

Treatment of Young Children with Autism/PDD

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Definition

- Autism is a development disorder. A defect in the systems which process incoming sensory information causes the child to overreact to some stimuli and under react to others. The autistic child often withdraws from his environment and the people in it to block out an onslaught of incoming stimuli.
 - *Temple Grandin*

Definition - Michael Powers, MD (1989)

- A physical disorder of the brain causing a lifelong developmental disability.
 - The nature of the physical disorder is neurological and biochemical. The environment does not cause autism; parents do not cause autism; abuse does not cause autism.
 - Autism is a lifelong disability. It is apparent at birth and will be present until death. Intervention will not cure autism or extinguish it.
 - Autism is a developmental disability. Onset is during the preschool years, or as various skills develop. The most frequently cited age for onset is between 30-36 months of age.

Additional Characteristics

- Noted by Dr. Leo Kanner
 - Communication deficits
 - Insistence on sameness
 - Motor differences
 - Onset during the first few years of life
- Research has refined definitions of autism over the years, yet the main features identified by Dr. Kanner remain constant.

Myths & Misunderstandings

- Children with autism do not make progress.
- Children with autism do not smile at you.
- Children with autism are not affectionate.
- Autism can be outgrown.
- Children with autism are retarded.
- Children with autism do not make eye contact.
- Children with autism do not relate to peers and adults.
- Children with autism cannot be tested by conventional means.

Myths & Misunderstandings (cont'd)

- Children with autism demonstrate behaviors that cannot be changed.
- Maladaptive behaviors must be extinguished before remediation can begin.
- Children with autism do not notice people or things in the environment.
- Underneath the autism is a normal child, if you can discover the key.

Most definitive medical definition for autism

- Relies on the criteria delineated in *The Diagnostic and Statistical Manual for Mental Disorders, Fourth Edition* (DSM-IV, 1994)
- DSM-IV criteria clarify the four required components for a diagnosis of autism:
 - Impairment in social interaction
 - Restricted, repetitive, stereotyped patterns of behavior
 - Impairment in communication
 - Onset prior to age three

Diagnostic Criteria for Autistic Disorder

- A. A total of 6 (or more) items from 1, 2, and 3, with at least two from 1, and one each from 2 and 3:
 - 1. Qualitative impairment in social interaction as manifested by at least two of the following:
 - a. Marked impairments in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction.
 - b. Failure to develop peer relationships appropriate to developmental level.
 - c. A lack of spontaneous seeking to share enjoyment, interests, or achievements with other people.
 - d. Lack of social or emotional reciprocity.

Diagnostic Criteria (cont'd)

2. Qualitative impairments in communication as manifested by at least one of the following:
 - a. 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 and mime).
 - b. In individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others.
 - c. Stereotyped and repetitive use of language or idiosyncratic language.
 - d. Lack of varied, spontaneous make-believe play or social-imitative play appropriate to developmental level.

Diagnostic Criteria (cont'd)

3. Restricted repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:
 - a. Encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus.
 - b. Apparently inflexible adherence to specific, nonfunctional routines or rituals.
 - c. Stereotyped and repetitive motor mannerisms.
 - d. Persistent preoccupation with parts of objects.

Diagnostic Criteria (cont'd)

B. Delays or abnormal functioning in at least one of the following areas with onset prior to age three: (1) social interaction, (2) language as used in social communication, or (3) symbolic or imaginative play.

C. The disturbance is not better accounted for by Rett's Disorder or Childhood Disintegration Disorder.

Autism Facts

- Prevalence - third most common developmental disability – 15/10,000 births
- Gender Ratio – 2.6 males to 1 female, low end
4.1 males to 1 female, high end
- IQ – 2/3 to 3/4 have cognitive impairment (i.e., IQ below 70)
- Primary Symptoms – Occur on a continuum from mild to severe
 - Communication– 40% are mute/nonverbal/apraxic
Echolalia, Monotone, Jargon, Delays & differences
 - Social Interaction – Abnormal relationships, difficulty relating to self, environment, other people

Facts

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- Primary Symptoms (cont'd)
 - Stereotyped Behaviors – rituals and routines, Insistence on sameness
 - Abnormal Sensory
Responses - Hypersensitive, Hyposensitive
 - Present at Birth

Pervasive Developmental Disorder (PDD)

- Autism Disorder
- Rett's Disorder
 - Normal prenatal and perinatal developmental period until a last five months of age. Between 5 – 48 months, onset of PDD profile occurs, but with a few differences:
 - Deceleration in head circumference
 - Stereotyped hand movement increase to constant non-functional hand-wringing
 - Poor motor coordination for trunk and walking movements.
 - Significant speech-language problems with an impaired motor component
 - Almost exclusively a female disorder

Pervasive Developmental Disorder (PDD) 2

- Childhood Disintegrative Disorder
 - At least two years of normal development in all areas (i.e., verbal and nonverbal communication, social relationships, play, adaptive behavior) before onset of a clinically-significant loss of previously-acquired skills. The residual deficits then match the characteristic PDD profile.
- Asperger's Disorder
 - Requires only two major diagnostic pieces to be present:
 - Qualitative impairment in social interaction
 - Restricted, repetitive, stereotyped patterns of behavior, interests, and activities
 - No significant delays in language, cognitive development, self-help skills, or adaptive behavior

Pervasive Developmental Disorder (PDD) 3

- Pervasive Developmental Disorder – Not Otherwise Specified (PDD-NOS)
 - Profile best fits under the PDD major heading, but does not meet the criteria for one of the four subcategories above.

Sample Goals from a Team Perspective

- Speech-Language pathologist
 - **Semantic Language Development**
 - A. Receptive and expressive vocabulary
 - B. Conceptual language: concrete vs. abstract
 - C. Verbal problem solving and reasoning
 - **Pragmatic Language Development**
 - A. Develop appropriate nonverbal social-interaction skills
 - B. Develop verbal social-interaction skills
 - C. Develop supplemental aspects of verbal language

Goals

2

- Parent
 - **Self-Care Skills**
 - A. Acceptance of varying food textures
 - B. Improve falling asleep and sleep maintenance behaviors
 - C. Toileting
 - **Interpersonal, Home, and Community Skills**
 - A. Improve physical interaction with smaller children
 - B. Shopping behavior
 - C. Tolerance for clothing of varying textures

Goals

3

- Occupational Therapist
 - **Fine Motor Skills**
 - A. Accurate coloring when given parameters
 - B. Recognizable writing
 - C. Improve scissors skills
 - **Sensory Integration**
 - A. Decrease tactile defensiveness
 - B. Address issues of sensory hypersensitivity

Goals

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- Teacher

- **Academic Skills**

- A. Improve verbal/reading comprehension and attention
 - B. Process and respond appropriately to wh - questions
 - C. Demonstrate application of basic math concepts

Goals

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- **Classroom Social-Interaction Skills**
 - A. Turn taking and waiting
 - B. Transition between activities
 - C. Peer interactions
 - D. Acceptance of physical assistance

Communication Deficits within Autism

- Four Major Communication Deficits:
 1. Oral-Motor Programming
 2. Automatic Speech
 3. Echolalia
 4. Meaningfulness Ratio

Oral-Motor Programming

- Statistics suggest that 40% of those with autism are non-verbal due to difficulty programming their muscles for oral speech.
 - Delays & differences in neurological development can greatly impact the ability to produce speech.
 - Focus intervention on direct stimulation for oral motor development by using a consistent exercise program.
 - Exercises should involve visual-motor modalities to enhance attention.

Oral-Motor Exercise Goals

- Encourage a voluntary, controlled breath stream to provide an air supply for speech.
- Have the child:
 - Blow party favor so that it unfurls all the way. Hold unfurled for 2-3 secs.
 - Blow bubbles. Begin with a bubble pipe to stimulate lip closure. Move to bubble wand.
 - Blow a cotton ball and race across the table or floor.
 - Blow out candles or multiple candles. Close, careful supervision necessary for safety.
 - Blow whistle or horn.
 - Blow up balloons

Oral-Motor Exercise Goals 2

- Encourage a voluntary, voiced air stream to provide sound for speech production.
- Have the child:
 - Blow a kazoo. Air alone will make no noise; the child must voice or hum w/the air to achieve a noise.
 - Hum into a bottle, can or other resonating object.
 - Imitate or make various environmental noises or animal sounds.
 - Imitate/prolong various vowel sounds. Use a stopwatch or timer to time the length.

Oral-Motor Exercise Goals 3

- Encourage voluntary production of various phonemes to practice producing various sounds for speech production. Pair various phonemes with motor movement and activity.
 - Incorporate production of “p” into a theme lesson with focus on that sound. Ex. Sing “Pop Goes the Weasel”, students can jump up and shout “pop” during the appropriate place in the song. Have popcorn as a snack. As an activity children can act out being popcorn and jump up and say “pop”.
 - Use M&Ms as reinforcers or as a snack while teaching the production of “m”. Each time the child eats the candy, ask him how it tastes to elicit a “mmm” while rubbing his stomach.
 - Production of “b” can focus on blowing activities with a pretend birthday party. Party favors, balloons, bubbles, horns, & candles all require blowing.

Automatic Speech

- A task that has been performed over and over becomes somewhat automatic to the neurological system.
- Automatic speech is a nice interim technique to encourage the child with autism to innervate the neurological system, yet keep the stress of interaction to a minimum.
- Automatic speech can also add the positive effect of calming down a child with autism due to the repetitive pattern.

Automatic Speech Goals

- Encourage automatic speech through rote recitation and songs.
 - Model reciting nursery rhymes, counting numbers, the alphabet, the days of the week, the months of year, and choral poems and practice them consistently as part of a daily routine. A nonverbal child may only observe and not recite, but may begin to participate gradually.
 - Finger plays, songs, songs with actions or movement are excellent language models to encourage neurological coordination for expressive speech.
 - Musical videos, tapes, CDs, commercial jingles, and other music stimuli may be calming and reinforcing.

Automatic Speech Goals 2

- Encourage automatic speech by using simple words with manipulative power in the environment that have an immediate impact on the child.
 - Model and consistently encourage using environmentally manipulative words such as yes, no, toilet, water, hi, bye, please, thank you, eat, and stop.
 - Simplify verbal models to include only key words to facilitate comprehension, as well as repetition by the child.
 - Exaggerated inflection and sing-songy verbalizations may enhance the child's attention on auditorially presented information. Giving directions the same way, in a routine, or preceded by a similar prompt may be less threatening to the child.

Echolalia & Meaningfulness Ratio

- Echoing language of another person is a normal step in language development.
- Echolalia is a high-frequency characteristic within autism.
- The stress of interaction tends to delay and compromise the process of moving from echolalia to spontaneous, original speech.
- While echolalia is often viewed as a negative characteristic, it actually presents several positive features.

Positive Features of Echolalia

- Echolalia indicates the ability to produce speech.
- Echolalia indicates the child is making progress in language development through attaining the imitation stage.
- Echolalia indicates an awareness of conversational turn-taking.
- The next step is to move the child forward from echolalic, non-meaningful speech to spontaneous, meaningful speech.
- This process should take place in very small steps.
- The goal is not to extinguish echolalia, but to shape echolalia from non-meaningful to meaningful utterances.

Meaningfulness Ratio Chart

	Meaningful	Non-meaningful
Adult: What is this?		I
Child: What is this?		I
A: Do you know what it is, Ashley?		
C: A pencil.	I	
A: What do we do with a pencil?		I
C: A pencil.		
A: Pencil does what?		
C: Write.	I	
A: Nice. Good answer.		
C: Good answer.		I
A: What is this?		
C: What is this?		I
A: This is...		
C: This is...		I
A: Ashley, I have a piece of...		
C: Piece of paper.	I	

Abstract Language

- For the child with autism, transitions from experiential words to conceptual ideas is difficult.
- Most readiness skills targeted during preschool years are to help the child make the jump from concrete language into abstract language.
- The child with autism can be incredible perplexed by the simplest things within language – multiple meaning words i.e. *bat* – *bat to hit a ball & a flying animal*.

Description of Autism Clinic for Preschoolers

- Twice a week for 2 ½ hours each day.
- Six children ranging from 2 -5 years of age.
- One graduate student per child
- Two Speech Pathology supervisors
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