Exploring Assistive Communication Devices for PALS

Understanding Assistive Devices

- ✔ What are Assistive Communication Devices?
- ✔ Multiple Access Technology
- ✔ Dedicated vs. Undedicated
- ✔ Are Assistive Devices Covered by Insurance?
- ✔ Finding the Right Fit from High Tech to No Tech

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What are Assistive Communication Devices?

Assistive communication devices are either electronic or non-electronic devices that support or supplement speech for individuals whose ability to communicate effectively is impaired. Augmentative and Alternative Communication (AAC) is another term for these devices. Many options are available from low-tech writing pads and communication boards, low-cost apps for tablets, phones and computers, to custom dedicated speech generating devices (DSGD). Many of these devices support multiple access or ways to interact with the device. For example, one person may touch selections on a screen or keyboard while others will make choices by simply moving their eyes (eye tracking). It is recommended that people with ALS (PALS) receive a SGD and start using the device before it becomes a necessity so they have time to become familiarized with its use.

The voices on all speech generating devices (SGD) are either digitized – which sounds more natural – or synthesized. Digitized words and phrases are pre-recorded, loaded onto the device and cannot be customized. Some newer devices allow you to record your own voice; however, this is limited to select phrases and greetings. Synthesized speech devices generate speech "on the fly" so you can say exactly what you want and are not limited to pre-programmed phrases. The device links together the individual sounds in words to create speech. Additionally, a synthesized version of your own voice can be uploaded for use on select computer programs and SGD (see *Model Talker* voice banking for more information).

Multiple Access Technology

Scanning, Switches & Head Tracking

Some devices can automatically scan across and down a screen to highlight various options that the user then selects by tapping lightly on the screen or keyboard. Choices can also be made by moving your head to the left or right in front of a device's built-in camera. Switches (separate buttons) can be connected to many devices for making selections. The user presses the switch with any body part they can move such as hand, knee, foot, elbow, cheek, eyebrow, or eye blink. Head tracking is another way to make selections. This involves wearing a sensor (small reflector dot) on your forehead to select specific letters, words or phrases on the screen. A special receiver on the computer monitor "reads" this information to display the desired choice.

Eye Gaze Systems

The eye gaze system provides a way for a person with little to no control of muscle movement to use their SGD. Sophisticated cameras in the eye gaze module track retina movement as you scan over the SGD screen. Tobii has developed an eye gaze system (Tobii PC Eye Go) for use with their PC and Windows tablet based communication software program (Tobii Communicator 4).

Dedicated Speech Generating Devices (DSGD)

DSGD function exclusively to produce speech, so internet, email and access to other computer programs is disabled or "locked" and cannot be "unlocked" during the rental period of 13 months required by Medicare. **One DSGD every 5 years** is covered by Medicare, Medicaid and private insurance when prescribed by a licensed speech language pathologist (SLP). As of May 1, 2014, Medicaid and private insurance are not requiring a rental period and will purchase the devices immediately. However, this may change as soon as June or July of 2014 as insurers often follow Medicare's lead.

DSGD generate speech based on phrases created using word selection, phrase selection and/or pictures and symbols. They support multiple forms of access including keyboard, head tracking, switches, scanning, and eye gaze. They may also include infrared (IR) environmental remote controls to manage lights, air conditioning, doors, phones, TV, DVD players and other household appliances. Most DSGD can be "unlocked" by the manufacturer for a nominal fee to allow for full access to all computer functions, word processing, apps, internet, email, WiFi and Bluetooth. As of April 1, 2014, Medicare coverage of DSGD converted to a month-to-month rental basis for 13 months, at which time the individual become s the owner. Dedicated devices cannot be "unlocked" until completion of the 13 month rental period. It should also be noted that devices are classified as durable medical equipment (DME) and can be reclaimed when: the device is not being used; the user has an extended hospitalization of more than 3 days; the user enters a skilled nursing facility or retains hospice services. It is imperative to respond to monthly phone calls regarding the use of the device. If no contact is made, the device will be repossessed as required by Medicare.
(Prices range: $4,000 to $10,000).

Dynavox Maestro   www.dynavoxtech.com

Features:
- Word and phrase prediction to speak faster
- Supports multiple access including eye gaze control
- Record your own voice for selected phrases and greetings
- Environmental remote control of household appliances
- Built-in 2 megapixel camera
- Ability to add, organize and save your own pictures, messages and stories
- Price: $7,820

Dynavox T10   www.dynavoxtech.com

Online tutorials: www.dynavoxtech.com/training/online/recorded-web-classes/default.aspx

Features:

- Researched-based communication software
- Intuitive supports, on-device video tutorials, and complementary companion app
- Crystal-clear, high-definition display, ultra-sensitive touch screen, award-winning voice technology, and embedded speakers
- Lightweight and portable
- Steady hands feature for more accurate input
- Write-on whiteboard feature
- Supports multiple access EXCEPT eye gaze control
- Comes with free companion app for caregiver and SLP to customize device remotely
- Price: $7,449

Tobii I-Series   www.tobii.com/en/assistive-technology

Online tutorials: www.tobii.com/en/assistive-technology/global/education/

Features:

- Supports multiple access including eye gaze control (purchase separately)
- Word and phrase prediction to speak faster
- Environmental remote control of household appliances
- The loudest voice available to communicate clearly, even in noisy environments
- Listen to text pasted from email, text messages, and e-books
- Same software as Tobii Communicator 4 for your PC and Windows tablet for a smooth transition to I-Series
- Record your own voice: upload your voice using Model Talker voice banking program
- $7,945 – $8,245

EYE TRACKING SYSTEM

Eye tracking technology is available in some devices to select, click, drag, drop, and type, rather than using a mouse or keyboard for those with either restricted or no movement. A DSGD that supports eye tracking can be used without the eye tracker until it is needed and can be purchased separately. Eye trackers are covered by Medicare, Medicaid and private insurance when part of a DSGD system. Current devices that provide eye-tracking technology include:

Tobii Gaze Interaction   www.tobii.com/en/assistive-technology

Eye gaze assistive technology for Tobii I-Series DSGD $6,900

Tobii PC Eye Go   www.tobii.com/en/assistive-technology

Features:

- Tobii PC Eye Go can be used to control computer software or Windows tablets with Windows Vista, 7 or 8 using eye tracking technology
- Use in conjunction with Tobii Communicator 4 software for speech generation and communication on PC or tablet running Windows Vista, 7 or 8
- Large eye tracking box and compensation for head movement enables high precision and accuracy and makes it easier to use
- Eye tracking not diminished due to various lighting conditions, eye color, or use of contacts or glasses
- Price: $1,995 – $2,300* *Not covered by insurance*

Dynavox Eye Max   www.dynavoxtech.com

Features:

- Eye gaze assistive technology for Dynavox Maestro and other Dynavox dedicated SGDs
- Control device by moving your eyes to desired choice and holding your gaze
- Interface with Dynavox T10 tablet currently in development
- Price: $7,000

Undedicated Speech Generating Devices (USGD)

USGD generate speech and allow for full access to typical computer functions such as word processing, email, internet surfing and texting with a PC, laptop and/or tablet. USGD are typically NOT covered by Medicare, Medicaid or private insurance unless all computer functions are disabled. These devices support most multiple access systems.

PROGRAMS FOR PC, LAPTOP or TABLET

Tobii Communicator 4   PC or tablet with Windows XP or higher
www.tobii.com/en/assistive-technology

Features:

- Ready-made communication boards, word and sentence prediction, standardized and custom keyboard options
- Allows full computer access to other programs, email, texting and internet
- Environmental remote control and multiple input methods including Tobii PC Eye
- Same software as used on Tobii I-Series DSGD for smooth transition from a computer or tablet to an I-Series
- Record your own voice for selected phrases and greetings
- Attention chime lets others know when you are ready to speak
- Lightweight, portable option to Tobii I-Series
- Price: $500-$700. Free limited version
- ***May be covered by insurance***

Speech Pro   Windows PC   www.gusinc.com/Home.html

Features:

- Combines both an on-screen keyboard (top half) and an expanding grid (bottom half) for your own customized words, phrases and pictures
- Designed for text and/or symbol based communication
- Includes 5,500 communication symbols and Neospeech Premium voices
- Fully customizable
- Price: $895. Free limited version

NextUp Talker Windows PC   www.nextup.com/talker

Features:
- Natural, human sounding voices and convenient shortcuts to quickly enter commonly used sentences and phrases
- Integrate audio recordings of your voice for selected phrases and greetings
- Regain an important part of your life by allowing you to "talk" with others.
- Price: $100

APPS – TEXT TO SPEECH

Alexicom Tech App For all Internet-accessible devices
www.alexicomaac.com

Features:
- Create customized communication pages via the internet
- Save the pages for use on your device without an internet connection
- Choose "core" words, phrases and pictures or type your message
- Quick and easy to use
- Price: $34 a month for 12 months. Free limited version

CommunicAide iOS, www.hope4speech.com

Features:
- Speech Therapist designed, easy-to-use communication of wants and needs
- For people uncomfortable with technology
- Largest selection of photographs and real human voices to date for nearly any situation
- Customize by importing your photographs of people, places and favorite items
- Simply select a photo and/or phrase to create complete sentences and questions
- Record your own voice for selected phrases and greetings
- Attention chime lets others know when you are ready to speak
- Price: $70. Free limited version

Dynavox Compass iOS, Windows www.dynavoxtech.com

Features:
- Same program as the Dynavox T10 without the restrictions from other programs on your device such as email, and internet access
- Pre-stored communication symbols, pictures, words, and phrases – supporting everyday conversations about mealtime, activities, & needs
- Write-on whiteboard option
- Record your own voice for selected phrases and greetings
- Price: $30/month. Free limited version

EZ SpeechPRO iOS, Android www.gusinc.com/Home.html

Features:
- Offers a quick and efficient communication platform for conversational speech
- Uses Neospeech (USA) premium voices
- Add custom phrases and organize them by topic so you can quickly find what you want to say for every occasion and situation
- Price: $100 iOS, $139 Android

Predictable 3.3 iOS, Android www.therapy-box.co.uk/predictable.aspx

Features:
- Customizable assistive communication functions with word prediction and the latest social media integration
- Write-on whiteboard with voice to speak what you write
- Record your own voice for selected phrases and greetings
- Switch accessibility.
- Save frequently used phrases
- Price: $170 iOS, $182 Android

Proloquo4Text iOS www.assistiveware.com/product/proloquo4text

Features:
- Easy to use with word and sentence prediction to reduce the time it takes to type your message
- Create and organize frequently used phrases
- Touch screen input and supports multiple access
- Choose from 95 natural-sounding voices
- Functions in other select languages
- Price: $130

Quick Talk   iOS & Android, Kindle

www.digitalscribbler.com/quick-talk-aac

Features:
- Simple, mobile, flexible and very easy to get started quickly;
- For people uncomfortable with technology
- Word & phrase prediction
- Record your own voice for selected phrases and greetings
- Steady hands feature for accurate input
- Touch screen and multiple access input
- Price: $25

RocketKeys   iOS   myvoiceaac.com

Features:
- Customizable talking keyboard allows you to choose the exact keys, size, layout, colors, prediction, and voices you want
- Understands touch input from users with unsteady or imprecise hands
- Provides location-specific phrases for restaurants, theaters, etc. using GPS
- Price: $169

TalkRocket Go   iOS   myvoiceaac.com

Features:
- Easy to use communication aid
- For people uncomfortable with technology
- Start talking instantly by tapping prepared pictures and phrases
- Quickly edit anything to build a vocabulary, and personalize with your own pictures
- Includes a catalogue of free vocabulary packs for people of all ages and abilities
- Provides location-specific phrases for restaurants, theaters, etc. using GPS
- Price: $100

Talk Tablet   iOS, Android, Kindle   www.talktablet.com

Features:
- Generate speech with buttons that contain words or phrases, or by using the tablet's on-screen keyboard
- Buttons can contain pictures, text, photographs or any one of the over 11,000+ SymbolStix communication symbols included
- Simple button and page setup and editing
- Price: $80

Verbally Premium   For iPad only   www.verballyapp.com

Features:

- Type exactly what you want to say
- Basic, simple text-to-speech app
- Attention chime lets others know when you are ready to speak
- Touch screen access only
- Price: Premium $100. Free trial version

SPEECH TO TEXT (Speech recognition software)

Dragon Dictation APP & Dragon Naturally Speaking Software
www.nuance.com/for-individuals/index.htm

Features:

- Use your voice to dictate everything from a text message or email, to reports and documents
- Use voice commands to control many popular computer programs at home and work
- Search the internet just by using your voice
- Price: *Dragon Dictation* Free for iOS, Android
    Dragon Naturally Speaking $75 for PC, Mac

OTHER LOW-TECH DEVICES (Non-speech)

Boogie Boards   LCD Writeboard   www.improvelectronics.com

Features:

- Write your message and clear it away with one-click erase
- No need to carry paper and pen
- Pocket size to full size
- Save and downloading phrases & drawings.
- Simple and portable
- ***This device does not produce speech.*** Available at: Amazon.com, Best Buy, Costco, Jo-Ann Fabric & Crafts, Michaels, Learning Express, Staples, Walmart
- Price: $20 - 100

Compare boards at:
www.improvelectronics.com/products/compare-boogie-board-ewriters.html

Communication Boards   store.lowtechsolutions.org

Features:

- Contains most commonly used words
- Spell or point to words to form sentences as your communication partner follows along
- Available in various sizes
- Dedicated boards available to communicate: Needs, Body Words, Positioning, Feelings, Courtesy Words, and Conversation Control
- Price: starts at $16
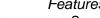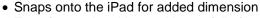
Pen Ultimate APP   iOS   evernote.com/penultimate

Features:

- Converts iPad into a writing board
- Write and draw using finger or stylus
- Create, save and organize frequently used written phrases when you sync to Evernote
- Audio record greetings and selected phrases in Evernote
- Free

TacType iKeyboard   iPad accessory   www.redtreegear.com/tactype

Features:

- Snaps onto the iPad for added dimension
- Transforms virtual keypad into a fully functional keyboard
- Touch and click response to touch typing
- Safer and more secure than Bluetooth keyboards
- Price: $35

VOICE AMPLIFICATION:

Spokeman Amplifier   www.luminaud.com

Features:

- Amplifies soft voices
- Helps you to be heard whether talking to one person or 25 people (depending on background noises)
- Use at family gatherings, home, work, parties or meetings, in a restaurant or in a car, bus or train
- Ideal when talking to someone with a hearing loss
- Starting at $110

Microphone APP by Wonder Grace - Free for Android

Microphone Pro APP by Performance Audio – $.99 for iOS

Speech Amplifier APP by Speech & Language Solutions - Free for iOS

Resources

ALS Association – www.alsa.org
  Florida Chapter – www.alsaFL.org

- This is a comprehensive site with a wealth of invaluable information for PALS, family members and caregivers.

- The Florida Chapter has a "loaner closet" for assistive communication and mobility devices.

Florida Alliance for Assistive Services & Technology (FAAST) Demonstration Centers
www.faast.org

- *FAAST located at Tampa General Rehabilitation Center*
  Contact Nancy Mashberg, (813) 844-7591

- *FAAST located at the University of Central Florida*
  Contact Nancy Harrington, (407) 882-0468

iPad scanning/switch demo:
www.youtube.com/watch?v=fqWkNxB27DM#t=411

Model Talker Voice Banking: www.modeltalker.com

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All product information obtained from manufacturer and APP websites. Booklet produced independent of manufacturers of products featured with no financial compensation or implied relationship. Booklet is intended for use as a patient education guide together with education and recommendations from a Speech Language Pathologist. Information on assistive communication technology obtained from the ALS Association website: www.alsa.org/als-care/augmentative-communication.

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