

Alternative Access Considerations for AAC

Presented by:

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Background/Financial Disclosure

- University of Pittsburgh- M.A. in Communication Sciences and Disorders
- Moved around with the Air Force
 - Any military spouses? Feel free to connect!
- Experience
 - Outpatient- Peds/Adults
 - Focusing on AAC, motor speech disorders
 - Instructor with the PROMPT Institute
- No financial business to disclose

Objectives

- Identify various alternative access methods
- Reflect on adaptations for various access methods
 - Hardware
 - Device Settings
- Recognize low-tech options
- Consider multidisciplinary team approach
- Case Studies Posted

What this training is not...

- To train you on specific devices or list all options available
 - Technology is always changing
 - If you have more questions either contact me or go to the specific vendor sites
 - TONS of free and low-cost trainings on vendor sites
 - Training provided on devices & how to progress language through various systems
- To provide a specific recipe for a specific population
 - AAC should never be a one size fits all approach

HELP!

- Multidisciplinary approach
- Physical therapist
 - Seating and positioning
- Occupational therapist
 - Positioning
 - Thoughts about modifications for access methods
- Wheelchair vendor
- Vision Specialist
- Other AT professional
- Vendors

Access Method: TOUCH

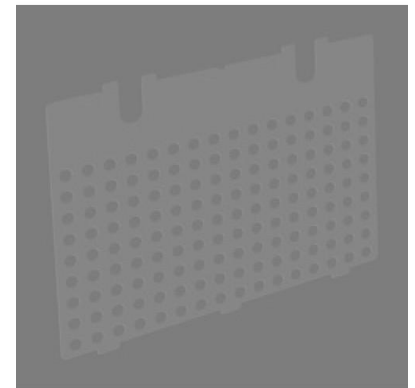
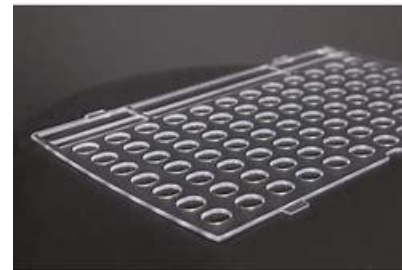
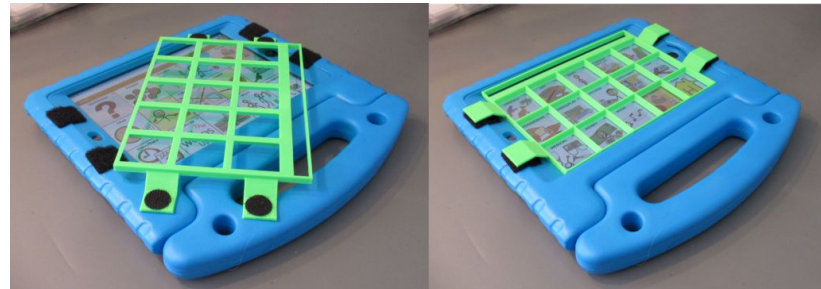
- Direct selection considerations



- ***Low tech- ALWAYS HAVE A BACKUP!***

Hardware Accessories: TOUCH

- Key guards
 - Thick plastic
 - Block missed hits
- Touch Guides
 - Thinner
 - Tactile reinforcement
 - Attract visual attention
- Stylus



Device Setting Customizations: TOUCH

- Button selection time
 - Hold button for shorter/longer for it to access
 - Decrease activation of mishit
- Button selection delay
 - Delayed time from when it is hit to when the button is activated
 - Consideration for tremors or perseveration
- Activate on release
 - Button activates on where they touch last
 - Considerations for when clients drag hand to desired target
- Repeat delay
 - Selections of how long you hold down a button before it repeats
- Colors/outline of buttons

Access Method: HEAD TRACKING

- Uses sensors to track someone's head movement
- Sensor stickers
 - Put on glasses, head band, forehead
- Considerations
 - Client knows that HEAD moves the cursor, not eyes
- Low Tech considerations
 - Laser pointer on cheap eyeglasses

Device Setting Customizations: HEAD TRACKING

- Various feedback options from device
 - Change colors, borders, auditory prompts
 - Modify pointer (bigger, different shape/color)
- Adjustments for how much head and body movement
 - Smoothing- device settings can help eliminate some extraneous movements
 - Vertical & Horizontal screen adjustments
 - Can adjust for very large or very small movements
- Depends on the person
- SO MANY OPTIONS!

Access Method: EYE GAZE

- Calculates where pupils are focused on the screen
- Positioning crucial to success!
- Considerations
 - Understands that the EYE moves the cursor
- Low tech considerations
 - Plexiglass frame
 - Baseball card holder
 - Slide icons in
 - Portability

Device Setting Customizations: EYE GAZE

- Various feedback options
 - Visual selection options
 - Blink, dwell, switch selection
 - Auditory feedback
 - Beep boop boop beep
- Calibration settings
 - One eye, both eyes
- More Considerations
 - Nystagmus, strabismus, medications



Access Method: EYE GAZE

- More thoughts about the eyes...
- Glasses?
 - What are the glasses used for?
- Check positioning
 - Most of the time positioning is off, not the glasses

Access Method: SWITCH SCANNING

- Requires frequent, natural, deliberate movements
 - Head, elbow, hand on a tray, knee, toe, foot, chin etc.
- Considerations
 - Placement
 - Type of switch
 - Type of scanning pattern

Device Setting Customizations: SWITCH SCANNING

- 1 or 2 switch scanning
- Scanning types
 - Auto scan- computer scans automatically
 - Step scanning
- How does scanning box move through the picture array?
 - Linear, row/column, column/row
- Same customizations as listed for previous access methods
- Low tech considerations
 - Partner assisted auditory scanning

Switch Options- Use your imagination



Wobble Switch



Sip & Puff



Mounted Gumball



Joysticks

*Mounts from RehabMart

Other Modifications

- Various switch options
- Various mounting options
 - Chair, desk, floor
- **HELP!**
 - Wheelchair vendor
 - Physical Therapist
 - Occupational Therapist
 - Vision specialist
- Degenerative Disorder like ALS
 - Moving from direct selection w/ mods to eye gaze or switch access

Additional Certification & Trainings

- Assistive Technology Professional (ATP)
 - RESNA
 - Rehabilitation Engineering and Assistive Technology Society of North America
- Be on the look out
 - AAC Specialty Certification coming
- Special Interest Group 12
 - Augmentative & Alternative Communication
- Vendor trainings
 - Free/ low cost

So Much More!

- Thoughts on Brain-controlled Interfaces and AAC
 - Neuronal signal detection transfer to device demands
 - Great article-
 - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5968329/>
- Thoughts on iPads for alternative access
 - Promising, but still a long way to go
 - Hawkeye app, Speakprose Pro app

Contact Information

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