-Centered Aphasia Evaluation

Documentation Requirements:

- A description of the current level of functioning or impairment
- The most recent standardized evaluation scores, percent of functional delay, or standard deviation (SD) score, when appropriate, for the diagnosis/disability
- Treatment plan with functional and measurable goals including objective measures for baseline and current progress/level
- Caregiver program or home maintenance program plan, as applicable for long term needs

Presentation Aphasia

- Aphasia is caused by damage to the language centers of the brain. Damage may involve both the right and left hemispheres. One of the most common causes of aphasia is stroke/CVA. Other causes include Traumatic Brain Injury (TBI), Brain Tumor, Brain Infection, and Progressive Neurological Diseases
- Aphasia may be masked by the motor speech disorders of apraxia and/or dysarthria
- Severity ranges vary, deficits may affect one, multiple, or all areas of language functioning
- Dysphagia may be a co-morbidity.
- Cognitive impairments may negatively impact recovery of language skills

Treatment can be restorative (i.e., aimed at improving or restoring impaired function) and/or compensatory (i.e., aimed at compensating for deficits not amenable to retraining). Specific treatment protocols will vary, based on each individual's unique language profile and communication needs. The ultimate goal of treatment is to maximize quality of life and communication success, using the approach or combination of approaches that best meets the individual's needs.

Speech Sound Disorders: Articulation and Phonology

Related terms: Speech sound disorders, Articulation disorders, Phonological processing disorders, Intelligibility

Speech sound disorders is an umbrella term referring to any difficulty or combination of difficulties with perception, motor production, or phonological representation of speech sounds and speech segments—including phonotactic rules governing permissible speech sound sequences in a language. Speech sound disorders can be organic or functional in nature. Organic speech sound disorders result from an underlying motor/neurological, structural, or sensory/perceptual cause. Functional speech sound disorders are idiopathic—they have no known cause (ASHA-m).

Speech sound disorders are identified on a continuum from mild or very severe. The symptoms range in number, intensity and level of severity. More severe disorders will have a greater functional effect on the individual's speech intelligibility.

Assessments and Measurement Tools:

- Kaufman Speech Praxis Test for Children (KSPT)
- Moving Across Syllables
- Goldman-Fristoe Test of Articulation-3 (GFTA-3)
- Fisher-Logemann Test of Articulation Competence
- Clinical Assessment of Articulation and Phonology-2 (CAAP-2)
- Spanish Preschool Articulation Test
- Arizona Articulation and Phonology Scale-4 (Arizona-4)
- Hodson Assessment of Phonological Patterns-3 (HAPP-3)
- Bilingual Articulation and Phonological Assessment (BAPA)
- Photo Articulation Test-3 (PAT-3)
- LinguiSystems Articulation Test (LAT)

Signs and symptoms of functional speech sound disorders include the following (ASHA-m):

- omissions/deletions—certain sounds are omitted or deleted (e.g., "cu" for "cup" and "poon" for "spoon")
- substitutions—one or more sounds are substituted, which may result in loss of phonemic contrast (e.g., "thing" for "sing" and "wabbit" for "rabbit")
- additions—one or more extra sounds are added or inserted into a word (e.g., "buhlack" for "black")
- distortions—sounds are altered or changed (e.g., a lateral "s")
- syllable-level errors—weak syllables are deleted (e.g., "tephone" for "telephone")

It is often difficult to differentiate between articulation and phonological errors or to differentially diagnose these two separate disorders. Articulation error types and phonological error types may be referred to within the broad diagnostic category of speech sound disorders. A single child might show both error types, and those specific errors might need different treatment approaches. Historically, treatments that focus on motor production of speech sounds are called articulation approaches; treatments that focus on the linguistic aspects of speech production are called phonological/language-based approaches (ASHA-m).

Articulation approaches target each sound deviation and are often selected by the clinician when the child's errors are assumed to be motor based; the aim is correct production of the target sounds. Phonological/language-based approaches target a group of sounds with similar error patterns, although the actual treatment of exemplars of the error pattern may target individual sounds. Phonological approaches are often selected in an effort to help the child internalize phonological rules and generalize these rules to other sounds within the pattern (e.g., final

consonant deletion, cluster reduction). Articulation and phonological/language-based approaches might both be used in therapy with the same individual at different times or for different reasons. Both approaches for the treatment of speech sound disorders typically involve the following sequence of steps:

- Establishment—eliciting target sounds and stabilizing production on a voluntary level.
- Generalization—facilitating carry-over of sound productions at increasingly challenging levels (e.g., syllables, words, phrases/sentences, conversational speaking).
- Maintenance—stabilizing target sound production and making it more automatic; encouraging self-monitoring of speech and self-correction of errors.

Fluency Disorder

Related terms:

- Fluency disorder
- Disfluency
- Stuttering
- Cluttering
- Dysfluency
- Stammering

A fluency disorder is an interruption in the flow of speaking characterized by atypical rate, rhythm, and disfluencies (e.g., repetitions of sounds, syllables, words, and phrases; sound prolongations; and blocks), which may also be accompanied by excessive tension, speaking avoidance, struggle behaviors, and secondary mannerisms (ASHA-o).

Stuttering, the most common fluency disorder, is an interruption in the flow of speaking characterized by specific types of disfluencies, including repetitions of sounds, syllables, and monosyllabic words; prolongations of consonants when it is not for emphasis; and blocks (i.e., inaudible or silent fixation or inability to initiate sounds).

Cluttering is characterized by a perceived rapid and/or irregular speech rate, atypical pauses, maze behaviors, pragmatic issues, decreased awareness of fluency problems or moments of disfluency, excessive disfluencies, collapsing or omitting syllables, and language formulation issues, which result in breakdowns in speech clarity and/or fluency. Individuals may exhibit pure cluttering or cluttering with stuttering.

Individuals are referred to a SLP for a comprehensive assessment when disfluencies are noted and when one or more of the factors listed below are observed along with the disfluencies (ASHA-o):

- A family history of stuttering or cluttering
- Parent/individual concern
- The individual exhibits negative reactions (e.g., affective, behavioral, or cognitive reactions) to their disfluency
- The individual is experiencing negative reactions from others (e.g., peers, classmates, coworkers, family members)
- The individual exhibits physical tension or secondary behaviors (e.g., eye blinking, head nodding) associated with the disfluency
- The individual is having difficulty communicating messages in an efficient, effective manner
- Other speech or language concerns are also present

Assessment and Measurement Tools may include:

- Stuttering Severity Instrument-4 (SSI-4)
- Fluency Rating Severity Scale
- Test of Childhood Stuttering (TOCS)

Treatment for fluency disorders is highly individualized and based on a thorough assessment of speech fluency, language factors, emotional/attitudinal components, and life impact. The speech-language pathologist (SLP) uses linguistically and culturally appropriate stimuli and is sensitive to the unique values and preferences of each individual and their family to create a treatment plan. The SLP considers the degree to which the individual's disfluent behaviors and overall communication are influenced by a coexisting disorder (e.g., other speech or language disorders, Down syndrome, autism spectrum disorder, attention-deficit/hyperactivity disorder) and determines how treatment might be adjusted accordingly. Clinicians need to understand the interaction of symptoms and the strategies that are most effective for dealing with stuttering and cluttering when they occur together. The ultimate goal is for individuals to understand these interactions and how they can manage the disfluencies and their reactions.

Continuation of Speech Therapy

Before continuing speech/language services, the results of these patient-specific measures goals should demonstrate that the individual is consistently improving, that there is functional progress and that a plateau (i.e., where no additional meaningful improvements are being measured or are expected to occur) has not been reached. There should be documented progress toward the measurable goals for additional visits to be considered medically necessary. Once the individual has met their goals or a therapeutic plateau has been reached, then ongoing therapy becomes maintenance in nature. Maintenance services are intended to preserve the individual's present level range, strength, coordination, balance, pain, activity, function, etc. and prevent regression of the same parameters. Maintenance begins when the therapeutic goals of a treatment plan have been achieved, or when no additional functional progress is apparent or expected to occur (ASHA, 2015).

Functional progress may be demonstrated in the documentation by improving communication skills which may include:

- improving ability to express coherent thoughts effectively
- improving direction-following and understanding/asking of questions
- improving expressive and receptive vocabulary
- improving linguistic memory of information read or heard
- improving oral and written grammar and syntax
- improving pragmatic language skills, including verbal and nonverbal language
- Improving preliteracy or literacy skills, improving receptive and expressive language for both oral and written language. increasing expressive utterance length and complexity

Group Therapy

Group therapy sessions should meet criteria for an individualized plan of treatment, and group therapy should also be medically necessary and should include (CMS, 2019):

- services are rendered under an individualized plan of care
- the group has no more than four group members
- group therapy does not represent the entire plan of treatment

When group therapy is provided the documentation for group therapy should clearly identify why services were delivered in a group setting; establish that group therapy services were provided as part of an individualized plan of care; demonstrate that services were based on the clinical needs of the patient; and describe goals and outcomes (e.g., improvement in the patient's condition, prevention of further decline). Group therapy should never be provided for the convenience of the clinician or facility (ASHA-e).

Duplication of Services

Services that are provided by speech therapists and other providers (e.g., occupational therapy, audiology) may overlap (Houtrow, et al., 2019). Speech therapy that is being provided as part of

an occupational training program is considered duplicative in nature. When different providers, including two speech therapists, are providing services there should be separate treatment plans and goals and should not duplicate the services. When multiple therapies are used, each must have separate written treatment plans and must provide significantly different treatments and not be seen as generally duplicating each other's treatment.

Speech-Language Pathologist
A speech-language pathologist (SLP) has a master's or doctoral degree and is licensed, if applicable, as a speech-language pathologist by the state in which he or she is practicing. The SLP possesses a Certificate of Clinical Competence (CCC) from the American Speech-Language-Hearing Association (ASHA) or has met all the educational requirements leading to the CCC and is in the clinical fellowship (CF) year or is otherwise eligible for the CCC (American Speech-Language-Hearing Association, 2011).

Speech Therapy—Speech Generating Device (CPT code 92609)
Speech therapists provide therapeutic services for the use of speech-generating device. When the patient has the device, the therapists may work on appropriate use of the device for communication, on how to use the device or programming or modifying the device for the patient. The patient should be present during these sessions (Ogden, et al., 2017).

Auditory/Aural Rehabilitation—Following Cochlear or Auditory Brainstem Implantation (CPT codes: 92626, 92627, 92630, 92633)
Aural rehabilitation refers to services and procedures for facilitating adequate receptive and expressive communication in individuals with hearing impairments, and is also be referred to as auditory or audiologic rehabilitation. Aural rehabilitation following implantation cochlear device and auditory brainstem implantation of these devices is considered an integral part of the overall management of implant patients. Programs may vary widely, both with regard to treating disciplines and to the duration and scope of treatment, the general consensus is that some type of post-implantation aural therapy maximizes the benefit of the device. Sound recognition and speech intelligibility are evaluated prior to and just after implantation. Hearing capabilities are assessed by an audiologist, both with and without the assistance of a hearing aid. A speech-language pathologist evaluates and categorizes the patient's pre-implantation speech and language skills. Post-cochlear implantation rehabilitation programs generally include the following components: sound awareness (e.g., recognition of novel auditory signals); visual/auditory processing, including speech-reading training (e.g., lip-reading, facial expression, gestures and body language); speech recognition; mechanical (e.g., use of the device and telephone); and voice, speech production and language therapy.

Presbycusis
Presbycusis is the general term applied to age-related hearing loss and is used to describe the sum of all the processes that affect hearing over time. Presbycusis affects both of the critical dimensions of hearing by reducing threshold sensitivity as well as the ability to understand speech. Individuals with presbycusis often do not express difficulty hearing but are more likely to complain of problems understanding speech. Hearing aids are the primary resource for improving communication and reducing hearing handicaps in those with sensorineural presbycusis. Although communication strategies are employed in the management of presbycusis, a comprehensive, structured aural rehabilitation program is typically not used as a treatment modality for adult-onset hearing loss that is associated with the aging process.

Autism Spectrum Disorders (ASD)/Pervasive Developmental Disorders (PDD): The communication problems of autism spectrum disorders (ASD) and pervasive developmental disorders (PDD) vary, depending upon the intellectual and social development of the individual. Some patients may be unable to speak, whereas others may have rich vocabularies and are able

to talk about topics of interest in great depth (National Institute on Deafness and Other Communication Disorders [NIDCD], 2020). Some children with ASD may not be able to communicate using speech or language, and some may have very limited speaking skills. Others may have rich vocabularies and be able to talk about specific subjects in great detail. Many have problems with the meaning and rhythm of words and sentences. They also may be unable to understand body language and the meanings of different vocal tones (NIDCD 2020).

When ASD or some other developmental disability is suspected, an assessment by speech-language pathologist may be part of the comprehensive evaluation. There are many different approaches to improve communication skills. Teaching children with ASD to improve their communication skills is essential for helping them reach their full potential. There are many different approaches, but the best treatment program begins early, during the preschool years, and is tailored to the child's age and interests. It should address both the child's behavior and communication skills and offer regular reinforcement of positive actions. Most children with ASD respond well to highly structured, specialized programs. Parents or primary caregivers, as well as other family members, should be involved in the treatment program so that it becomes part of the child's daily life (NIDCD, 2020).

There is much heterogeneity found in the speech, language and communication characteristics of children with ASD. Patterns of language use and behaviors that are often found in children with ASD include (NIDCD, 2020):

- Repetitive or rigid language: includes saying things out of context in conversation or echolalia, where words are repeated over and over
- Uneven language development: progress and development of language and communication skills is uneven. They may have difficulty with pragmatics of language—the system that combines language components in functional and socially appropriate communication
- Poor nonverbal conversation skills: Children may not use gestures, such as pointing at objects and may avoid eye contact.

American Speech-Language-Hearing Association (ASHA) autism practice portal autism notes that treatment for individuals with ASD typically includes (ASHA, 2016):

- setting goals based on assessment data that target the core deficits in ASD and focus on initiating spontaneous communication in functional activities, engaging in reciprocal communication interactions, and generalizing gains across activities, environments, and communication partners;
- using a multimodal communication system (e.g., spoken language, gestures, sign language, picture communication, speech-generating devices [SGDs], and/or written language) that is individualized according to the individual's abilities and the contexts of communication;
- considering family priorities when selecting intervention goals—meaningful outcomes are strongly correlated with communication competence across functional social contexts (e.g., home, school, vocational, and community settings);
- incorporating cultural, linguistic, and personal values and attributes unique to each individual into therapeutic activities;
- using a range of approaches for enhancing communication skills along a continuum from behavioral to developmental;
- using developmental sequences and processes of language development to provide a framework for determining baselines and implications for intervention goals;
- measuring progress using systematic methods to determine whether an individual with ASD is benefiting from a particular treatment program or strategy

Velopharyngeal Insufficiency: The velopharyngeal valve consists of the velum (soft palate) and pharyngeal walls. It directs the transmission of air pressure and sound into the oral cavity

(Kummer, 2006). Normal velopharyngeal function results in normal oral resonance, adequate intra-oral air pressure for consonant production, and sufficient breath support for normal utterance length (Kummer, 2006). Velopharyngeal insufficiency, incomplete closure of the velopharynx, occurs when there is an anatomical or structural defect. This may result in hypernasality, or too much nasal resonance. The condition is often associated with cleft palate. The primary treatment used to manage VPI is surgical (Ruscello, 2008, Kummer, 2006; Rudnick, et al., 2008). Since the condition is due to structural defect or physiological disorder speech therapy is not indicated.

Literature Review
While there are limited clinical trials published regarding the efficacy of speech therapy, there are several systematic reviews published regarding speech and voice therapy (Galeoto, et al., 2020; Chiaramonte, et al., 2020). A Cochrane review (Brady, et al., 2012z) concluded there is some evidence of effectiveness of SLT for people with aphasia following stroke in terms of improved functional communication, receptive and expressive language. Kelly et al. (2010) reported on a Cochrane review of 30 randomized trials that found that the evidence shows some indication of the effectiveness of SLT for people with aphasia following stroke, especially in relation to functional communication, expressive language and the severity of aphasia. Cirrin and Gillam (2008) conducted a systematic review of 21 studies that assess the outcomes of language intervention practices for school age students with spoken language disorder and noted that there is little research evidenced to guide evidenced-based decisions about treatment options.

Voice Therapy
Voice therapy is a form of speech therapy used for treatment of voice disorders. Voice disorders, or vocal disorders, can result in a voice that is unpleasant and can impede effective communication. The ability to produce speech is present; it is the voice quality, pitch, resonance or duration that is affected. The cause may be organic or functional. Organic voice disorder may be caused by congenital or acquired anatomic abnormalities. Functional or non-organic dysphonia is impairment of voice production without an identifiable organic lesion.

Voice disorders are generally classified depending on the area of problem—there often are several problems areas and may include problems with voice quality, resonance, loudness and pitch (Choi and Zalzal; 2005). Dysphonia and hoarseness are often used interchangeably; terminology is imprecise, as hoarseness is a symptom of altered voice quality reported by patients, while dysphonia characterizes impaired voice production as recognized by a clinician (Stachler, et al., 2018).

Voice is produced by vibration of the vocal fold which are tow band of smooth muscle tissue that lie opposite each other are located in the larynx or voice box. Vocal nodules, polyps, and cysts are benign growths within or along the vocal folds. They form in pairs on opposite sides of the vocal folds as the result of too much pressure or friction. A vocal polyp typically occurs only on one side of the vocal fold. A vocal cyst is a hard mass of tissue encased in a membrane sac inside the vocal fold. The most common treatments for nodules, polyps, and cysts are voice rest, voice therapy, and surgery to remove the tissue. (National Institute on Deafness and Other Communication Disorders [NIDCD], 2017a).

Vocal fold paralysis is a voice disorder that occurs when one or both of the vocal folds do not open or close properly. It can be caused by injury to the head, neck or chest; lung or thyroid cancer; tumors of the skull base, neck, or chest; or infection. People with certain neurologic conditions such as multiple sclerosis or Parkinson's disease or who have sustained a stroke may experience vocal fold paralysis. In many cases, however, the cause is unknown. Vocal fold paralysis is treated with voice therapy and, in some cases, surgery. (NIDCD, 2017a).

Paradoxical vocal cord motion (PVFM) disorder occurs when the vocal folds adduct during inhalation and/or exhalation, thereby restricting the airway opening (Mather-Schmidt, 2001). This may result in marked inspiratory stridor and wheezing which may lead to the condition being confused with asthma. The treatment involves speech and voice therapy, which are regarded as the primary therapy for PVFM (Hicks, et al., 2008). The disorder may also be known as paradoxical vocal fold movement disorder, paradoxical vocal cord movement, paradoxical vocal cord dysfunction, episodic paroxysmal laryngospasm.

Exercise Induced Laryngeal Obstruction (EILO) is the term used to describe breathing problems caused by inducible laryngeal obstruction isolated to exercise. EILO includes the entity described as "exercise-induced laryngomalacia" and replaces previously used terms including "vocal cord dysfunction" and "paradoxical vocal fold motion" in the context of exercise. It is increasingly recognized as an important cause of exertional dyspnea. EILO refers to narrowing of the laryngeal airway at the glottic (vocal folds) or supraglottic (above the glottis) level that occurs during exercise. Other terms that have been used to describe EILO include exercise-induced vocal cord dysfunction (EI-VCD), exercise-induced laryngomalacia (EIL), and exercise-induced paradoxical vocal fold motion (EIPVFM). The broader term, laryngeal obstruction, is preferred because a substantial portion of EILO is attributable to narrowing of the supraglottic airway, rather than just the vocal folds (Olin, 2022).

An evaluation by a speech-pathologist will include assessment of the pitch, loudness, and quality of the person's voice, and will also assess vocal techniques such as breathing and style of voicing. A voice recording may be made with trial therapy techniques used to test their effectiveness in improving the voice. The evaluation for voice disorders should include perceptual, acoustic and aerodynamic analyses. The treatment plan should include why the therapy is being proposed and provided. The evaluation should also consider this is impacting/impeding communication. The particular measures that are used in evaluating voice disorders may vary from one SLP to another. For perceptual evaluation, the tests include: GRBAS Scale for Auditory-Perceptual Evaluation Consensus Auditory-Perceptual Evaluation–Voice (CAPE-V).

Therapeutic interventions may include education in how the voice works and good vocal hygiene, physiologic vocal exercises to improve the quality and strength of the voice, and compensatory techniques to optimize vocal function (Ashley, et al., 2006). Voice therapy techniques fall into two main categories (Ruotsalainen, et al., 2009):

- Indirect treatment: these focus on psychosocial aspects such as patient education, auditory training and vocal hygiene programs
- Direct treatment: these techniques focus on mechanical or physical aspects such as yawn-sign method, establishing optimal pitch and laryngeal manipulation

Literature Review—Voice Therapy: Speyer (2008) reported on a systematic review regarding the effects of voice therapy and overall, the authors found the number of papers was small and many studies had methodological problems. While no conclusion was made, the review indicated that statistically significant positive results appear to be modest in general and the therapy effects in individual patients are varying. Direct voice therapies appear to more effective than indirect therapies. Ruotsalainen et al. (2007) reported on a Cochrane review that evaluated the effectiveness of interventions to treat functional dysphonia in adults. The review included six studies with one noted to be of high quality and concluded that evidence is available for the effectiveness of comprehensive voice therapy comprising both direct and indirect therapy elements; however, larger and methodically better studies are needed with outcome measurements that correlate with treatment objectives.

Professional Societies/Organizations—Voice Therapy: The American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS) published clinical practice guidelines for the

management of hoarseness (dysphonia) (Stachler, et al. 2018). The guidelines recommendations include, that clinicians should advocate voice therapy for patients with dysphonia from a cause amenable to voice therapy.
(Strong recommendation based on systematic reviews and randomized trials with a preponderance of benefit over harm.)

The guidelines note that most dysphonia is self-limited and related to upper respiratory tract infection, which usually resolves in seven to ten days regardless of treatment. Dysphonia that does not resolve within a few weeks is more challenging to diagnose. Causes may include muscle tension dysphonia, voice overuse, allergic laryngitis, tobacco use, head and neck cancer, medication side effects, age-related changes, intubation, and postsurgical injury, among others with voice overuse perhaps the most common cause of chronic dysphonia.

A technical report from the American Speech-Language-Hearing Association (ASHA) (2005) for the use of voice therapy in the treatment of dysphonia notes that, "research data and expert clinical experience support the use of voice therapy in the management of patients with acute and chronic voice disorders. Voice therapy contributes to increased effectiveness and efficiency in the treatment of voice disorders. When surgery is necessary, adjuvant voice therapy can improve surgical outcomes, prevent additional injury, and limit additional treatment costs."

Therapy for Swallowing and Feeding Disorders
Difficulty with swallowing is also referred to as dysphagia or deglutition disorder. Pain in swallowing may accompany dysphagia, and this is referred to as odynophagia. An inability to swallow is known as aphagia. Swallowing is a complex function that involves the mouth, pharynx, larynx and esophagus. The phases of swallowing include: oral preparation and oral propulsive, pharyngeal and esophageal (Palmer, 2000). Dysphagia is classified according to which phase of swallowing is affected (Palmer, 2000).

In infants, the first phase also includes the sucking reflex. The sucking reflex initiates swallowing in the infant by stimulation of the lips and deeper parts of the oral cavity (Derkay, et al., 1998). Oral skills such as sucking or chewing solids are learned only at certain ages. Infants who do not learn these skills at the specific times in their development may have a difficult time mastering them at a later time, leading to feeding problems.

Infants and children with cleft lip and/or palate can usually feed by mouth with some adjustments. These patients may have difficulties maintaining sucking pressure; however, the swallowing mechanisms are usually normal. If milk or formula can reach the oropharynx, then the natural swallowing reflexes can move it to the esophagus (American Cleft Palate-Craniofacial Association [ACPA], 2009). Feeding times may be lengthened considerably due to difficulties with maintaining the sucking pressure. There may also be breathing problems present during the feeding.

The most common signs and symptoms of dysphagia are coughing or choking while eating, or the sensation of food sticking in the throat or chest. Signs and symptoms of dysphagia may also include (Palmer, 2000): difficulty initiating swallowing, drooling, unexplained weight loss, change in dietary habits, recurrent pneumonia, change in voice or speech, nasal regurgitation, and dehydration. Infants may exhibit a feeding disorder with signs and symptoms that include refusal to eat or drink, failure to gain weight, aversions to specific food types or textures, recurrent pneumonias and chronic lung disease. Consequences of dysphagia and feeding disorders may be severe and may include dehydration, malnutrition, aspiration, choking, pneumonia, and death.

Evaluation of swallowing and feeding disorders first includes performing a history and physical exam. During the physical examination, the patient should be observed during the act of swallowing. A clinical dysphagia evaluation is usually completed by a speech-language pathologist.

The examination will include assessment of posture, positioning, patient motivation, oral structure and function, efficiency of oral intake and clinical signs of safety. A variety of positions, feeding techniques and adaptive utensils may be used during the examination. In infants, the oral-motor assessment includes evaluation of reflexive rooting and non-nutritive sucking (Darrow and Harley, 1998). Two scales that may be used in evaluation of infants include the Neonatal Oral-Motor Assessment Scale (NOMAS) and the Multidisciplinary Feeding Profile (MFP). Infants and children may require additional assessments, as growth, development and changes in medical condition may affect the swallowing process.

The videofluorographic swallowing study (VFSS), also referred to as modified barium swallow, is the gold standard for evaluating the mechanism of swallowing (Palmer, 2000). This test is usually performed jointly by a physician and a speech-language pathologist. The study will demonstrate anatomic structures, the motions of these structures, and passage of the food through the oral cavity, pharynx and esophagus (Palmer, 2000). Additional diagnostic testing that may be employed includes (Palmer, 2000; Darrow and Harley, 1998): esophagoscopy; esophageal manometry and pH probe studies; electromyography; fibroptic endoscopic examination of swallowing (FEES) and, ultrasound imaging.

Swallowing and feeding disorders in children and infants are complex and may have multiple causes. Underlying medical conditions that may cause dysphagia may include, but are not limited to (Palmer, 2000; Rudolph, et al., 2002):

- neurological disorders (e.g., cerebral palsy)
- disorders affecting suck-swallow-breathing coordination (e.g., bronchopulmonary dysplasia}
- structural lesions (e.g., neoplasm)
- connective tissue disease (e.g., muscular dystrophy)
- iatrogenic causes (e.g., surgical resection, medications)
- anatomic or congenital abnormalities (e.g., cleft lip and/or palate)

When possible, initial treatment of swallowing and feeding disorders is aimed at treating the underlying cause. Depending on the etiology, surgery or pharmacologic therapy may be used. However, the causes of many of the disorders resulting in dysphagia may not be amenable to pharmacologic therapy or surgery. In these cases, a referral to a speech-language pathologist for evaluation is appropriate.

The goals of therapy include reducing aspiration, improving the ability to eat and swallow, and optimizing the nutritional status (Palmer, 2000). The choice of therapies is directed by the videofluoroscopic findings and the individual's ability to comprehend and cooperate with the various strategies (Cook, et al., 1999).

The specific strategy that is utilized will depend on the dysfunction that is present. Swallowing therapy strategies may include:

- Dietary modifications: This technique may be used if the patient aspirates on only certain substances while swallowing.
- Swallow therapies: These therapies include the following:
  - Compensatory techniques: This technique teaches the patient postural maneuvers to compensate for swallowing difficulty.
  - Indirect swallow therapy: This technique teaches the patient exercises to strengthen impaired or weakened muscles.
  - Direct swallow therapy: This technique teaches the patient exercises to perform during the swallowing process.

When a patient is unable to achieve adequate alimentation and hydration by mouth, enteral feedings through a nasogastric tube (NG) or a percutaneous endoscopic gastrostomy (PEG) may be necessary. The presence of a feeding tube is not a contraindication of therapy. Removal of the feeding tube may be a goal of therapy.

Swallowing/feeding therapy is generally provided by a speech-language pathologist. At times, an occupational therapist may also provide some of the treatment. There should be a documented plan of care that includes specific measures that will be used to assess progress and objective long- and short-term goals. Each treatment provided and patient response should be documented in the progress notes. Assessment of progress toward goals should be made on a regular basis, approximately every 4–6 weeks. Goals should be re-evaluated and may be revised depending on progress and the patient's condition.

Swallowing/Feeding Therapy for Infants and Children: Strategies that are used with adults are often difficult to teach to children. Therapies directed toward strengthening of swallowing musculature may be useful for children with a swallowing or feeding disorder due to an underlying medical condition (Rudolph, 2002). Feeding therapy for infants and children may include the following strategies (Arvedson, 1998):

- Position and posture changes: Trunk and head control are closely related to development of oral-motor skills. In particular, children with cerebral palsy and accompanying motor deficits frequently have poor head control and poor trunk stability. Position changes need to be monitored closely for changes over time.
- Changes in food and liquid attributes: These attributes may include, but are not limited to volume, consistency, temperature and taste.
- Oral-motor and swallow therapies: These procedures are focused on developmental stages with goals to increase the range of textures children can handle in their diets. Oral-motor treatment can include direct exercises of the oral mechanism. Oral-motor treatment may also benefit non-oral feeders. Development of swallowing skills may have a positive effect on the process of swallowing saliva. The therapist can guide and direct caregivers to carry out an oral stimulation.
- Pacing of feedings: Pacing is a technique that regulates the time interval between bites or swallows. This may minimize the risk of aspiration. Some children may need a longer time to swallow.
- Changing of utensils: The food bolus size can be controlled through spoons of different shapes and sizes. Occupational therapists may recommend adaptive equipment and utensils.

Food aversion may be present without an underlying medical condition. Food aversion may also include food selectivity. This may be demonstrated by consumption of a limited variety of food items and the rejection of other items. If needed, behavioral therapy may be used to overcome this condition. Therapy provided for children with these conditions is considered behavioral and training in nature.

Specialized feeding techniques that are used for feeding infants with cleft lip and/or palate have been developed to overcome the lack of negative pressure developed during sucking; these strategies may include (ACPA, 2019):

- cross-cutting fissured nipples
- squeezing a soft bottle to help with the flow of milk
- pumping breast to deliver breast milk via bottle

Literature Review—Swallowing/Feeding Therapy: There are limited published clinical trials that assess the specific treatments for dysphagia and the effect of the treatments. Bath et al. (2018) published an update to previous Cochrane review to assess the effect of different

management strategies for dysphagic stroke patients (Geeganage, et al., 2012; Bath, et al., 2000). The review includes a total of 41 studies (2660 participants). Swallowing therapy comprises several different treatment types, and eight of these were reviewed: acupuncture (11 studies), behavioral interventions (nine studies), drug therapy (three studies), neuromuscular electrical stimulation (NMES; six studies), pharyngeal electrical stimulation (PES; four studies), physical stimulation (three studies), transcranial direct current stimulation (tDCS; two studies), and transcranial magnetic stimulation (TMS; nine studies). Swallowing therapy did not result in less death or disability among stroke survivors, nor did it lead to a safer swallow after treatment. However, some individual swallowing therapies seemed to reduce hospital length of stay, lessen the chance of getting a chest infection or pneumonia, or improve swallowing ability and recovery from swallowing problems. Many of the swallowing therapies involved different methods of delivery, so it is still not clear which approach is most effective for each type of therapy. It was noted that the quality of the evidence was generally very low, low, or moderate and additional high-quality studies are needed.

Morgan et al. (2012) reported on a Cochrane review of three randomized, controlled studies with limited sample sizes that examined interventions for oropharyngeal dysphagia in children with neurological impairment. The authors' noted that it was not possible to reach definitive conclusions on the effectiveness of particular interventions for oropharyngeal dysphagia based on these studies. The authors concluded that there is currently insufficient high-quality evidence from randomized, controlled trials or quasi-randomized, controlled trials to provide conclusive results about the effectiveness of any particular type of oral-motor therapy for children with neurological impairment and note that there is an urgent need for larger-scale randomized trials to evaluate the efficacy of interventions for oropharyngeal dysphagia.

Professional Societies/Organizations —Swallowing/Feeding Therapy: The American College of Chest Physicians (ACCP) published evidenced–based clinical practice guidelines regarding cough and aspiration of food and liquids due to oral-pharyngeal dysphagia (Smith Hammond, et al., 2006). The guidelines note that the treatment of dysphagic patients by a multidisciplinary team, including early evaluation by a speech-language pathologist, is associated with improved outcomes. The ACCP also notes that, "Effective clinical interventions such as the use of compensatory swallowing strategies and the alteration of food consistencies can be based on the results of instrumental swallowing studies."

Electrical Stimulation for Dysphagia

Electrical stimulation has been proposed as a treatment for dysphagia. This may involve either direct electrical stimulation of the oral structure, or transcutaneous stimulation of the throat musculature. It appears the goal of the therapy is to stimulate and re-educate the neuromuscular pathways involved in swallowing. It is proposed to be used as an adjunct to standard dysphagia therapy.

U.S. Food and Drug Administration (FDA): The following products were developed for the treatment of dysphagia: VitalStim® (Empi, Inc., St. Paul, MN) granted FDA 510(k) approval in 2001; VitalStim Experia® clinical device (Empi, Inc., St. Paul, MN) obtained 510(k) approval in 2007; the ESwallow Dysphagia Therapy Kit (ESwallow USA) received 510(k) approval in 2007; the Guardian Dysphagia Dual Channel NMES Unit (SelectiveMed Components Inc) and AmpCare (AmpCare LLC), achieved FDA 510(k) approval in 2013. These Class II devices are approved for muscle re-education by external stimulation to the muscles necessary for pharyngeal contraction.

Literature Review—Electrical Stimulation for Dysphagia:

Liang et al. (2021) conducted a randomized controlled trial to explore the clinical efficacy of VitalStim electrical stimulation combined with swallowing function training for patients with

dysphagia following an acute stroke. The study included 72 patients with dysphagia following an acute stroke divided into two groups using prospective research methods. The control group (n=36) received conventional medical treatment and swallowing function training while the experimental group (n=36) received conventional medical treatment and VitalStim electrical stimulation combined with swallowing function training. The treatment was performed for four weeks. The overall response rate of the experimental group (94.44%) was higher than that of the control group (77.78%) ($p<0.05$). Compared with before treatment, the upward and forward movement speeds of the hyoid bone, anterior movement speed, the grading score of the Kubota drinking water test, Caiteng's grading score, serum superoxide dismutase, 5-hydroxytryptamine, and norepinephrine levels, Fugl-Meyer Assessment score, and multiple quality of life scores of the two groups showed improvement after treatment. While the standard swallowing assessment score, serum malondialdehyde level, and National Institutes of Health Stroke Scale score decreased, the aforementioned indices showed a significant improvement in the experimental group ($p<0.05$). Limitations of the study included the small number of participants and the length of the treatment. Future multi-center studies with a larger number of cases and longer observation time are needed.

To date, there have been very few studies of surface electrical stimulation to the neck for swallowing that support the efficacy of VitalStim. These studies have small sample size and report mixed results. There is insufficient evidence in the peer reviewed literature to conclude that electrical stimulation is effective in the treatment of dysphagia. Per UpToDate, "Oropharyngeal dysphagia: Clinical features, diagnosis, and management," further studies are needed to clarify the role of neuromuscular electrical stimulation in the treatment of oropharyngeal dysphagia (Lembo, 2023).

Bath et al. (2016) reported on a randomized controlled trial of 162 patients with a recent ischemic or hemorrhagic stroke and dysphagia, defined as a penetration aspiration score (PAS) of ≥3 on video fluoroscopy who were randomized to pharyngeal electric stimulation (PES) or sham treatment given on 3 consecutive days. The primary outcome was swallowing safety, assessed using the PAS, at two weeks. Secondary outcomes included dysphagia severity, function, quality of life, and serious adverse events at six and 12 weeks. The PAS at two weeks, adjusted for baseline, did not differ between the randomized groups: PES 3.7 (2.0) versus sham 3.6 (1.9), P=0.60. The secondary outcomes did not differ, including clinical swallowing and functional outcome. No serious adverse device-related events occurred.

Byeon et al, (2016) reported on a study that compared the effectiveness of neuromuscular electrical stimulation and thermal tactile oral stimulation (TTOS) in patients with sub-acute dysphagia caused by stroke. The study included 55 who were randomly assigned into the NMES group (n=27) or TTOS group (n=28). The NMES group received 30 minutes of stimulation per day 5 days per week for 3 weeks with Vitalstim for a total of 15 treatments. The study found that analysis of pre-post values of videofluoroscopic studies of the neuromuscular electrical stimulation and thermal tactile oral stimulation groups using a paired t-test showed no significant difference between the two groups despite both having decreased mean values of the videofluoroscopic studies after treatment. The study was limited by the small number of patients and short follow-up time.

Xia et al. (2011) conducted a randomized, controlled trial of 120 patients with post-stroke dysphagia to investigate the effects of VitalStim therapy coupled with conventional swallowing training. Patients were randomly and evenly divided into three groups: conventional swallowing therapy group, VitalStim therapy group, and VitalStim therapy plus conventional swallowing therapy group. Prior to and after the treatment, signals of surface electromyography (sEMG) of swallowing muscles were detected, swallowing function was evaluated by using the Standardized

Swallowing Assessment (SSA) and Videofluoroscopic Swallowing Study (VFSS) tests, and swallowing-related quality of life (SWAL-QOL) was evaluated using the SWAL-QOL questionnaire. After four weeks treatment, all groups showed improvement. The sEMG value, SSA, VFSS and SWAL-QOL scores were greater in the VitalStim therapy plus conventional swallowing training group than in the conventional swallowing training group and VitalStim therapy group. There was no significant difference found between conventional swallowing therapy group and VitalStim therapy group. Further studies that include larger subject population and that evaluate long-term effects of electric stimulation and the combined method are needed.

A systematic review the literature examining the effects of neuromuscular electrical stimulation (NMES) on swallowing and neural activation was conducted by Clark, et al. (2009). The review included 14 trials. Most of the studies (10/14) were considered exploratory research (non-experimental design conducted on non-disordered populations or used NMES as a condition to examine swallowing abilities instead of an intervention). Many of the studies were noted to have significant methodological limitations. The authors concluded that the systematic review "reveals that surface NMES to the neck has been most extensively studied with promising findings, yet high-quality controlled trials are needed to provide evidence of efficacy. Surface NMES to the palate, faucial pillars, and pharynx has been explored in Phase I research, but no evidence of efficacy is currently available. Intramuscular NMES has been investigated in a single Phase I exploratory study."

A meta-analysis was conducted to evaluate the effect of transcutaneous NMES on swallowing rehabilitation (Carnaby-Mann, et al., 2007). The review included 7 studies with a total of 255 patients with dysphagia due to multiple etiologies. Therapeutic outcome was evaluated using various methods that included swallowing scale, weight gain, functional eating, residue on a swallowing x-ray study, or laryngeal elevation. The treatment was provided over a variable period of one to 24 weeks, with a number of total treatment sessions varying across the studies. The NMES electrode placement was not detailed in two of the seven studies. A significant summary effect size was identified for the application of NMES for swallowing ($p<.001$). The heterogeneity was significant for the combined trials ($p<10$). When two outlier trials were removed, the heterogeneity was no longer significant ($p<.08$). The best-evidence synthesis demonstrated indicative findings in favor of NMES for swallowing. The authors concluded that, "This preliminary meta-analysis revealed a small but significant summary effect size for transcutaneous NMES for swallowing." However, the authors note that, "because of the small number of studies and low methodological grading for these studies, caution should be taken in interpreting this finding." In addition, they note that, "further independent trials with rigorously controlled designs and intent-to-treat analyses are needed to establish whether NMES for swallowing has greater efficacy than traditional swallowing treatments alone."

Randomized controlled trials with small patient populations and short-term follow-ups have investigated NMES for the treatment of dysphagia. Control groups were treated with traditional dysphagia treatment for Parkinson's disease (n=86) (Heijen, et al., 2012) and rehabilitation swallowing therapy (n=34) (Permsirivanich, et al., 2009), thermal-tactile stimulation treatment (n=36) (Lim, et al., 2009), traditional swallowing therapy (n=25) (Bulow, et al., 2008), and sham stimulation (n=14) (Ryu, et al., 2008) for the treatment of dysphagia in stroke patients. Sproson et al. 2018, examined use of NMES with swallow-strengthening exercises with usual care in treatment of dysphagia post-stroke (n=30). Various outcome measures were used in these studies and the follow-up rates in one study were 48%-67% of the initial patient population. Studies reported conflicting results with improvement in some outcomes in the NMES groups while other studies reported no significant improvement (e.g., quality of life).

Several prospective, and retrospective studies were conducted to examine the efficacy of electrical stimulation for treatment of dysphagia (Christiaanse et al.,2011; Ludlow, et al., 2007; Kiger, et

al., 2006; Blumenfeld, et al., 2006.; Leelamanit, et al., 2002; Freed, et al., 2001). These studies mainly had small number of subjects, had inconsistent results and are not conclusive regarding the efficacy of this treatment. The treatment should be confirmed in prospective, randomized, placebo-controlled, clinical trial in individuals of varying disease severity and rehabilitation potential.

There is insufficient evidence in the published, peer-reviewed scientific literature to conclude that electrical stimulation is effective in the treatment of dysphagia. Well-designed, randomized, controlled clinical trials are needed to demonstrate the effect and the clinical benefit of electrical stimulation for this condition.

Professional Societies/Organizations—Electrical Stimulation for Dysphagia: The American College of Chest Physicians (ACCP) guidelines regarding cough and aspiration of food and liquids due to oral-pharyngeal dysphagia include a recommendation regarding electrical stimulation "for patients with muscular weakness during swallowing, muscle strength training, with or without electromyographic biofeedback, and electrical stimulation treatment of the swallowing musculature are promising techniques, but cannot be recommended at this time until further work in larger populations is performed" (Smith Hammond, et al., 2006).

Speech Software and Computer-Based Programs

Computer-based programs have been developed that are proposed to improve reading and language skills. The use of speech software or computer-based programs, (e.g., Fast ForWord® [Scientific Learning Corporation, Oakland, CA], Laureate Language Systems [Laureate Learning Systems, Inc. Winooski, VT]) repetitive training devices/exercises or school-based programs are considered training in nature and are not considered medically appropriate, as they do not involve the formal interaction of one-to-one supervision with a speech-language pathologist.

LSVT LOUD® therapy (LSVT Global, Inc., Tucson, AZ) utilizes LSVT Companion® System. This device received FDA 510K approval August 2009 and is classified as: Aids, Speech Training for the Hearing Impaired. The intended use is as a technical aid complementing person-to-person speech therapy to improve the vocal loudness of persons with Parkinson's disease. The sound produced by an individual's voice is received by a calibrated microphone and converted to a visual display which consists of different visual and auditory feedback. The individual is given a target range of both vocal intensity (loudness) and fundamental frequency (pitch) and instructed to maintain a given loudness and or pitch for a given duration. Increases in the complexity of the spoken material are combined with these targeted vocal parameters. In this way, individuals are trained to increase both vocal loudness and variations in pitch through a series of exercises. The device consists of software that allows clinicians to manage speech therapy for clients as well as allow clients to perform speech "homework" on their home PC.

Literature Review—Speech Software and Computer-Based Programs: Bothe et al. (2008) conducted a randomized controlled trial to compare the language and auditory processing outcomes of children assigned to Fast ForWord-Language (FFW-L) to the outcomes of children assigned to nonspecific or specific language intervention comparison treatments that did not contain modified speech. Two hundred and sixteen children between the ages of 6 and 9 years with language impairments were randomly assigned to one of four arms: FFW-L, academic enrichment (AE), computer-assisted language intervention (CALI), or individualized language intervention (ILI) provided by a speech-language pathologist. One hour and 40 minutes of therapy was provided to all children, five days per week, for six weeks. Language and auditory processing measures were administered to the children by blinded examiners before treatment, immediately after treatment, three months after treatment, and six months after treatment. The children in all four arms improved significantly on a global language test and a test of backward masking. The children with poor backward masking scores who were randomized to the FFW-L arm did not

present greater improvement on the language measures than children with poor backward masking scores who were randomized to the other three arms. Participants in the FFW-L and CALI arms earned higher phonological awareness scores than children in the ILI and AE arms at the six-month follow-up testing. The FFW-L program , the language intervention that provided modified speech to address a hypothesized underlying auditory processing deficit, was not more effective at improving general language skills or temporal processing skills than a nonspecific comparison treatment (AE) or specific language intervention comparison treatments (CALI and ILI) that did not contain modified speech stimuli. These findings question the temporal processing hypothesis of language impairment and the proposed benefits of using acoustically modified speech to improve language skills. In view of the finding that children in the three treatment arms and the active comparison arm made clinically relevant gains on measures of language and temporal auditory processing appears to indicate that a variety of intervention activities can facilitate development.

Educational Services (Including Intensive Educational Programs)

Service that are provided to primarily enhance school or academic performance are considered not medically necessary. Educational services include goals that are mainly educational such as reading, spelling and are not related to the language and verbal skills. The test administered may be educational in nature and include but not be limited to:

- Gray Oral Reading Test Fifth Edition (GORT-5) which tests oral reading fluency and comprehension
- Woodcock-Johnson Tests of Cognitive Abilities

The goals are focused on education (e.g., reading, spelling) and do not include goals for language or verbal skills.

There are programs provide intensive speech therapy with a main focus of the treatment for treatment of learning disabilities. The Wellington-Alexander Center is a program that provides intensive therapy with a focus on dyslexia. The therapy provided at this center include Intensive Intervention services daily for approximately three to five hours for a duration of six to nine weeks. This is followed by a nine to ten-week transitional period where the child attends transitional sessions 1-4 times per week. Although the services are provided by a speech therapist they are focused on learning and are considered educational and not medically necessary. In addition, there is insufficient evidence that demonstrates intensive speech therapy program is more effective than standard conventional speech therapy.

Appendix

Documentation Requirements for Speech Therapy (American Speech-Language-Hearing Association [ASHA]h)

Evaluation Report

The evaluation report typically is a summary of the evaluation process, any resulting diagnosis, and a plan for service and may include the following elements:

- reasons for referral
- case history, including prior level of function, medical complexities, and comorbidities
- review of auditory, visual, motor, and cognitive status
- standardized and/or nonstandardized methods of evaluation
- diagnosis
- analysis and integration of information to develop prognosis, including outcomes measures and projected outcomes
- recommendations, including:
    - referrals to other professionals as needed,
    - plan of care—
    - treatment amount, frequency, and duration;

- long- and short-term functional goals

Treatment Plan
Documentation of the proposed treatment plan should include all of the following:
- findings of the speech evaluation, including motor and expressive results
- short- and long-term measurable goals, with expectations for progress
- specific treatment techniques and/or exercises to be used during this treatment
- determination of how the goals will be measured and reported at regular intervals
- expected duration of therapy for goals to be met
- documented strategy to transition this supervised therapy to a patient-administered or caregiver-directed maintenance program

Progress Notes
Progress notes are written at intervals that may be stipulated by the payer or the facility and report progress on long- and short-term goals. These notes typically include:
- number of sessions, location, attendance;
- patient response, including home programming;
- skilled services provided (see above, Skilled Services);
- objective measures of progress toward functional goals;
- changes to the goals or plan of care, if appropriate.

Treatment Note
A treatment note is a record of a treatment session and typically includes the following information regarding the treatment session:
- date
- location
- patient response
- objective data on progress toward functional goals with comparison to prior sessions
- skilled services provided (e.g., materials and strategies, patient/family education, analysis and assessment of patient performance, modification for progression of treatment)
- session length and/or start and stop time, as required

Discharge Summary
Discharge summary notes are prepared at the conclusion of treatment and typically include:
- dates of treatment
- goals and progress toward goals
- treatment provided
- objective measures (e.g., pre- and post-treatment evaluation results, outcomes measures)
- functional status (see ICF framework above)
- patient/caregiver education provided
- reason for discharge
- recommendations for follow-up

Medicare Coverage Determinations

	Contractor	Determination Name/Number	Revision Effective Date
NCD	National	National Coverage Determination (NCD) for SPEECH-Language Pathology Services for the Treatment of Dysphagia (170.3)	2006
LCD	Novitas Solutions, Inc	Speech - Language Pathology (SLP) Services: Communication Disorders (L35070)	08/2020

	Contractor	Determination Name/Number	Revision Effective Date
LCD	CGS Administrators, LLC	Speech-Language Pathology (L34046)	08/2022
LCD	National Government Services, Inc	Speech-Language Pathology (L33580)	12/2019
LCD	Palmetto GBA	Home Health SPEECH-Language Pathology (L34563)	11/2019
LCD	Palmetto GBA	Outpatient SPEECH Language Pathology (L34429)	06/2020

Note: Please review the current Medicare Policy for the most up-to-date information.
(NCD = National Coverage Determination; LCD = Local Coverage Determination)

Coding Information

Notes:

1. This list of codes may not be all-inclusive since the American Medical Association (AMA) and Centers for Medicare & Medicaid Services (CMS) code updates may occur more frequently than policy updates.
2. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®* Codes	Description
92507	Treatment of speech, language, voice, communication, and/or auditory processing disorder; individual
92508	Treatment of speech, language, voice, communication, and/or auditory processing disorder; group, 2 or more individuals
92521	Evaluation of speech fluency (eg, stuttering, cluttering)
92522	Evaluation of speech sound production (eg, articulation, phonological process, apraxia, dysarthria);
92523	Evaluation of speech sound production (eg, articulation, phonological process, apraxia, dysarthria); with evaluation of language comprehension and expression (eg, receptive and expressive language)
92524	Behavioral and qualitative analysis of voice and resonance
92526	Treatment of swallowing dysfunction and/or oral function for feeding
92609	Therapeutic services for the use of speech-generating device, including programming and modification
92610	Evaluation of oral and pharyngeal swallowing function
92626	Evaluation of auditory function for surgically implanted device(s) candidacy or postoperative status of a surgically implanted device(s); first hour
92627	Evaluation of auditory function for surgically implanted device(s) candidacy or postoperative status of a surgically implanted device(s); each additional 15 minutes (List separately in addition to code for primary procedure)
92630	Auditory rehabilitation; prelingual hearing loss
92633	Auditory rehabilitation; postlingual hearing loss

HCPCS Codes	Description
G0153	Services performed by a qualified speech-language pathologist in the home health or hospice setting, each 15 minutes
S9128	Speech therapy, in the home, per diem
S9152	Speech therapy, re-evaluation

Not Covered or Reimbursable:

HCPCS Codes	Description
S9445	Patient education, not otherwise classified, nonphysician provider, individual, per session
S9446	Patient education, not otherwise classified, nonphysician provider, group, per session

Considered Experimental/Investigational/Unproven when used to report electrical stimulation for swallowing/feedings disorders:

CPT®* Codes	Description
97014	Application of a modality to 1 or more areas; electrical stimulation (unattended)
97032	Application of a modality to 1 or more areas; electrical stimulation (manual), each 15 minutes

HCPCS Codes	Description
G0283	Electrical stimulation (unattended), to one or more areas for indication(s) other than wound care, as part of a therapy plan of care

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Revision Details

Type of Revision	Summary of Changes	Date
Annual Review	• No changes to coverage.	04/15/2024