



Resources and Strategies for Children with Complex Communication Needs

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Overview

- I. Intro to Speech/Language Disorders
- II. Speech and Language in 17q12
- III. What is AAC?
- IV. The AAC Assessment Process
- V. FAQs

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Speech and Language Disorders

- Impairments in speech and language are the most common developmental problems of early childhood
- Prevalence estimates range from 14.5% - 19% of 4 - 5 year old children (McLeod & Harrison, 2009; Beitchman et al., 1986)

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Speech and Language Disorders

- Speech sound disorders
 - Articulation or phonological disorder
 - Dysarthria
 - Apraxia
- Language disorders
 - Receptive
 - Expressive
 - Pragmatic
- Stuttering/ Fluency
- Voice or resonance disorders

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Speech and Language Disorders

- Most children do eventually learn to talk
- Some children take much longer, and some will remain nonverbal or minimally verbal
- Complex communication needs
 - 12% of preschoolers enrolled in early intervention (Binger & Light, 2006)
 - 3 – 6% of school-aged children in special ed (Matas et al., 1985)

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Speech & Language in 17q12 Deletions

- All who participated in 17q12 registry (6 responses) reported current speech therapy or speech therapy in past (Patient Crossroads- 17q12 Interest Group)
- Most, but not all, individuals appear to have communication difficulties
 - Developmental area most likely to be affected
 - Delayed first words
 - Receptive and expressive language impairment into school-age
 - Speech sound disorder
 - In context of more global cognitive delay vs. speech delay only

(Moreno-de-Luca et al., 2010; Nagamani et al., 2010; Roberts et al., 2014; Unique; Patient Crossroads)

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Speech & Language in 17q12 Duplications

- Most, but not all, report speech/language delay
 - Range from normal speech to nonverbal
 - Most often, both receptive and expressive language affected
 - Several cases of speech impairment resulting from cleft palate or hearing loss
 - Several reports of stuttering/stammering
 - Often in line with more global developmental delay

(Hardies et al., 2013; Nagamani et al., 2010; Mefford et al., 2007; Unique)

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Augmentative and Alternative Communication (AAC)

Alphabet Board

1	2	3	4	5	6	7	8	9	0
Q	W	E	R	T	Y	U	I	O	P
A	S	D	F	G	H	J	K	L	
Z	X	C	V	B	N	M	?		

"All tools and strategies that are used to supplement or replace speech when it is not sufficient to meet a person's daily needs"



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What kinds of children could benefit from AAC?

- There is no "typical" user
 - Intellectual disability
 - Autism spectrum disorder (ASD)
 - Cerebral palsy
 - Severe motor speech disorder
 - Craniofacial differences
 - Tracheostomy

"Anyone who can't rely on speech alone to meet needs"


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Types of AAC

Unaided

- Facial expression
- Vocalization
- Gesture
- Sign language



Aided

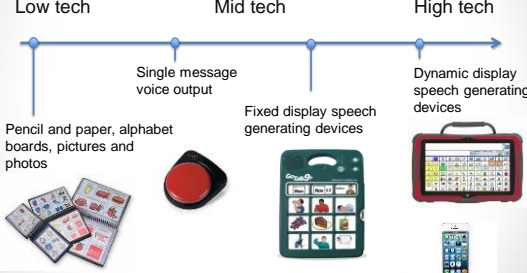


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Types of AAC: Aided

Low tech Mid tech High tech



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Types of AAC

1. Sign language
2. Picture Exchange Communication System (PECS)
3. Fixed display SGDs
4. Dynamic display SGDs- Dedicated vs. tablets

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Types of AAC: Sign Language

- American Sign Language (ASL) is a “real” language
- Before 1990, was most common AAC strategy used with people with autism and/or ID
- Some argue it is easier for individuals with ID to learn signs vs. picture selection (Sundberg & Sundberg, 1990)
- Total communication approach- using both sign and speech simultaneously

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Types of AAC: Sign Language

Pros:

- Unlimited, generative vocabulary
- Portable/ accessible
- Inexpensive
- Fast rate of communication

Cons:

- Not all communication partners will understand signs
- Learning demands on communication partners
- Impossible if there are motor impairments

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Types of AAC: PECS

- Picture Exchange Communication System
- Bondy and Frost (1985)- training protocol based on principles of ABA
- 6 distinct phases:
 1. How to communicate
 2. Distance and persistence
 3. Picture discrimination
 4. Sentence structure (sentence strip)
 5. Answering questions
 6. Commenting



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Types of AAC: PECS

Pros:

- Durable
- Inexpensive
- Easy to understand message
- Research support for kids with autism

Cons:

- Vocabulary and language complexity constrained
- No voice output
- Slower rate of communication
- Cumbersome



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Types of AAC: Fixed Display SGDs

- Any device with voice output that has a static (unchanging) display
- Vary widely in terms of specifications, complexity, price
- Single message to multiple messages



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Types of AAC: Fixed Display SGDs

Pros:

- Relatively cheap
- Durable
- Easy to program and use
- Voice output

Cons:

- Vocabulary capacity is very limited
- May require adult assistance to switch out overlays

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Types of AAC: Dynamic Display SGDs

- High tech devices that change screens when activated, thereby introducing new vocabulary
- Vocabulary represented by pictures, words, or both
- Vocabulary may be arranged by grid or visual scene display



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Types of AAC: Dynamic Display SGDs

- Can be dedicated, traditional devices or non-dedicated tablets, such as iPad

Dedicated/ traditional

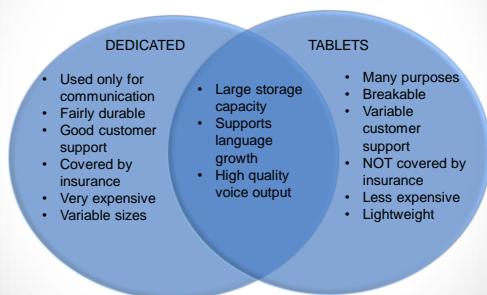
Tablets



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Types of AAC: Dedicated vs. Tablet Technology



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How to Get an AAC Device/System

1. Initial AAC Assessment

- Speech-language pathologist
- Gather information from family, teachers, therapists, doctors
- Review current strengths and needs
- Combination standardized and non-standardized measures
- Identify situations where current communication is not sufficient to meet child's needs
- Identify possible solutions based on feature mapping

You fit the AAC system to the child, NOT the child to the AAC system!

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How to Get an AAC Device/System

2. Trial multiple devices and strategies

- Lending libraries
 - Assistive technology resource centers in each state ("Tech Act")
 - <http://www.resnaprojects.org/>
- Take data on how well different things work
- Settle on a system that best fits child's needs



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How to Get an AAC Device/System

3. SLP writes report and parent gets doctor's prescription (if billing insurance/Medicaid)

4. Find funding

- Private Insurance
- Medicaid
- If insurance will not pay, school districts must fund device if educationally necessary (documented in IEP)
- Low interest loans
- Local community service or charitable organizations

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FAQs

Q: Will using AAC prevent my child from learning how to talk?

A: *No, research suggests that introducing AAC does not keep children from learning to talk. In fact, some studies show an increase in verbal speech after the introduction of AAC.*

Kasari et al. (2014); Schlosser & Wendt (2008); Millar, Light, & Schlosser (2006)

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FAQs

Q: How can children with severe physical handicaps use an AAC device?

A: *A variety of access technologies enable people with motor impairments to use AAC*



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FAQs

Q: How can I get an iPad or other tablet with communication software for my child?

A: *Be creative!*

- *Ask the school district*
- *Look into low cost or no interest loans*
- *Research grant opportunities (disability organizations, etc.)*
- *Work with local charities*
- *Explore special deals and discounts*

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Final Thoughts

- Communication is multimodal; multiple AAC strategies should be employed
- Keep lines of communication open between family, teachers, therapists
- AAC strategy is only as effective as instruction program
- Time and commitment are required

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AAC Resources

AAC-RERC

<http://aac-rerc.psu.edu/>

YAACK- Connecting Young Kids to AAC

<http://aac.unl.edu/yaack/>

National Dissemination Center for Children with Disabilities

<http://nichcy.org/laws/ata>

Apps for AAC by Jane Farrall

<http://www.janefarrall.com/aacappslist.html>

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Questions?

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