AAC with ABA for ASD: Easy as 1, 2, 3

Presented by:
Christina Martin, M.S., CCC-SLP, BCBA
Racheal Montgomery-Garba, M.S., CCC-SLP

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Racheal Montgomery-Garba, M.S., CCC-SLP

Relevant Financial Disclosures
• Receives payment for employment at Therapy and Beyond. This organization provides ABA and speech therapy to individuals with autism and other developmental disabilities.

Relevant Non-Financial Disclosures
• None

Disclosures

Christina Martin, M.S., CCC-SLP, BCBA

Relevant Financial Disclosures
• Receives a salary for employment at Therapy and Beyond. This organization provides ABA and speech therapy to individuals with autism and other developmental disabilities.

Relevant Non-Financial Disclosures
• Is dually credentialed as a Board Certified Behavior Analyst.
Objectives

• Describe how individuals with Autism Spectrum Disorder (ASD) could benefit from Augmentative and Alternative Communication (AAC)
• Explain the potential benefits of AAC on the development of natural speech with individuals with ASD
• Recognize the myths about AAC and distinguish scientific from pseudoscientific treatment claims

What is Autism?

• Autism, or autism spectrum disorder (ASD), refers to a range of conditions characterized by challenges with social skills, repetitive behaviors, speech and nonverbal communication, as well as by unique strengths and differences. We now know that there is not one autism but many types, caused by different combinations of genetic and environmental influences.

What is Autism?

- About 1 in 68 children has been identified with autism spectrum disorder (ASD).
- ASD is reported to occur in all racial, ethnic, and socioeconomic groups.
- ASD is about 4.5 times more common among boys (1 in 42) than among girls (1 in 189).
- About 1 in 6 children in the United States had a developmental disability in 2006-2008, ranging from mild disabilities such as speech and language impairments to serious developmental disabilities, such as intellectual disabilities, cerebral palsy, and autism.


Need for AAC with ASD

Approximately 25%-61% of individuals with autism present with little or no functional speech and may be candidates for AAC to replace or supplement natural speech.


What is AAC?

Augmentative and Alternative Communication includes all forms of communication (other than oral speech) that are used to express thoughts, needs, wants, and ideas.


Augmentative vs. Alternative

Augmentative

Supplement to current communication

Alternative

Replacement of current communication

Key Terms

**Communication**
Act of giving or receiving information in any form

**Language**
System of conveying thought with shared rules

**Speech**
Communication by vocal production

AAC Forms

**No/Low-Tech**
- Sign Language
- Communication Boards
- PECS
- And many, many more

**High-Tech**
- Speech Generating Devices
- Electronic Communication Systems
No Tech Example

Sign Language

Low Tech Example

Picture Exchange Communication System
High Tech Example

Touch Chat

I want a pretzel

Which AAC is best?
Which AAC is best?

It depends! The best method supports the development of spontaneous, meaningful communication that generalizes to all environments. There is no such thing as one size fits all.

Feature Matching

Matching an individual’s strengths and needs to available or potentially available augmentative and alternative communication solutions

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Feature Matching Table

<table>
<thead>
<tr>
<th>Feature</th>
<th>Purpose of Use</th>
<th>Output</th>
<th>Speech Setting</th>
<th>CURT, or S.S.</th>
<th>Representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digits</td>
<td>Number Line</td>
<td>Picture</td>
<td>Picture</td>
<td>Picture</td>
<td>Picture</td>
</tr>
<tr>
<td>Symbols</td>
<td>Symbol Line</td>
<td>Picture</td>
<td>Picture</td>
<td>Picture</td>
<td>Picture</td>
</tr>
</tbody>
</table>


Pseudoscientific Claims

Pseudoscience refers to claims that appear to be based on the scientific method but are not.

1. Untested
2. Unchanged
3. Confirming evidence
4. Anecdotal evidence
5. Inadequate evidence
6. Avoiding peer review
7. Disconnected
8. New terms
9. Grandiose outcomes
10. Holistic

Scientific Claims

**Applied Behavior Analysis as an Evidence-Based Practice**

“ASD is a medical/neurodevelopmental condition with behavioral symptoms that are directly addressed by applied behavior analysis methods. ABA has proven effective in addressing the core symptoms of autism as well as developing skills and improving and enhancing functioning in numerous areas that affect the health and well-being of people with ASD.”

“The effectiveness of ABA-based interventions in ASDs has been well documented through a long history of research in university and community settings. Children who receive early intensive behavioral treatment have been shown to make substantial gains in cognition, language, academic performance, and adaptive behavior as well as some measures of social behavior, and their outcomes have been significantly better than those of children in control groups.”

“ABA has both long-term empirical and research data to demonstrate its effectiveness in helping children who are diagnosed with ASD, and AAP has endorsed the use of ABA treatments when determined appropriate by physicians within a medical home, in close consultation with families.”


Applied Behavior Analysis

“The **science** in which procedures derived from the **principles of behavior** are systematically applied to improve **socially significant** behavior to a meaningful degree and to demonstrate experimentally that the procedures employed were responsible for the improvement in behavior." (p. 14)

**Applied Behavior Analysis**

Some individuals may rely on socially inappropriate, or maladaptive behaviors (i.e. hitting) to communicate their needs to others. In these cases, **AAC** can serve as an alternative method of communication through functional communication training.


**Functional Communication Training**

A differential reinforcement procedure in which an individual is taught an alternative response that results in the same class of reinforcement identified as maintaining problem behavior.

For example, instead of screaming for an orange, an individual is taught to exchange a picture to gain access.

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Functional Communication Training

Identify Replace Reinforce

AAC Myths

AAC is a last resort speech intervention strategy.
AAC Myths

AAC is a last resort speech intervention strategy.

“AAC interventions should not be contingent on the failure to develop speech skills or considered a last resort because AAC can play many roles in early communication development.”

“AAC devices and strategies are a tool, a means to an end — language and communication skills — not the end.”

There are pre-requisite skills needed for AAC.

All individuals are considered potential candidates for AAC. There is a zero exclusion policy with respect to determining individuals' eligibility for AAC services. There is no arbitrary list of required skills (i.e. match pictures, level of cognitive ability, etc.)

"... breathing is the only prerequisite that is relevant to communication. Breathing equals life, and life equals communication. It is that simple."


AAC Myths

There are no skills needed for AAC.

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AAC Myths

Only certain ages benefit from AAC.

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### AAC Myths

**Only certain ages benefit from AAC.**

The comprehensive study of AAC intervention by Millar, D., et. al, (2006) indicated that the positive effects of AAC intervention on speech production were observed across children and adults, ranging in age from 2 years to 60 years.

It is **never** too early or too late to start teaching AAC.

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AAC Myths

AAC will inhibit or impede speech and language development.

There have been NO published studies that show decreased speech production as a result of AAC. Two articles reviewed all of the previously-published research that had investigated speech production before, during, and after AAC intervention. NONE of the individuals involved in any of the studies demonstrated decreases in speech production as a result of AAC intervention. The majority demonstrated at least modest gains in speech.


AAC Myths

According to the study by Millar, D., et. al, (2006) investigating speech production before, during, and after AAC intervention, participants with:

- Decreases in speech production- 0%
- No change in speech production- 11%
- **Increases in speech production- 89%**


AAC Myths

According to Mirenda (2003), if AAC (e.g., the manual sign or graphic symbol for cookie) is presented along with the spoken word (as is typically the case in AAC intervention), and these are followed by a reinforcer (e.g., a chocolate chip cookie), **both the AAC mode and speech production should increase in frequency.**

AAC Myths

AAC will lead to a lack of speech and language development. **RUSTED**

AAC Competence Takes Time

By 18 months, babies have heard 4,810 hours of spoken language and we don't expect them to be fluent speakers yet.

If AAC learners only use symbols modeled for communication twice weekly for 20-30 minutes, it will take 84 years for them to have the same exposure to spoken language as an 18-month-old has to spoken language.


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Questions
Contact Information

For more Information, please visit:

www.mytherapyandbeyond.com

or call:

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