

Supporting Learning and Communication in Children with Autism Spectrum Disorders

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GREAT GUIDANCE FROM ASHA

- www.asha.org
 - Search Autism Position papers
 - Great information especially guidelines section
 - Amy Wetherby (chair), Sylvia Diehl, Emily Rubin, Adriana Schuler, Linda Watson, Jane Wegner, and Ann-Mari Pierotti (ex officio). Celia Hooper

Great Resources

- Review of treatment literature published between 1957 and the fall of 2007 that targets one of the core characteristics of ASD
 - Includes both group and single case studies
 - <http://www.nationalautismcenter.org/affiliates/reports.php>
 - Established, emerging, unestablished, ineffective/harmful
 - Important to know the study and the literature to interpret categories correctly

Brief Diagnostic Overview LET'S ALL GET ON THE SAME PAGE

Brief Diagnostic Overview

- Pervasive Developmental Disorders
 - Autistic Disorder
 - Pervasive Developmental Disorders-Not Otherwise Specified (PDD-NOS)
 - Asperger Disorder (DSM-IV) or Syndrome (Commonly used)
- Whether discrete condition from autism or part of continuum is still uncertain

Social Reciprocity

(adapted from DSM-IV; need 2 for Autism/ Asperger)

- Impairment in nonverbal behaviors such as eye contact, facial expression, body postures and gestures that are used to regulate social interaction
- Failure to develop peer relationships appropriate to developmental level
- A lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest)
- A lack of social or emotional reciprocity

Communication Deficits

(Adapted from DSM-IV; 1 for Autism; None for Asperger)

- Delay in, or total lack of, the development of spoken language (not accompanied by an attempt to compensate through alternative modes of communication such as gesture or mime)
- If adequate speech is developed, marked impairment in the ability to initiate or sustain a conversation with others
- Stereotyped and repetitive use of language or idiosyncratic language
- Lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level

Repetitive or restricted interests or behaviors

(Adapted from DSM-IV; Need 1 Autism/ Asperger)

- Encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
- Apparently inflexible adherence to specific, nonfunctional routines or rituals
- Stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)
- Persistent preoccupation with parts of objects

What's in a name?

- Pervasive Developmental Disorders is a chapter heading in the DSM-IV
 - Diagnoses are:
 - Autistic Disorder
 - Pervasive Developmental Disorder- Not Otherwise Specified (PDD-NOS)
 - Asperger's Disorder
- Autism spectrum disorders has become the term used more frequently which reflects:
 - the ambiguity of the diagnosis between narrow and broad interpretations
 - intervention approaches similar whether children designated specifically autistic or more broadly PDD-NOS

Prevalence



- Epidemiology controversial
 - Demand has grown for services
 - Autism
 - Current prevalence rates range from 1 in 115 (ASA, 2008)
 - Compared to 2-5 per 10,000 in 1970s
 - Could be because of broader definition
 - Asperger's
 - Ranges in most studies 1.1 to 7.1 in 10,000 (Volkmar, Paul, Klin, & Cohen, 2005)
 - Depends on how Asperger's Syndrome is defined

Etiology

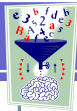


- Developmental disorder of neurobiological origin
- Autism reflects the operation of factors in the developing brain
- An unknown number of genes interact with unidentified environmental factors to produce the disorder.
- Subtle brain abnormalities are present from birth. Infants and toddlers move their bodies differently. From 6 months to 2 years, their heads grow too fast.

Etiology



- Some parts of the brain have too many connections, while other parts are under-connected (Belmont, 2005; Herbert, 2005).
 - White matter contains the fibers that connect neurons in the separate parts of the brain.
 - Gray matter contains the neurons themselves
 - It is postulated that the white matter grows normally until 9 months; however, by 2 years, excessive white matter is found in the frontal lobes, the cerebellum and association areas, where higher-order processing occurs.
 - Individual circuits may be intact (gray matter) but cables between them are disrupted (white matter)



Etiology

- Just (2004) found that people with autism remembered letters of the alphabet in a part of the brain that ordinarily processes shapes.
 - A basic sensory region is used to deal with higher-level concepts.
 - Distinct brain areas work independently. People with autism are good at details but bad at conceiving the whole. Parts of the brain work but just not together.

What do we do?
LET'S START AT THE
BEGINNING

Treatment Philosophy

- No one program is appropriate for every child with ASD (NRC, 2000; ASHA, 2007)
- Endorse SCERTS (Prizant et al., 2006) philosophy which draws from many approaches
- Importance is to focus on "Authentic Progress"

Seth

- 3 year old boy
- Medical history
 - Pediatrician said no problem
 - Followed up because of concerned relative
 - Neurologist said PDD-NOS
 - Family still coming to grip with diagnosis
- Family history of learning disabilities and attention deficit

First Steps

- Started to help family form collaborative team; referred to:
 - audiologist
 - school system child find team
 - occupational therapist
 - Center for Autism and Related Disabilities (CARD)
 - Achieve Center for possible respite care

Family Vision for Next Six Months

- Use learning priorities which triangulates vision from family and professionals (Ryndak & Alper, 2003)
 - Tantrums: less than two a day
 - Able to take him in community
 - Consistent mode communication
 - Play with toys independently
 - Go to a preschool

Strategy: Positive Behavior Support

Positive Behavior Support

- Functional assessment features
 - Clear description of behavior
 - Events, times, and situations that are predictive
 - Describes consequences that may maintain the behavior
 - Formulates a hypothesis

Positive Behavior Support

- Sample information from Functional Assessment:
 - Seth cries and runs when directed to an activity by an adult. This happens more frequently when he is engaged in a preferred activity or when the directed activity is novel.
 - After having a tantrum, adults frequently let Seth continue preferred activity to calm him down.
 - In one week's time, Seth had a tantrum during transition an average of 15.4 times per day.
 - Tantrums happened more frequently outside of the home.

Positive Behavior Support

- Intervention plan focus
 - Proactive environmental changes
 - Teaching new skills to replace problem behaviors
 - Eliminating natural rewards for problem behavior
 - Maximizing clear rewards for appropriate behavior

Positive Behavior Support

- Some of the Team Decisions about Intervention:

<ul style="list-style-type: none"> ● Environmental changes <ul style="list-style-type: none"> ● Daily schedule ● First/then ● Priming 	<ul style="list-style-type: none"> ● Teaching new skills <ul style="list-style-type: none"> ● PECS to increase symbol development and functional communicative acts ● Increase joint attention
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Positive Behavior Support

- Some of the Team Decisions about Intervention:

<ul style="list-style-type: none"> ● Eliminate natural rewards <ul style="list-style-type: none"> ● Adults to redirect instead of allowing the preferred activity to continue 	<ul style="list-style-type: none"> ● Maximizing clear rewards <ul style="list-style-type: none"> ● Initially adult directed activities were to preferred activities
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Increasing Joint Attention

Importance of Joint Attention

- Joint behavior is behaviors used to follow or direct the attention of another person to an event or object to share an interest in that event or object (Siller & Sigman, 2002) A handful of prospective studies have examined potential factors
- Ability to initiate and respond to bids for joint attention forms basis of social cognitive and verbal abilities (Mundy, et al, 2007)
- Joint attention strongest relation to concurrent language ability (Dawson et al., 2004; Charman et al., 2003; Mundy, Sigman, & Kasari, 1990; Sigman & McGovern, 2005).
- Initial deficit in joint attention may impact child's development in the foundation of social cognition, behavior, and verbal skills.

Increasing Joint Attention

- One of the core characteristics of autism is difficulty with joint attention
- Unfortunately, very little research to guide us in this area
- However, including frequent opportunities for joint activity, regulating interaction, and shared positive affect was a vital part of Seth's intervention

Elements of Social Competence

(Gutstein & Whitney, 2002)

- **Three main elements**
 - Secure Attachment (tie of infants to parents)
 - Instrumental Social Learning
 - Do something to get something
 - Experience Sharing

Successful friendships

- Enthusiasm and shared enjoyment
 - Fun to be around/Enjoyable
- Social and emotional coordination
 - Theory of mind
 - Joint attention to coordinate perceptions with a person
 - Showing interest in emotional reactions of social partners
 - Give assistance
- Ongoing relationship maintenance and repair
- Appreciating differences

Children with ASD and Social Competence

- Develop attachment (some to lesser degrees)
- Instrumental skills are also developed but on a continuum
 - HFA same as typical counterparts
 - HFA use similar amount of eye contact and gestures with social partner to obtain an object or event
- Experience sharing
 - Fail to develop experience sharing which is evident as early as 12 months of age in joint attention
 - Begin to discover nonsocial passions
 - Less monitoring and observation of peer behavior
 - Deficits in maintenance and repair
 - Failure to appreciate differences

Social Intervention

- Implications for intervention
 - Social skills much be taught within the context of meaning
 - Research shown over and over again that isolated social skills training does not help without connection to context
 - Experienced based relationship intervention
 - Shift from survival oriented behaviors
 - Guided experiences to socially adapt, co-regulate, and coordinate actions, perceptions, and feelings with social partners

Relationship Development Intervention

- Website located at www.connectionscenter.com for more information
- Book references
 - *Relationship Development Intervention with Young Children*
 - *Relationship Development Intervention with Children, Adolescents, and Adults*

Strategy:
Picture Exchange Communication System

Picture Exchange Communication System (PECS)

- A visually based exchange system used for requests
 - The child exchanges a picture for a desired object or action
 - Focuses on initiation of communication from the beginning
 - Represents the communicative act physically and visually

Strategy:
Visual Supports and Strategies

Visual Strategies and Supports

- Difference between verbal language and visual language
 - Permanence and spatial organization
- Children with a gestalt, holistic learning style need visual mediators to replace the inner language, which we use.
- This inner language helps to guide behavior and is used for problem solving.
- Visual supports and strategies can be thought of as receptive AAC or augmentative input for children with ASD

Symbol Assessment

- Objects
- Partial/miniature objects
- Real photographs
- Line Drawings
- Orthography



Types of Visual Supports Used

- Daily Activity Schedule
 - Supports symbol development
- Procedure
 - Consulted family
 - Decided on main activities in his schedule
 - Decided on symbols for main activities
- Team decided on common procedures
 - Always use pictures for main transitions
 - Use all done pocket in notebook
 - Use agreed upon phrases



Daily Activity Schedule



1. This preschool schedule is being used now. We began with real pictures of objects.
2. As his symbolization grew we moved to a combination of photographs and line drawings. We utilized these because they were used by the teacher for the group.
3. Used baseball card holders to hold cards because velcro schedule frequently got lost. This allowed the turning over of pictures when done and easily folded into a pocket.

Types of Visual Supports Used

First/Then

	First	Next
1.	1	2
2.		

1. This type of support is very useful for teaching children how to wait.
2. This is more effective in situations of high stress because it gives immediate information.

Types of Visual Supports Used

Choice board

This song board was used by the preschool. It did not take long for Seth to realize which was his favorite song. Can you guess?



Types of Visual Supports Used

Within activity schedules:

1. This book was used in conjunction with the real toy.
2. The front of the book had removable Velcro body parts. Each page had a different body part missing.
3. Pairing this with the real toy soon helped him play with the toy longer and in more appropriate ways.



Strategy: Priming

Priming

- Priming is the previewing of information. It links individual instruction to classroom activities.
- Used to increase competence before problems develop
- Carried out in the afternoon or evening prior to material being presented in the classroom
- Primed event should approximate what will actually occur the following day
- Short, meaningful sessions are most effective

Priming

- How priming was used in preschool:
 - Songboard and songs were previewed informally at home the night before preschool
 - Target book was read before preschool either the night before at home or in a quiet room before circle time
 - Access to new toys that were going to be in centers was given at home the night before preschool
 - Access to materials used in teacher directed activities was given at home the night before preschool

Seth's Progress Compared to Family Vision (6 months)

- | | |
|--|---|
| <ul style="list-style-type: none"> • Consistent mode communication <ul style="list-style-type: none"> • Seth is using PECS independently • Seth uses about 30 words consistently • Tantrums: less than two a day <ul style="list-style-type: none"> • Seth's tantrums are 2.3 a day • Able to take him in community <ul style="list-style-type: none"> • Can go grocery shopping now • Can go to friend's house with visual schedule • Restaurants still a problem | <ul style="list-style-type: none"> • Play with toys independently <ul style="list-style-type: none"> • Seth plays with variety of toys • Play periods can extend for 7 minutes • Go to a preschool <ul style="list-style-type: none"> • Seth is an active member of the preschool • He sits for circle time and participates by gesturing during songs • He enjoys center time and watches other children trying to imitate them |
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