Autism Spectrum Disorders

Jean A. Frazier, MD
Cambridge Health Alliance
McLean Hospital
Harvard Medical School
Autism Spectrum Disorders

- Autism, Asperger’s, PDD-NOS=Complex Chronic Disorders
- Impairment in Multiple Areas
ASDs Other Essential Features

• Early onset (may be evident at 18 months)
• 4:1 male to female
• 30-70% mentally retarded
• Impairment in daily living skill (nor fully explained by MR)
• 25% have seizures
• 20-30% have serious behavioral problems (aggression, tantrums, self-injury)
Incidence:

- Not affected by socioeconomic status
- Evidence of increase – initially documented in CA
- Recent report by CDC funded study is 34 per 10,000 (JAMA, 2003)
- Current figure being used for ASD is 1 in 166
Autism Spectrum Disorders

They include:

• Autistic Disorder
• Asperger's Disorder
• Pervasive Developmental Disorder Not Otherwise Specified
• Rett's Disorder
• Childhood Disintegrative Disorder
## Differential

<table>
<thead>
<tr>
<th>ASD</th>
<th>Social</th>
<th>Language</th>
<th>Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Asperger’s</td>
<td>+</td>
<td>-</td>
<td>+</td>
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<tr>
<td>PDD, NOS</td>
<td>+</td>
<td>+/-</td>
<td>+/-</td>
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Relationship between diagnosis and teaching

- Learning style of typically developing kids is different from the learning style of kids with ASD.
- Learning style of kids with ASD also varies but there are some commonalities inherent to the diagnosis.
How do typically developing kids learn

• Biologically ‘pre-programmed’ with specific “learning mechanisms” that create learning from the environment

• Imitation, Interaction, communication, pretend play, draw to novelty
Mismatch

• The ‘natural’ environment
  – For typically developing children is a ‘perfect fit’ for their learning style
  – For kids on the spectrum it’s a mismatch
Add’l characteristics sometimes present that can interfere

- Attentional difficulties
- Regulatory difficulties (attn and/or mood)
- (related behavioral challenges)
Natural Learning Style of Kids with ASD

- Strong memory especially visual and musical - Cartoons
- Strong response to high affect
- Strong visual-perceptual skills
- Strong response to music
- Strong response to motor activity
Research To Date

• FMRI-Imbalance of visual pathways indicating alternative face processing (Hubl et al, 2003)
  – Increased signal in medial occipital gyrus; more object related

• Work at Yale