Anthem

Clinical UM Guideline

Subject: Augmentative and Alternative Communication (AAC) Devices with Digitized or Synthesized Speech Output
Guideline #: CG-DME-07 **Publish Date:** 09/27/2023
Status: Revised **Last Review Date:** 08/10/2023

Description

This document addresses augmentative and alternative communication (AAC) devices with digitized or synthesized speech output. Digitized speech output refers to natural speech that is recorded and stored, and then reproduced by the device. In contrast, synthesized speech devices translate user input into machine-generated speech and thus are not dependent on pre-stored messages. These devices are aids to improve the functional communication needs of individuals with severe speech impairment or absent speech. Associated functional disabilities may limit an individual's ability to use alternative natural methods of communication such as writing notes, using sign language, or even to manipulate a low technology augmentative communication system.

Clinical Indications

Medically Necessary:

Augmentative and alternative communication devices with digitized or synthesized speech output are considered **medically necessary** *when **all** of the following criteria A through C are met, **and** when applicable, criteria D or E are met:*

A. The device has been recommended by the individual's physician **and** licensed speech language pathologist who have each conducted and documented a thorough assessment which includes all of the following information:
   1. Medical diagnosis, physiological description of the underlying disorder, description of functional limitation, nature and severity of speech or communication impairment, and prognosis for improvement (or deterioration); **and**
   2. Medical justification for the device and documentation that a non-electronic communication device (such as a communication board) is inadequate to meet the individual's functional communication needs; **and**
   3. Therapeutic history including speech, occupational, or physical therapies as appropriate; **and**
   4. Documentation of the cognitive ability to utilize the selected device including, when appropriate, results of at least one validated cognitive and/or developmental test; **and**
   5. Documentation of the visual, auditory, language and motor ability to utilize the selected device including results of any test(s) performed; **and**
   6. Documentation of the specific daily functional communication needs including number of words or sounds used without a device at baseline; **and**
   7. Expected functional communication goals with the device; **and**
   8. Plan of care for the device including: anticipated training needs for the individual and caregiver(s), programming needs and planned evaluations; **AND**

B. The individual has severe expressive speech impairment and alternative natural communication methods such as writing or sign language are not feasible or are inadequate for that individual's daily functional communication needs; **AND**

C. The individual has tested the device, has demonstrated the ability to use the device and there is documentation of the rationale for the specific device selected which should include the following elements:
   1. Duration of device trial (number of trials and length of sessions, total duration in days); **and**
   2. Communication task(s) evaluated (such as initiating communication, responding to questions, making requests, effectively expressing wants, needs, and ideas, participating in conversations); **and**
   3. Language functions evaluated (such as making requests, initiating and responding to greetings, expressing feelings, and asking basic/functional questions); **and**
   4. Type and number of symbols/pictures and/or words used with each device trial; **and**
   5. Extent to which individual can independently navigate the device.

D. If the individual has a degenerative disease causing the speech impairment, the communication device selected should be capable of modifications necessary to meet the individual's anticipated needs.

E. If the individual is preliterate, the device should be capable of modifications such as spelling and text capabilities to meet the individuals anticipated learning potential.

Accessories are considered **medically necessary** if criteria for the base device are met and the medical necessity for each accessory is clearly documented in the formal evaluation by the speech language pathologist. For any subsequent upgrade of equipment or accessories to a previously issued device, information regarding the functional benefit to the individual of the upgrade compared to the initially provided device must be submitted to demonstrate medical necessity.

When the above criteria A through C are met, and when applicable, criteria D or E are met, specific communication software for dedicated digitized or synthesized speech generating devices is considered **medically necessary.**

Not Medically Necessary:

Synthesized and digitized speech generating devices are considered **not medically necessary** if the above criteria are not met **or** if they are not primarily and customarily used to serve an augmentative communication function.

The following are considered **not medically necessary:**

A. Devices that are not dedicated speech devices, but are devices that are capable of running software for purposes other than for speech generation, for example, devices that can also run a word processing program or perform other non-augmentative communication functions.
B. Laptop, tablet or desktop computers, personal digital assistants (PDAs) or other devices which may be programmed to perform the same function as a speech generating device.

Coding

The following codes for treatments and procedures applicable to this document are included below for informational purposes.

Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement policy. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

When services may be Medically Necessary when criteria are met:

HCPCS	
E2351	Power wheelchair accessory, electronic interface to operate speech generating device using power wheelchair control interface
E2500	Speech generating device, digitized speech, using prerecorded messages, less than or equal to 8 minutes recording time
E2502	Speech generating device, digitized speech, using prerecorded messages, greater than 8 minutes but less than or equal to 20 minutes recording time
E2504	Speech generating device, digitized speech, using prerecorded messages, greater than 20 minutes but less than or equal to 40 minutes recording time
E2506	Speech generating device, digitized speech, using prerecorded messages, greater than 40 minutes recording time
E2508	Speech generating device, synthesized speech, requiring message formulation by spelling and access by physical contact with the device
E2510	Speech generating device, synthesized speech, permitting multiple methods of message formulation and multiple methods of device access
E2511	Speech generating software program, for personal computer or personal digital assistant
E2512	Accessory for speech generating device, mounting system
E2599	Accessory for speech generating device, not otherwise specified

ICD-10 Diagnosis	
	All diagnoses

When services are Not Medically Necessary:
For the procedure codes listed above when criteria are not met or for situations designated in the Clinical Indications section as not medically necessary.

Discussion/General Information

Speech aids such as synthesized and digitized speech generating devices (SGD) can provide individuals with severe speech impairment or absent speech the ability to meet their functional communication needs. Etiologies of speech impairment in children may include cerebral palsy, intellectual/developmental disorder, autism-like disorders and other genetic or speech disorders. Etiologies in adults may include stroke, traumatic brain injury, amyotrophic lateral sclerosis (ALS), Parkinson's disease and head and neck cancer among others. There may be associated functional disabilities that also limit the individual's ability to use alternative natural methods of communication such as writing notes, using sign language, or even to manipulate a low technology augmentative communication system.

Digitized SGCs, sometimes referred to as devices with "whole message" speech output, use words or phrases that have been recorded by an individual other than the SGD user for playback upon command of the SGD user. The time available for pre-recorded messages varies. Synthesized speech is a technology that translates user's input into device-generated speech using algorithms representing linguistic rules. Users of synthesized SGDs are not limited to pre-recorded messages, but instead can independently create messages as their communication needs dictate. Some SGDs require a message formulation by spelling, and access by physical contact with a keyboard, touch screen, or other display containing letters. Speech generating software programs enable a laptop, tablet, desktop computer or mobile device to function as SGDs.

There is a lack of controlled studies evaluating the effectiveness of AAC devices. The published literature consists of case reports and small case series. In addition, there have been a number of systematic reviews of those studies (Ganz, 2017; Ganz, 2014; Leonet, 2022; Morin, 2018; Muharib, 2018; Russo 2017). Several systematic reviews have focused on different populations of individuals who might use AAC devices or SCGs. A 2018 systematic review by Muharib and Alzrayer evaluated studies on use of high-technology SGDs in children with autism spectrum disorder (ASD). The authors identified 20 studies with a total of 54 participants. In nearly all of the studies, the SCGs were applications used on an iPad or iPod. In 13 out of 18 studies, use of SCGs had a strong effect in teaching verbal behaviors and in another 4 studies, the SCGs were moderately effective in improving verbal skills.

A 2017 systematic review by Ganz and colleagues included studies on individuals with intellectual/developmental disabilities who had complex communication needs. The review identified 24 studies on high-technology AAC devices that had a total of 56 participants. Studies differed in the interventions they evaluated and the outcome variables they measured. All of the interventions provided statistically significant benefits, compared with baseline, and the overall pooled effect size was 0.70 (95% confidence interval [CI]; 0.63 to 0.77).

A systematic review of studies on high-technology AAC devices for adults with post-stroke aphasia was published by Russo and colleagues in 2017. The review included 30 publications and included a total of 250 individuals with acquired non-progressive post-stroke aphasia. Study sample sizes ranged from 1 to 10. AAC included computer software (n=20), dedicated AAC devices (n=6) and software applications for tablets and/or smartphones (n=4). A total of 16 studies showed positive outcomes, 11 studies reported mixed outcomes and 3 studies did not demonstrate improvement in communication. Study findings were not pooled due to heterogeneity of interventions and outcome measures.

Definitions

Digitalized speech: Devices with "whole message" speech output utilize words or phrases recorded by another individual.

Laryngectomy: Surgical removal of the voice box.

Speech disorder: A condition affecting the ability to produce normal speech may affect articulation (phonetic or phonological disorders); fluency (stuttering or cluttering); and/or voice (tone, pitch, volume, or speed); most speech disorders have their roots in the muscles of the mouth and/or mouth movements.

Speech language pathologist: Another title for a Speech Therapist.

Synthesized speech: A technology that translates user input into device-generated speech.

References

Peer Reviewed Publications:

1. Baxter S, Enderby P, Evans P, Judge S. Barriers and facilitators to the use of high-technology augmentative and alternative communication devices: a systematic review and qualitative synthesis. 2012; 47(2):115-129.
2. Ganz JB, Morin KL, Foster MJ, et al. High-technology augmentative and alternative communication for individuals with intellectual and developmental disabilities and complex communication needs: a meta-analysis. Augment Altern Comm. 2017; 33:224-238.
3. Ganz JB, Mason RA, Goodwyn FD, et al. Interaction of participant characteristics and type of AAC with individuals with ASD: a meta-analysis. Am J Intellect Dev Disabil. 2014; 119(6):516-535.
4. Kasari C, Kaiser A, Goods K, et al. Communication interventions for minimally verbal children with autism: a sequential multiple assignment randomized trial. J Am Acad Child Adolesc Psychiatry. 2014; 53(6):635-646.
5. Leonet O, Orcasitas-Vicandi M, Langarika-Rocafort A et al. A systematic review of augmentative and alternative communication interventions for children aged from 0 to 6 Years. Lang Speech Hear Serv Sch. 2022; 53(3):894-920.
6. Morin KL, Ganz JB, Gregori EV et al. A systematic quality review of high-tech AAC interventions as an evidence-based practice. Augment Altern Commun. 2018; 34(2):104-117.
7. Muharib R, Alzrayer NM. The use of high-tech speech-generating devices as an evidence-based practice for children with autism spectrum disorders: A meta-analysis. Review Journal of Autism and Developmental Disorders 2018; 5(1):43-57.
8. Russo MJ, Prodan V, Meda NN, et al. High-technology augmentive communication for adults with post-stroke aphasia: a systematic review. Expert Rev Med Dev 2017; 14:355-370.
9. van der Meer L, Kagohara D, Achmadi D, et al. Speech-generating devices versus manual signing for children with developmental disabilities. Res Dev Disabil. 2012; 33(5):1658-1669.
10. van der Meer L, Sigafoos J, O'Reilly MF, Lancioni GE. Assessing preferences for AAC options in communication interventions for individuals with developmental disabilities: a review of the literature. Res Dev Disabil. 2011; 32(5):1422-1431.
11. Whitmore AS, Romski MA, Sevcik RA. Early augmented language intervention for children with developmental delays: potential secondary motor outcomes. Augment Altern Commun. 2014; 30(3):200-212.

Government Agency, Medical Society, and Other Authoritative Publications:

1. Centers for Medicare and Medicaid Services. National Coverage Determination: Electronic Speech Aids. NCD #50.2. Available at: https://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=237&ncdver=1&SearchType=Advanced&CoverageSelection=National&NCSelection=NCA%7CCAL%7CNCD%7CMEDCAC%7CTA%7CMCD&KeyWord=radiation&KeyWordLookUp=Doc&KeyWordSearchType=Exact&kq=true&bc=IAAAACAAAAAA&. Accessed on May 30, 2023.
2. Centers for Medicare and Medicaid Services. National Coverage Determination: Speech Generating Devices. NCD #50.1. Effective July 29, 2015. Available at: https://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=274&ncdver=1&bc=AAAAEAAAAQAAAAAA&. Accessed on May 30, 2023.

Websites for Additional Information

1. National Institute on Deafness and Other Communication Disorders (NIDCD). Assistive devices for people with hearing, voice, speech or language disorders. November 2019. Available at: http://www.nidcd.nih.gov/health/hearing/Pages/Assistive-Devices.aspx?nav=update. Accessed on May 30, 2023.

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History

Status	Date	Action
Revised	08/10/2023	Medical Policy & Technology Assessment Committee (MPTAC) review. Removed redundant punctuation in first MN statement. Updated Discussion/General Information and References sections.
Reviewed	08/11/2022	MPTAC review. Discussion/General Information and References sections updated.
Reviewed	08/12/2021	MPTAC review. References section updated.
Revised	08/13/2020	MPTAC review. In medically necessary statement, modified language in clinical indications for clarification purposes and to add details related to required documentation. In not medically necessary statement, changed 'medical function' to 'augmentative communication' function. Reformatted Coding section.
Reviewed	05/14/2020	MPTAC review. Discussion/General Information, Definitions and References sections updated.
Revised	06/06/2019	MPTAC review. Revised Description and Clinical Indications to specify scope as limited to digitized and synthesized speech generating devices. Changed title. Updated Discussion/General Information, Definitions, References and Websites sections. Updated Coding section; removed codes no longer applicable (E1902 and codes for artificial larynx); added E2511, E2512, E2599.
Revised	07/26/2018	MPTAC review. Revised MN statement criteria A.2. to define what is meant by 'high' and 'low' technology devices. Removed asterisks and associated text from MN statement. Updated Discussion/General Information, References and Websites sections.
	05/02/2018	The document header wording updated from "Current Effective Date" to "Publish Date."
Revised	08/03/2017	MPTAC review. Changed "tech" to "technology" in indication A.2. Updated References and Websites sections.
Reviewed	08/04/2016	MPTAC review. Updated References and Websites. Removed ICD-9 codes from Coding section. Updated formatting in Clinical Indications section.

Reviewed	08/06/2015	MPTAC review. Updated References and Websites.
Revised	08/14/2014	MPTAC review. Clarified medically necessary criterion regarding an evaluation by the physician and licensed speech language pathologist. Updated References and Websites.
Reviewed	08/08/2013	MPTAC review. Updated References. Added Websites for Additional Information section.
Revised	08/09/2012	MPTAC review. Clarified not medically necessary statement. Updated Coding, Discussion/General Information, and References.
	01/01/2012	Updated Coding section with 01/01/2012 CPT changes.
Reviewed	08/18/2011	MPTAC review. Updated Coding and References.
Reviewed	08/19/2010	MPTAC review. Updated References.
Reviewed	08/27/2009	MPTAC review. Removed Place of Service Section.
Reviewed	08/28/2008	MPTAC review. Formatting corrected in medical necessity section. Separated software criteria and moved into the medical necessity section. Updated coding section with 10/01/2008 ICD-9 changes.
Reviewed	08/23/2007	MPTAC review. Formatting corrected in medical necessity section. Updated definitions and references.
Reviewed	09/14/2006	MPTAC review.
	11/22/2005	Added reference for Centers for Medicare and Medicaid Services (CMS) – National Coverage Determination (NCD).
Reviewed	09/22/2005	MPTAC review. Revision based on Pre-merger Anthem and Pre-merger WellPoint Harmonization.

Pre-Merger Organizations	**Last Review Date**	**Document Number**	**Title**
Anthem, Inc**.**			
Anthem BCBS	09/23/2004	Anthem West: DME.220	Speech Generating Devices
Anthem BCBS	10/01/2004	Anthem CT	Durable Medical Equipment Summary of Coverage Criteria Guidelines
WellPoint Health Networks, Inc.	07/14/2005	9.03.05	Augmentative and Alternative Communication (AAC) Devices/Speech Generating Devices (SGD)
