Responding to the Needs of Students with Autism Spectrum Disorders

The Center for Autism and Related Disabilities

CARD Albany is a university-affiliated resource center that brings research and practice together in community settings.

CARD Albany provides evidence-based training and support to families and professionals and, through ongoing research, contributes knowledge to the field of autism spectrum disorders.

If you would like a copy of the PowerPoint slides used in this presentation contact:

The Center for Autism and Related Disabilities
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card@albany.edu
Laws, Regulations, and Incidence in NYS

IDEA and Part 200
Definition of ASD
Autism means a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three, that adversely affects a child's educational performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences.

Eligibility for Special Education Services from Part 200
• Areas of need:
• Academic achievement, functional performance, learning characteristics
• Social development
• Physical development
• Management needs
NYS Children and Youth with Disabilities
Receiving Special Education Programs and Services

- School age students (4-21) with autism
  - 1996 - Total: 3,416
  - 1997 - Total: 4,104
  - 1998 - Total: 5,142
  - 1999 - Total: 5,659
  - 2000 - Total: 6,752
  - 2001 - Total: 7,918
  - 2002 - Total: 9,141
  - 2003 - Total: 10,617
  - 2004 - Total: 12,162
  - 2005 - Total: 13,622
  - 2006 - Total: 15,471
  - 2007 - Total: 17,505
  - 2008 - Total: 20,719
  - 2009 - Total: 23,635
  - 2010 - Total: 26,220
  - 2011 - Total: 29,118
  - 2012 - Total: 30,151

783% INCREASE

Source: NYS Department of Education

Theories of Causation

Who Is Affected By Autism?

- CDC currently estimates that 1 in 88 individuals have autism spectrum disorder based on study that looked at 8 year-old children across 14 states
- Boys are 4 times more likely to be diagnosed but girls are more severely affected
- Children are born with the disorder and never “outgrow” or are “cured” of their autism
- Usually diagnosed in early childhood (18 months – 2 years) when a child fails to meet developmental milestones

http://www.autismspeaks.org/video/glossary.php
http://www.cdc.gov/nccdphp/dnpa/autism/faq_prevalence.htm
What Causes Autism?

Genes
- Monozygotic vs. di-zygotic twin studies have shown that if 1 identical twin has autism, the chance that the other twin has autism is 60%.
- Di-zygotic twins have about 10-20% increased risk if one twin is diagnosed...about the same as sibling of older diagnosed child.
- Multiple genes are now being studied for their possible role.

What Causes Autism?

Brain structure and function is different.

Cause of autism is currently unknown.

http://www.nimh.nih.gov

What Causes Autism?

Other Theories:
- Heavy metals
- Pollutants
- Toxins
- Vaccines
- Chemicals
- Pesticides
- Gastrointestinal issues

*none of these has been empirically proven to cause autism*
Diagnosing Autism Spectrum Disorders
The Previous Way of Understanding “Autism” in the DSM-IV
Using the DSM-IV-TR, patients could be diagnosed with five separate “Pervasive Developmental Disorders”:
1. Autistic Disorder
2. Asperger’s Disorder
3. Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS)
4. Childhood Disintegrative Disorder
5. Rett Syndrome

Changes in “Autism” diagnosis with DSM-5
Must meet criteria A, B, C, D and E:
A. Persistent deficits in social communication and social interaction across multiple contexts
B. Restricted, repetitive patterns of behavior, interests, or activities
C. Symptoms must be present in early development, but may not fully manifest until social demands exceed capacities
D. Symptoms cause clinically significant impairment in social, occupational, or other areas of functioning
E. These disturbances must not be better explained by an intellectual disability

Autism Spectrum Disorder
Diagnostic Criteria in the DSM-5
Must meet criteria A, B, C, D and E:
### Diagnostic Criteria A

Persistent deficits in social communication and social interaction across contexts as manifested by the following, currently or by history:

1. Deficits in social-emotional reciprocity
2. Deficits in nonverbal communicative behaviors used for social interaction
3. Deficits in developing, maintaining, and understanding relationships

<table>
<thead>
<tr>
<th>Severity Level</th>
<th>Social Communication</th>
</tr>
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<tbody>
<tr>
<td>Level 3</td>
<td>Requiring very substantial support</td>
</tr>
<tr>
<td>Level 2</td>
<td>Requiring substantial support</td>
</tr>
<tr>
<td>Level 1</td>
<td>Requiring support</td>
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</tbody>
</table>

#### Description

- **Level 3**: Severe deficits in verbal and nonverbal social communication skills cause severe impairments in functioning, very limited initiation of social interactions, and minimal response to social overtures from others. For example, a person with few words of intelligible speech who rarely initiates interaction and, when he or she does, makes unusual approaches to meet needs only and responds to only very direct social approaches.

- **Level 2**: Marked deficits in verbal and nonverbal social communication skills; social impairments apparent even with supports in place; limited initiation of social interactions; and reduced or abnormal responses to social overtures from others. For example, a person who speaks simple sentences, whose interaction is limited to narrow special interests, and who has markedly odd nonverbal communication.

- **Level 1**: Without supports in place, deficits in social communication cause noticeable impairments. Difficulty initiating social interactions, and clear examples of atypical or unsuccessful responses to social overtures of others. May appear to have decreased interest in social interactions. For example, a person who is able to speak in full sentences and engages in communication but whose to-and-fro conversation with others fails, and whose attempts to make friends are odd and typically unsuccessful.

### Diagnostic Criteria B

Restricted, repetitive patterns of behavior, interests, or activities as manifested by at least 2 of the following, currently or by history:

1. Stereotyped or repetitive motor movements, use of objects, or speech
2. Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior
3. Highly restricted, fixated interests that are abnormal in intensity or focus
4. Hyper- or hypo-reactivity to sensory input or unusual interest in sensory aspects of the environment
<table>
<thead>
<tr>
<th>Severity Level</th>
<th>Restricted, repetitive behaviors</th>
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</thead>
<tbody>
<tr>
<td>Level 3</td>
<td>Inflexibility of behavior, extreme difficulty coping with change, or other restricted/repetitive behaviors markedly interfere with functioning in all spheres. Great distress/difficulty changing focus or action.</td>
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<tr>
<td>Level 2</td>
<td>Inflexibility of behavior, difficulty coping with change, or other restricted/repetitive behaviors appear frequently enough to be obvious to the casual observer and interfere with functioning in a variety of contexts. Distress and/or difficulty changing focus or action.</td>
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<tr>
<td>Level 1</td>
<td>Inflexibility of behavior causes significant interference with functioning in one or more contexts. Difficulty switching between activities. Problems of organization and planning hamper independence.</td>
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**Diagnostic Criteria C**

Symptoms must be present in early development, but may not fully manifest until social demands exceed capacities

**Diagnostic Criteria D**

Symptoms cause clinically significant impairment in social, occupational, or other areas of functioning
Diagnostic Criteria E

These disturbances must not be better explained by an intellectual disability.

Social Communication Disorder

A. Persistent difficulties in pragmatics or the social uses of verbal and nonverbal communication in naturalistic contexts
   - affects the development of social reciprocity/relationships
   - cannot be explained by low abilities in word structure/grammar or general cognitive ability.

B. Persistent difficulties in acquisition/use of spoken language, written language, and other modalities of language (e.g., sign language)
   - resulting deficits are likely to endure into adolescence and adulthood, although the symptoms, domains, and modalities involved may shift with age.

C. Rule out Autism Spectrum Disorder (restricted, repetitive patterns of behavior, interests or activities) SCD can occur as a primary impairment or co-exist with other disorders (e.g., Speech Disorders Learning Disorder, Intellectual Disorders)

D. Symptoms must be present in early childhood (but may not become fully manifest until speech, language, or communication demands exceed limited capacities).

E. The low social communication abilities result in functional limitations in effective communication, social participation, academic achievement, or occupational performance, alone or in any combination.
Assessment Tools to Diagnose ASD

<table>
<thead>
<tr>
<th>Autism Diagnostic Observation Schedule</th>
<th>Autism Diagnostic Interview, Revised</th>
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<tr>
<td>Purpose: Assemble assess and diagnose autism and pervasive developmental disorder across ages, developmental levels.</td>
<td>Useful for diagnosing autism, planning intervention, and distinguishing autism from other developmental disorders.</td>
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<tr>
<td>Age/Grade: Toddler to adult</td>
<td>Children and adults with a mental age about 6 years.</td>
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<td>Administration Time: 30-45 minutes</td>
<td>1 to 2 hours, including scoring.</td>
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<tr>
<td>Format: Standardized and semi-structured, observed and coding</td>
<td>Standardized interview and response coding.</td>
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<tr>
<td>Notes: Considered the &quot;gold&quot; standard.</td>
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Information obtained from Western Psychological Services at www.wpspublish.com

Related Characteristics and Implications for the Classroom

- Anxiety/Depression
- Impairment in social communication and social interaction
- Restricted, repetitive behaviors, interests, or activities
- Intellectual Impairment
- Challenging/Self-Injurious Behavior
- Motor Deficits
- Adaptive Functioning Deficits
- Executive Functioning Deficits
Implications for the Classroom

Cognitive Issues

• Theory of Mind
• Central Coherence

Implications for the Classroom

Cognitive Issues

• Problems with Executive Function
  – Inhibition
  – Shift set
  – Emotional Control
  – Initiation
  – Working Memory
  – Planning & Organization
  – Organization of Materials
  – Monitoring

Inhibition

• Repressing one behavior in favor of another

Playing a game of Simon Says....
Shifting

- Ability to move freely from situation to another to think flexibly in order to respond appropriately and problem solve effectively

![Shifting Diagram]

Emotional Control

- Ability to modulate one’s emotional response by thinking through a situation rather than just reacting

![Emotional Control Diagram]

Initiation

- Ability to start a task independently, generate ideas, responses, problem solve strategies

![Initiation Diagram]
Working Memory

Ability to hold information in the mind in order to complete a task or activity

Planning and Organization

Managing current and future tasks and to systematically think through steps to completion

Organization of Materials

Ordering our environment...to find an orderly place for materials and things within a defined space
Monitoring

Ability to recognize how well we’re performing in relation to a standard or measure

Theory of Mind

Ability to infer a full range of mental states, thoughts, feelings, perceptions to others that may or may not be different than our own

The Sally Anne Scenario
Weak Central Coherence

- Over-focus on details at the expense of understanding actual meaning...difficulty seeing big picture
- Difficulty drawing conclusions

Implications for the Classroom

Language Deficits

- Wide range of communicative ability
  - Non-verbal to verbose but lacking in pragmatics
  - Often more behavioral communication than intentional, social, or verbal communication
  - Receptive language difficulties - expectations, directions, comments need to be clear, concrete, simple, direct, and visual
  - Expressive language difficulties – even highly intelligent students may struggle to speak up or become frustrated trying to share thoughts, feelings, and ideas
  - Written communication difficulties – from the mechanics of writing to organizing thoughts and getting them to paper

Implications for the Classroom

Language Deficits

- Social imitation (academic & non-academic) is lacking – explicit instruction required
- Perception and interpretation of body language and social cues lacking – watch for social misunderstandings
- Subtle and arbitrary social rules not recognized, understood, or valued – may need to explain or explicitly instruct; rules should be functional to make sense
Implications for the Classroom

Depression and Anxiety

Co-morbid mental health disorders such as anxiety and depression can interfere with learning and socialization.

Implications for the Classroom

Motor Impairments

- Difficulty with balance and coordination (impaired vestibular sense)
- Difficulty with sensing how much pressure or force to use (impaired proprioceptive sense)
- Difficulty with fine motor tasks such as writing
- Higher motor planning and movement difficulty

Implications for the Classroom

Self-injurious/Challenging Behaviors

- Communication difficulties can lead to anger, frustration, fear, negative emotions
- Functional communication system is imperative!
### Social Communication & Language

- Explicit teaching of:
  - Social expectations and rules
  - Rules of conversation
  - Mindful of using too much language without visuals
  - Mindful of abstract language

- Students do better with functional rather than arbitrary rules

### Self-injurious and Challenging Behaviors

- Well-structured, organized classrooms
- Routine-oriented classrooms
- Support for unexpected changes/transitions
- Explicitly teaching flexibility
- Use special interests/activities/objects as reinforcement
- Watch out for sensory issues (noise, lights, smells)
- Explicitly teach calming strategies

### Cognitive Deficits

- Capitalize on strengths such as strong rote memory, visual-spatial abilities, expertise in special interest areas
- Provide supports for drawing conclusions, seeing cause-effect, seeing big picture
- Provide supports for organization (thinking & materials)
- Provide visuals to support independence in tasks
- Support emotional regulation, coping strategies
- Practice skills over and over under different circumstances
Evidence-Based Interventions and Practices for Students with ASD

What is Evidence-Based Practice?
NCLB (2002)
- Effective education practices
- Scientifically based research
- Rigorous peer review
- Positive results

  - Scientifically-based: possess “significant and convincing empirical efficacy and support”
  - Promising: programs that have emerged as having “efficacy and utility with individuals with ASD”

Features of Evidence-Based Programs

- Address the core deficits of ASD - social communication and behavior
- Should include a good “fit” between student’s learning style and environment
- Should specifically address problems with social communication skills
- Should include assessment of strengths and deficits of individual
- Should include reinforcement procedures
- Should include on-going evaluation process
Effective Components for Educational Practices

- Individualized supports and services
- Systematic instruction
- Comprehensible and structured learning environments
- Specialized curriculum focus
- Functional approach to problem behavior
- Family involvement


Evidence-Based Practices for Students with ASD

- ABA: Applied Behavioral Analysis
  - Discrete Trial Training
  - Pivotal Response Training

Promising Practices

- Incidental Teaching
- PECS (Picture Exchange Communication System)
- TEACCH (Treatment and Education of Autistic and related Communication Handicapped Children- Structured Teaching)
Evidence-Based Practices for Students with ASD
LEAP: Learning Experiences: An Alternative Program for Preschoolers and Parents
- Early childhood; social development
- Inclusive setting (home, school, community)
  - Peer mediated interventions
- Behavior management
- Educational approach with individualized objectives

Promising Practices
- Social Stories™ or Social Narratives
- SCERTS
  - SC - Social Communication
  - ER - Emotion Regulation
  - TS - Transactional Support

Evidence-Based Practice
Positive Behavior Support
- Research-based strategies used to increase quality of life and decrease problem behavior
- Includes FBA & BIP
- Teaching new skills; changing environment
  http://www.pbis.org/
  http://www.apbs.org/
**Context of Challenging Behavior**

- Behavior caused by communication deficits
- Behavior caused by social skill deficits
- Behavior caused by cognitive deficits or difference
- Behavior caused by sensory issues, perseverations, rigidity

**Functions of Behavior**

- [Diagram showing various functions and classifications of behavior]

- [Summary of key points regarding behavior management and intervention strategies]
Unsupported Practices
Lack Research to Support Effectiveness with Students

- Sensory diet
- Auditory Integration Therapy
- Dietary protocols/ Vitamin Therapy
  - Gluten-free, Casein-free diets
- Secretin
- Chelation

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<tr>
<th>Evidence-based Practices</th>
<th>Individualized Instruction</th>
<th>Systematic Instruction</th>
<th>Individualized Environment</th>
<th>Individualized Curriculum</th>
<th>Function of Behavior</th>
<th>Family Involvement</th>
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NY Regional Centers for Autism Spectrum Disorders

- Buffalo
- Rochester
- Albany
- Westchester
- Queens
- Long Island (Nassau)
Resources for Families in NYS

- NYS Office for Persons with Developmental Disabilities (OPWDD)
- NYS Education Department
  - Adult Career & Continuing Educations Services-Vocational Rehabilitation (ACCES-VR)
- Autism Society of America (ASA)
  - Local chapters throughout NY and the USA

The Center for Autism and Related Disabilities

Phone: (866) 442-2574 (toll-free)
Email: card@albany.edu
Website: http://www.albany.edu/psy/autism

Next Steps to Complete this Course

- You may review the video at any time.
- You should’ve written down the different codes shown periodically in this video
- Complete and pass the quiz
  - www.classmarker.com and log in using the information sent to you in a separate email from Classmarker