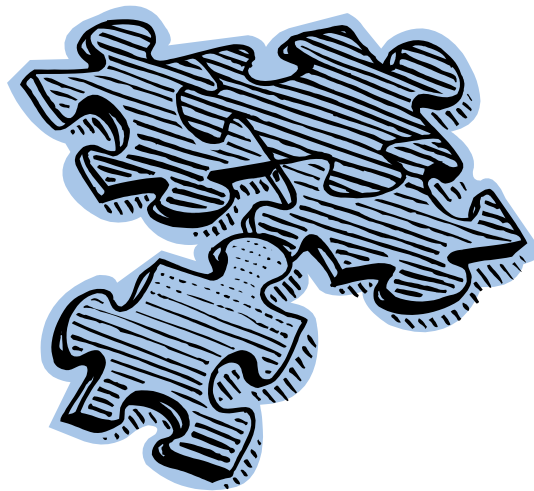


AUTISM SPECTRUM DISORDERS: An Overview

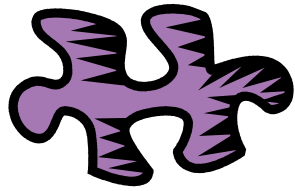


Elaine Gallardo, LMSW and Jill Hurt, MS-SLP

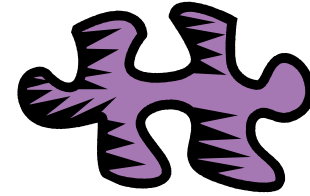
“Autism is a complex developmental disability that typically appears during the first three years of life and is a result of a neurological disorder that affects the normal functioning of the brain, impacting development in the areas of social interactions and communication skills.”



- Autism Society of America



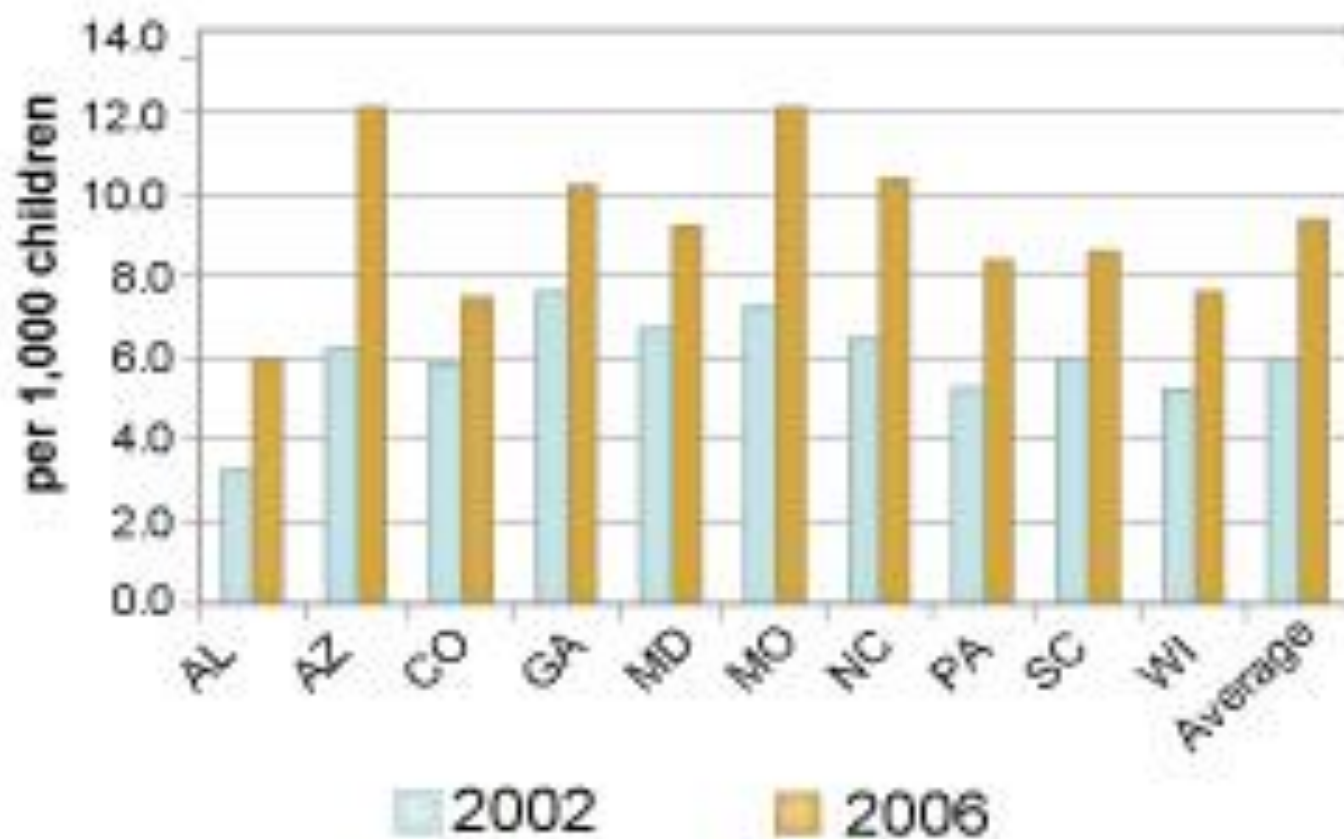
Prevalence



- It is estimated an average of 1: 110 children in the U.S. have an ASD.
- ASD's are reported to occur in all racial, ethnic, and socioeconomic groups.
- On average 4 to 5 times more likely to occur in boys than in girls. 1:70 Boys -Autism Speaks
- Studies in Asia, Europe and North America have identified individuals with an ASD with an approximate prevalence of 0.6% to over 1%.

-Centers for Disease Control and Prevention, 2011

Changes in Prevalence of ASDs among Children 8 Years Old, 2002 to 2006



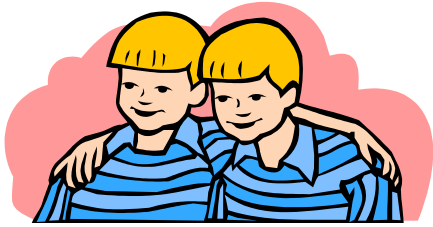
Etiology

The cause or causes of autism are unknown. It is not caused by bad parenting or “refrigerator mothers”!

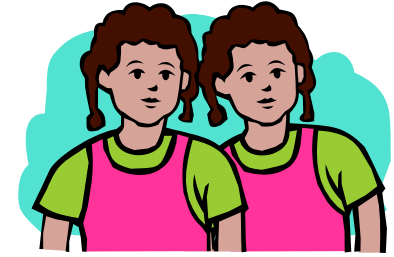
There may be multiple causes:

- Genetic Factors (i.e., hx of depression, bi-polar)
- Biological Disorders or Immune Deficiencies (i.e., herpes, maternal rubella, viruses)
- Environmental Factors (i.e., toxins)
- Timing of the “exposure”





Risk Factors



- Studies have shown that among identical twins, if one child has an ASD, then the other will be affected about 60-96% of the time. In non-identical twins, if one child has an ASD, then the other is affected about 0-24% of the time.
- Parents who have a child with an ASD have a 2-8% chance of having a second child who is also affected.
- 30-51% of children who had an ASD also had an Intellectual Disability (<70). (CDC, 2009)

Diagnosis

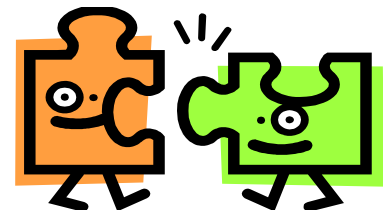
- The median age of earliest ASD diagnosis is between 4.5 and 5.5 years, but for 51-91% of children with an ASD, developmental concerns had been recorded before the child was 3 years of age.
- Research has shown that a diagnosis of autism at the age of 2 can be reliable, valid, and stable. Many children do not receive a final diagnosis until they are much older.

-Center for Disease Control & Prevention

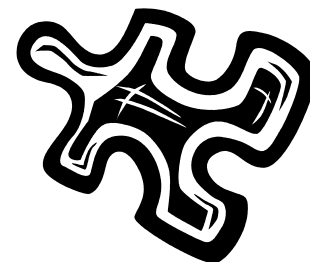


DSM-IV Criteria for Autism:

- I. A total of **six (or more)** items from heading (A), (B), and (C), with at least **two from (A)**, and **one each from (B) and (C)**:
 - A. Qualitative impairment in **social interaction**, as manifested by at least **two** of the following:
 1. Marked impairments in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body posture, and gestures to regulate social interaction.
 2. Failure to develop peer relationships appropriate to developmental level.
 3. 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 to other people).
 4. A lack of social or emotional reciprocity.

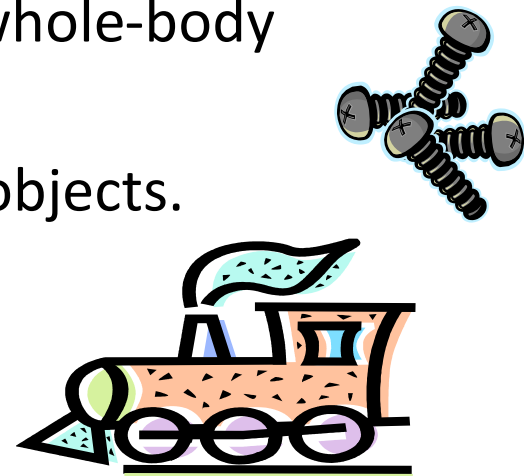


- B. Qualitative impairments in **communication** as manifested by at least **one** of the following:
1. Delay in or total lack of, the development of spoken language (not accompanied by an attempt to compensate through alternative modes of communication such as gesture or mime).
 2. In individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others.
 3. Stereotyped and repetitive use of language or idiosyncratic language.
 4. Lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level.



C. **Restricted repetitive and stereotyped patterns of behavior, interests and activities**, as manifested by at least **two** of the following:

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



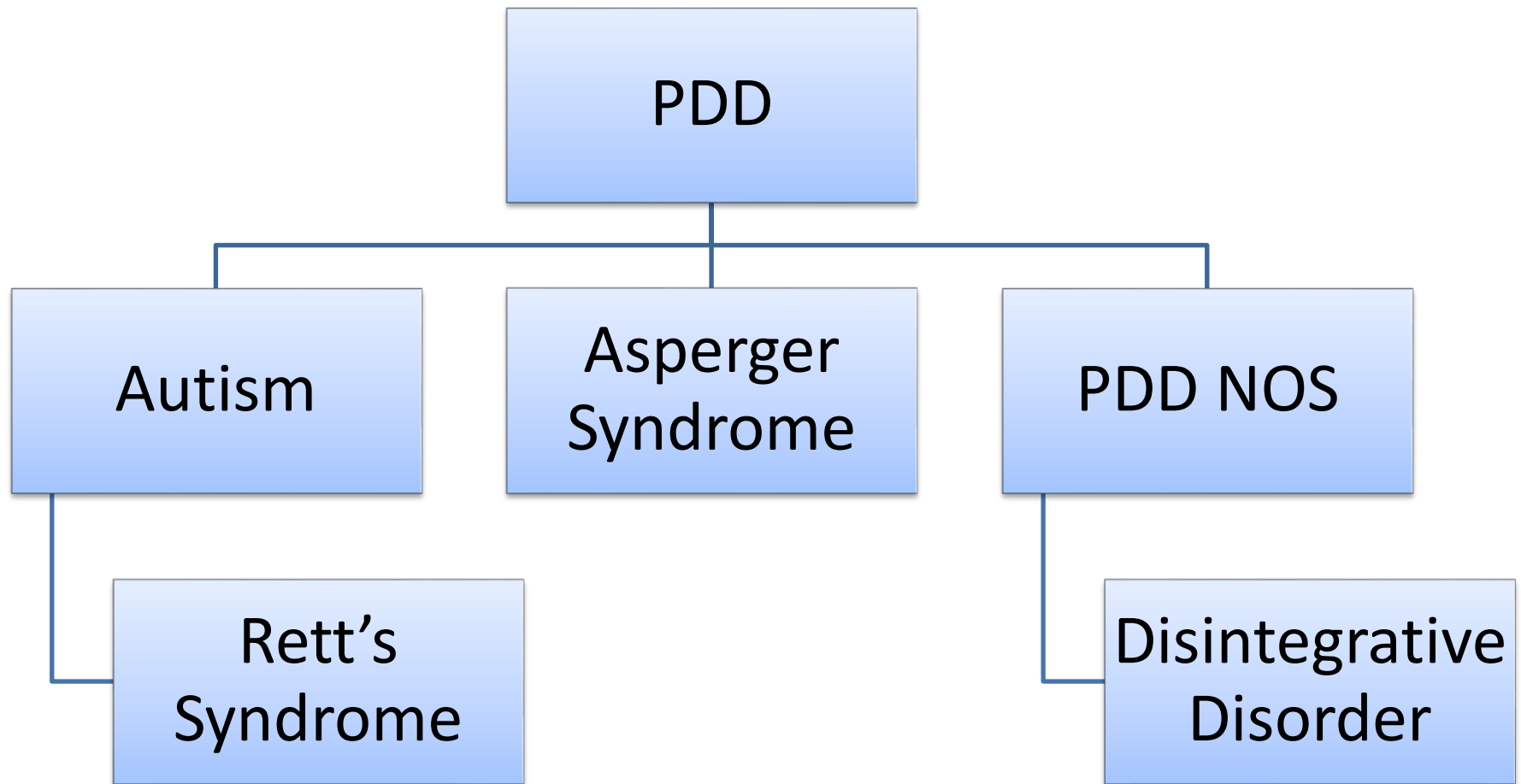
- II. Delays or abnormal functioning in at least **one** of the following areas, with onset prior to age 3 years:
 - (A). Social interaction.
 - (B). Language is used in social communication.
 - (C). Symbolic or imaginative play.

- III. The disturbance is not better accounted for by Rett's Disorder or Childhood Disintegrative Disorder.

- Source: Diagnostic and Statistical Manual of Mental Disorders; Fourth Edition



Pervasive Developmental Disorders



Comprehensive Diagnostic Evaluation



- Developmental Screening by Physician (i.e., observation of child's behavior and development and interviewing the parents).
- Referral to Developmental Pediatrician, Neurologist or Psychiatrist.
- Observations in multi-settings and multi-situations.
- Educational Services: Psychological (I.Q.), Speech/Language Assessment, Occupational and Physical Therapy Assessments, Social Worker or Counselor (social skills development)
- Teacher Observation/Rating Scales

Co-Morbidity Factors in ASD

- Attention Deficit Hyperactivity Disorder (ADHD)
- Tourette's Syndrome
- Depression
- Sleep Disorders
- Anxiety Disorders, Simple Phobias
- Obsessive-Compulsive Disorder (OCD)
- Bi-Polar Disorders
- Others: Psychotic Disorders, Eating Disorders, Substance Abuse Disorders, Medical Disorders, Seizures.



Autism and Associated Conditions:

- 50 – 70% have Mental Retardation
- 25 – 30% have Seizure Disorder
- 10 – 25% have a known Medical Condition
- High rates of Psychiatric and Behavioral Disorders (i.e., ADHD, Anxiety, Depression) especially in children between the ages of 8 – 18 years of age.
- “Autism is not pure.”

-Mohammad Ghaziuddin, M.D.

University of Michigan

Autism & Associated Medical Conditions:

- Mental Retardation (The risk of behavioral and psychiatric symptoms increases in mental retardation. I.Q. is an important predictor of outcome).
- Seizures (Two peaks of onset: preschool years and adolescence).
- Tuberosus Sclerosis
- Fragile X Syndrome
- Down Syndrome
- Cerebral Palsy

Multi-Axial Classification

A 10 year old boy with autism and depression with a history of epilepsy and mental retardation from a well adjusted family

- ❑ Axis I: Autistic Disorder
- ❑ Axis II: Mental Retardation
- ❑ Axis III: Seizure Disorder
- ❑ Axis IV: Psychosocial Factors: Mild
- ❑ Axis V: GAF: 60

Characteristics:

Communication Impairment:

May exhibit the following:

- Limited language or
- Relatively well-developed verbal skills
- Pragmatic difficulties (problem in the use of language for social communication)
- Echolalia
- Difficulty expressing needs and wants
- Concrete/Literal understanding
- Difficulty with joint attention

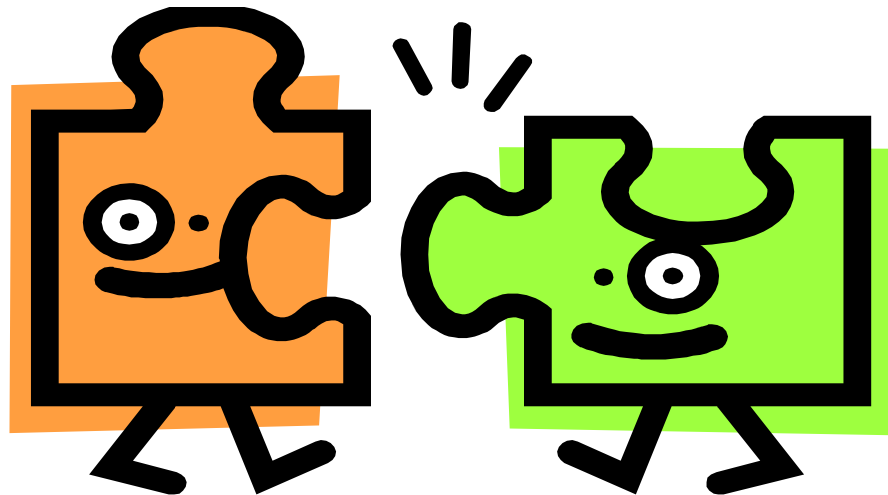


Echolalia

Echolalia is the repeating of words or phrases in place of normal, responsive language.

Types:

- Immediate
- Delayed

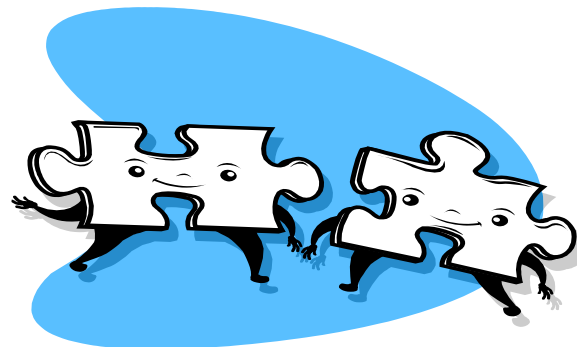


Joint Attention

Communicative acts used to direct another's attention to a desired object, event, topic.

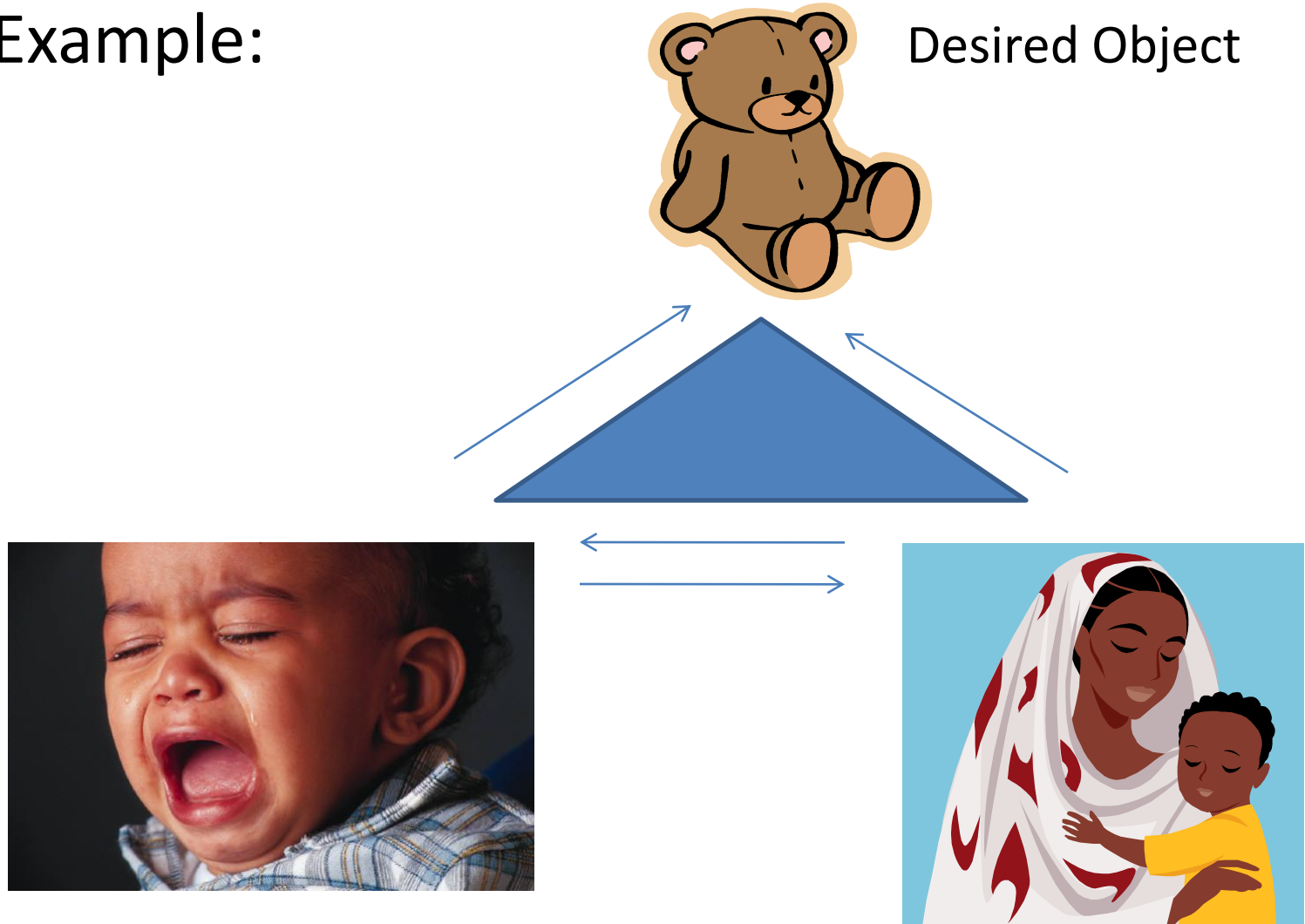
These acts include:

1. **Commenting**: drawing another's attention to an object.
2. **Requesting information**: the child asks another, "Where did you go?"
3. **Giving information**: gives information that is not obvious or known by listener.



Joint Attention

Example:



Social Language: Pragmatics



Pragmatics involve three major communication skills:

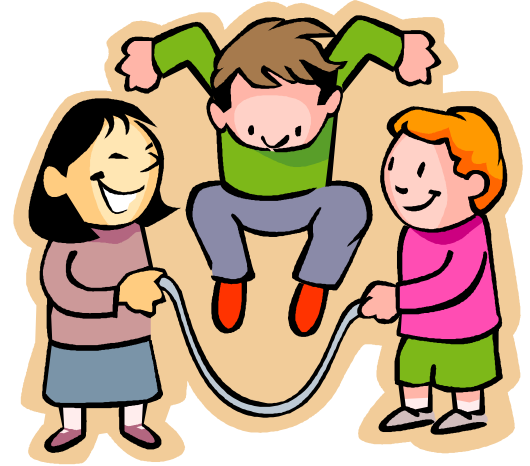
1. **Using language** for different purposes:
greetings, informing, demanding, promising, requesting
2. **Changing language** according to the listener or the situation:
 - talking differently to a baby than to an adult
 - giving information to an unfamiliar listener
 - speaking differently in a classroom than on the playground
3. **Following rules** for conversations and storytelling:
taking turns in conversation, introducing topics, staying on topic, rephrasing when misunderstood, how to use verbal and non-verbal signals, how close to stand to someone when speaking, how to use facial expressions and appropriate eye contact.

Characteristics

Impairment of **Social Interactions**:

May exhibit the following:

- Aloof, disinterested, loner
- Difficulty with social reciprocity and terminating interactions; poor play skills
- Difficulties with perspective taking and self-awareness
- Limited eye contact



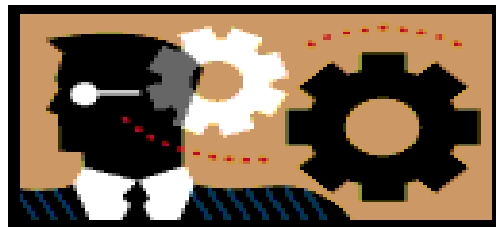
Theory of Mind

By age four, children typically develop an understanding that other people have beliefs, intents, thoughts, knowledge, and desires that are different from one's own. Children with autism generally do NOT acquire this skill and must be taught.



Why is Theory of Mind Important?

- Difficulty with Joint Attention
- Make sense of social behavior: turn taking skills
- Make sense of communication: pragmatic language skills
- Symbolic play skills
- Understanding trickery/deception
- Recognizing/understanding emotions and empathy



Perspective Taking



Students with ASD have difficulty:

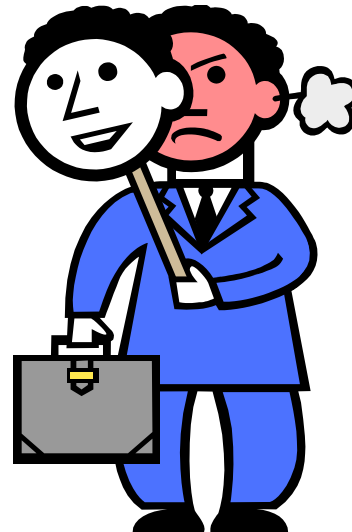
- Putting themselves in someone else's shoes.
- Shifting topics when others are bored.
- Realizing when some comments embarrass or offend others and how an apology can help soothe the error.
- Picking up on social cues. (“Is this person interested in what I am talking about?”)
- “Mind Reading” – reading facial expressions, body language, voice tones, etc.

Self Awareness

Seemingly unaware or confused about their emotions.

“What am I feeling?” and “Why do I feel this way?”

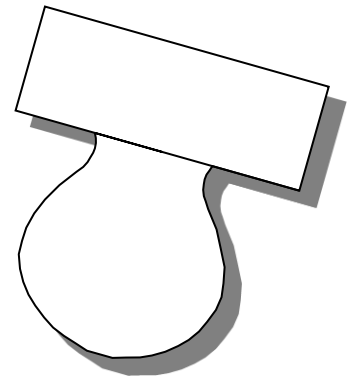
- Help the ASD child feel aware and regulated. Help label emotions.
- Help the child monitor and adjust behavior. (Relaxation techniques, physical activity, emotional thermometer).



“The Hidden Curriculum”

Brenda Smith Myles

“The set of unwritten rules that no one has been directly taught, but everyone knows. Violation of these rules can make an individual a social outcast.”

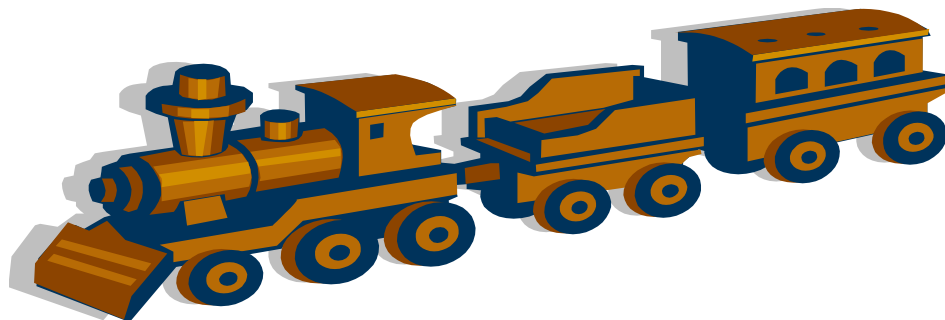


Characteristics

Repetitive/Stereotypical Behavior/Interests

May include the following:

- Obsessive attachments to objects
- Repetitive motions; self-stimulation
- Significant knowledge of one topic
- Thrive on routine; very resistant to change



Characteristics

Unusual Responses to Sensory Experiences

May include:

- Being very sensitive to loud noises
- Smelling or licking objects
- Being sensitive to certain textures
- Sensitive to too much visual stimuli or light
- Not liking to be touched by others and at other times wanting to be touched/deep pressure.
- Sometimes touching others too much.



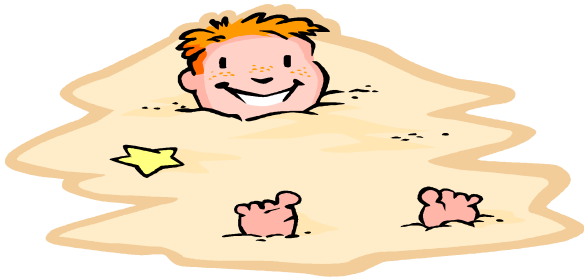
Auditory Considerations

- Music can be an instructional tool for some students and be over-stimulating for others
- Watch voice tone and volume
- Prepare students in advance for loud sounds (i.e., fire drill). Give information visually.
- Offer earplugs or head phones (i.e., cafeteria, assemblies, school bus).
- Be aware of adult chatter in a classroom.
- Minimize distractions such as intercom, phones, and people coming in and out of your classroom.



Tactile Considerations

- Get to know your student: Certain students prefer light touches, some prefer firm touches. Some need a warning before you touch them.
- Some children do better with visual cues than physical prompting or touching.
- Certain textures may bother children more than others (i.e., wet clothing).
- Be tolerant of child's need for specific clothing (i.e., fabric of clothing, long pants, shoes).



Taste and Smell Considerations

- Teach socially appropriate behaviors (when and what is ok to smell).
- When a child is hyper-sensitive to certain tastes/textures, start with small expectations (a lick, a bite).
- Encourage different foods/textures with small expectations (soft foods vs. crunchy foods).
- Allow calming oral activities: biting and sucking (gum, lolly pops, drinking from straw).



Seating Options

- For the child who fidgets, replace behaviors with something more acceptable such as holding a small object in hand (koosh ball, small toy).
- Allow children to sit in different positions (kneel, lay on stomach). No “W” sitting!
- Allow children in chairs to straddle the chair backwards. Always make sure the child’s feet are touching the floor!!
- Use weighted lap pads (fill up pillows with sand, rice or beans).
- Place bungee cords on the legs of desks or chairs to allow the child to push against them.



Fine and Gross Motor Outlets

It is not uncommon to see many ASD children having difficulties with fine and gross motor skills due to poor muscle tone and lack of strength. Encourage a lot of physical activity and “heavy” work both inside and outside the classroom.



“All typically developing kids at some point in development do the same types of things that people with autism do. Therefore, we must look to typically developing kids to understand kids with autism.”

- Dr. Barry Prizant/SCERTS Model



ADHD vs. Asperger Syndrome?

- Social deficits due to impulsivity
- Speech can be disorganized
- I.Q. may vary
- No strong focused interests



Social deficits due to impaired reciprocity

Speech often rambling, one-sided, and pedantic. No language delay.

Normal to above I.Q.

Focused Interests (i.e., trains weather).

“Asperger symptoms most apparent during the middle school years”

- (Ghaziuddin, 1996)

EMOTIONAL REGULATION

“Emotional regulation is a core process underlying attention and social engagement and is essential for optimal social-emotional and communication development and for the development of relationships for children with and without disabilities.” (Prizant & Meyer, 1993).



Emotional Regulation

A child is most available for learning when he/she is better able to:

1. Attend to the most relevant information in an activity or setting.
2. Remain socially engaged with others.
3. Process verbal and non-verbal information.
4. Initiate interactions using higher level abilities including language.
5. Respond to others in reciprocal interactions.
6. Actively participate in everyday activities.

(The SCERTS Model, 2006)



Mutual Regulation

For a child to be optimally available, he/she must have the emotional regulatory capacities and skills to: Seek assistance and/or respond to others' attempts to provide support for emotional regulation when faced with stressful, overly stimulating, or emotionally dysregulating circumstances.



Behavior

Behavior is Communication:

All behavior is the way a child perceives what is happening in his/her environment.

Behavior happens for a reason:

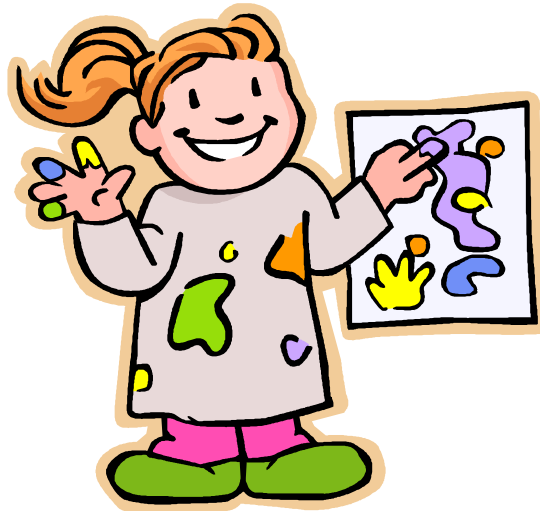
1. To get attention
2. To get a need met
3. To avoid doing something



Behavior Considerations

When working with ASD children, take into consideration the following:

- Sensory deficits
- Inability to “understand” rules or instructions.
- Inability to express their needs and wants.



Observe Behaviors

Observe and note what the ABC's are:

Antecedents: What happened before the meltdown?

Behavior: What was the behavior? Look for **intensity**, **duration**, and **frequency** of the behaviors. Look for a pattern.

Consequences: What is the consequence?
And...is it working?



Meltdowns & Tantrums

- Be logical and understanding.
- Ask yourself, “Why is this occurring?”
- Don’t answer aggression with aggression.
- Be supportive – not judgmental.
- Be calm and stay calm.
- Speak in a low tone of voice, speak less or not at all.
- Non-threatening body language.
- Have a plan in place.
- Choose your battles carefully.



Behavior Strategies

- Help child deal with their fears in a genuine, caring manner.
- Look at your classroom environment. Does something need to be moved or removed? Think of safety issues.
- Give children two-minute or five-minute (visual) warnings before transitions.
- Give kids “Break Times” or opportunities to take a break especially if you see a potential for a meltdown.
- Look at the time of the day.



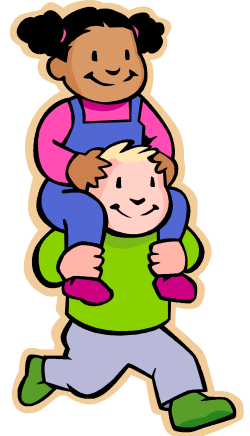
Behavior Strategies

- Teach calming and relaxation techniques (i.e., Yoga/Tai Chi).
- Give clear directions. “Hearing” instructions is not the same as “understanding” them.
- Use other peers or the buddy system to help the ASD child during transitions or other trouble spots during the day.
- Impose natural and logical consequences when necessary – not punishment.
- Offer choices.



Behavior Strategies

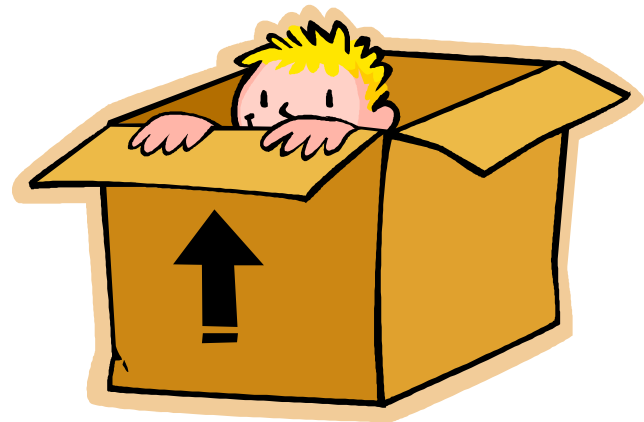
- Visual or hand signals for desired behavior or changes in routine.
- Use time out for them and yourself! Let them know you are upset and need some time to yourself to think about the situation. Model self-control and verbalization of feelings.
- Give immediate and strong feedback for desired behaviors! Praise specific behaviors.
- Praise any positive social behaviors.
- Use visual pictures as tokens for positive reinforcement (i.e., puzzles, computer time).



Autism and Behavior

Autism doesn't cause behavior problems, but the symptoms of autism that interfere with daily functioning and a quality life do.

- Think Routine
- Think Communication
- Think Sensory Overload



(Daniel Davidson, PhD, BCBA
Northern Arizona University)

Emotional Struggles

- According to research, children with ASD tend to miss facial cues and changes in body language exhibited by peers and family members. (Tony Attwood)
- They may not know why they are angry or what set them off.
- They have difficulties making and keeping friends.
- They have difficulties showing empathy.



Thinking, Feeling & Doing

Our thinking determines how we feel and how we behave.

The ASD child needs help in:

1. Identifying and recognizing emotions (reading people's faces, gestures and body language).
2. Emotional Vocabulary and Regulation
3. Understanding emotions of self and others.
4. Showing empathy.
5. Social interaction skills.



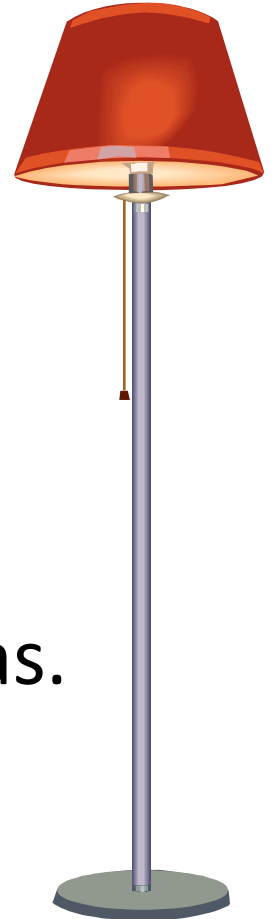
Strategies for the Classroom

- Maintain structure and routines within the environment.
- Limit down time.
- Communicate changes in the routine (visual cues).
- Provide time to develop changes in routine.
- Teach student flexibility in their environments.
- Evaluate the layout of the room.



Strategies for the Classroom

- Assess the lighting, visual, and auditory surroundings.
- Provide alternatives for perseverating behaviors to allow positive outcomes.
- Arrange small play areas, quiet space, independent work areas, and large areas.
- Create boundaries with furniture.



Educational Services

- Regular Education
- IDEA – federal grants to institute early intervention programs such as AzEIP (0-3) and Child Find (3-5)
- IDEA – The Individuals with Disabilities Act (1975)
Each state provide all eligible children with a public education that meets their individual needs.
- IDEA – Renamed the Individuals with Disabilities Education Improvement Act (2004):
“Free and appropriate education”
“Least Restrictive Environment”
- 504 Accommodation Plan
- Special Education Services – The Individualized Education Program (IEP)



Treatment

- There is no cure for autism
- Diagnose early
- Provide educational and behavioral services as soon as possible
- Improve social skills
- Improve communication skills
- Treat medical conditions
- Treat psychiatric symptoms or complications
- Provide support to the family



Financial Challenges of Parenting a Child with Special Needs



- Autism is the fastest growing developmental disability
- The average loss of annual income associated with having a child with ASD was \$6200 or 14% of their reported income. (Pediatrics, April, 2008)
- Special needs children are associated with higher use of child care services and higher probability that child care problems will greatly affect employment. (Pediatrics, April, 2008)
- Cost of lifelong care can be reduced by 2/3 with early diagnosis and intervention.
- The cost of autism over the lifespan is 3.2 million dollars per person.

The Grief Cycle



Effective vs. Ineffective Choices

“You cannot make anyone do what he or she does not want to do. We can only teach him a better way and encourage him to try it.”

-William Glasser, M.D., Founder of Reality Therapy

