


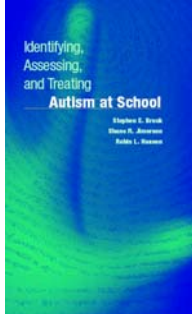
Autism


EDS 248
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Acknowledgement

Adapted from...
Brock, S. E., Jimerson, S. R., &
Hansen, R. L. (2006).
*Identifying, assessing, and
treating autism at school*. New
York: Springer.





Presentation Outline

- Introduction: Reasons for Increased Vigilance
 - Diagnostic Classifications and Special Education Eligibility
 - Educator Roles, Responsibilities, and Limitations
 - Case Finding
 - Screening and Referral
 - Assessment: Diagnostic and Psycho-educational Evaluation

Introduction: Reasons for Increased Vigilance

- Autistic spectrum disorders are much more common than previously suggested.
 - 60 (vs. 4 to 6) per 10,000 in the general population (Chakrabarti & Fombonne, 2001).
 - 600% increase in the numbers served under the autism *IDEA* eligibility classification (U.S. Department of Education, 2003).
 - 95% of school psychologists report an increase in the number of students with ASD being referred for assessment (Kohrt, 2004).

Explanations for Changing ASD Rates in the General Population

- Changes in diagnostic criteria.
- Heightened public awareness of autism.
- Increased willingness and ability to diagnose autism.
- Availability of resources for children with autism.
- Yet to be identified environmental factors.

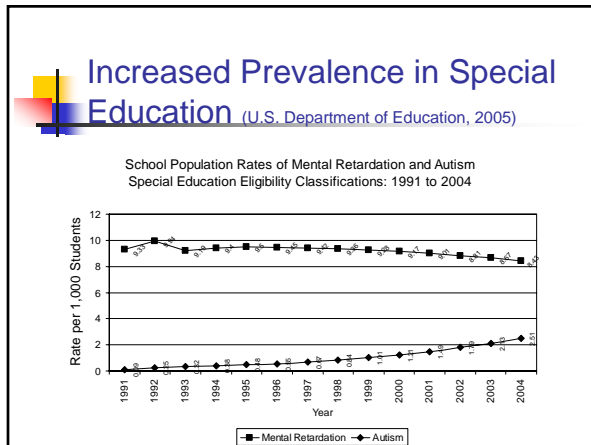
Increased Prevalence in Special Education (U.S. Department of Education, 2003)

Total Number of Student Classified as Autistic and Eligible for Special Education Under IDEA by Age Group

Year	6 – 11 years	12 – 17 years	18 – 21 years
1994	15,000	10,000	5,000
1995	20,000	12,000	6,000
1996	25,000	15,000	7,000
1997	30,000	18,000	8,000
1998	35,000	22,000	10,000
1999	40,000	25,000	12,000
2000	45,000	30,000	15,000
2001	50,000	35,000	18,000
2002	55,000	40,000	20,000
2003	60,000	45,000	22,000


Explanations for Changing ASD Rates in Special Education

- Classification substitution
 - IEP teams have become better able to identify students with autism.
 - Autism is more acceptable in today's schools than is the diagnosis of mental retardation.
 - The intensive early intervention services often made available to students with autism are not always offered to the child whose primary eligibility classification is mental retardation.




Reasons for Increased Vigilance

- Autism can be identified early in development, and...
- Early intervention is an important determinant of the course of autism.




Reasons for Increased Vigilance

- Not all cases of autism will be identified before school entry.
 - Average Age of Autistic Disorder identification is 5 1/2 years of age.
 - Average Age of Asperger's Disorder identification is 11 years of age Howlin and Asgharian (1999).



Reasons for Increased Vigilance

- Most children with autism are identified by school resources.
 - Only three percent of children with ASD are identified solely by non-school resources.
 - All other children are identified by a combination of school and non-school resources (57 %), or by school resources alone (40 %) Yeargin-Allsopp et al. (2003).



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Diagnostic Classifications

Pervasive Developmental Disorders

- Autistic Disorder
- Asperger's Disorder
- PDD-NOS
- Rett's Disorder
- Childhood Disintegrative Disorder


In this lecture the terms "Autism," or "Autistic Spectrum Disorders (ASD)" will be used to indicate these PDDs.

Special Education Eligibility: IDEIA Regulations

- IDEIA 2004 Autism Classification
 - P.L. 108-446, Individuals with Disabilities Education Improvement Act (IDEIA), 2004
 - USDOE Regulations for IDEA 2004 [§ 300.8(c)(1)]
 - *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 education performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotypical movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences. (i) Autism does not apply if a child's educational performance is adversely affected primarily because the child has an emotional disturbance, as defined in paragraph (c)(4) of this section. (ii) A child who manifest the characteristics of autism after age three could be identified as having autism if the criteria in paragraph (c)(1)(i) of this section are satisfied.*


Special Education Eligibility

- For special education eligibility purposes distinctions among PDDs may not be relevant.
- While the diagnosis of Autistic Disorder requires differentiating its symptoms from other PDDs, Shriver et al. (1999) suggest that for special education eligibility purposes "the federal definition of 'autism' was written sufficiently broad to encompass children who exhibit a range of characteristics" (p. 539) including other PDDs.




Special Education Eligibility

- However, it is less clear if students with milder forms of ASD are always eligible for special education.
- Adjudicative decision makers almost never use the *DSM IV-TR* criteria exclusively or primarily for determining whether the child is eligible as autistic" (Fogt et al.,2003).
- While *DSM IV-TR* criteria are often considered in hearing/court decisions, *IDEA* is typically acknowledged as the "controlling authority."
- When it comes to special education, it is state and federal education codes and regulations (not *DSM IV-TR*) that drive eligibility decisions.



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Educator Roles, Responsibilities, and Limitations

1. All educators need to be more vigilant for symptoms of autism among the students that they serve, and better prepared to assist in the process of identifying these disorders.

Educator Roles, Responsibilities, and Limitations

2. Case Finding

- **All educators should be expected to participate in case finding** (i.e., routine developmental surveillance of children in the general population to recognize risk factors and identify warning signs of autism).
 - This would include training general educators to identify the risk factors and warning signs of autism.

Educator Roles, Responsibilities, and Limitations

3. Screening

- **All school psychologists should be prepared to participate in the behavioral screening of the student who has risk factors and/or displays warning signs of autism** (i.e., able to conduct screenings to determine the need for diagnostic assessments).
- **All school psychologists should be able to distinguish between screening and diagnosis.**


4. Diagnosis

- Only those educators with appropriate training and supervision should diagnose a specific autism spectrum disorder.

Educator Roles, Responsibilities, and Limitations


5. Special Education Eligibility

- **All special educators should be expected to conduct the special education eligibility evaluations that determine educational needs.**
- NOTE:
 - The ability to conduct such assessments will require special educators to be knowledgeable of the accommodations necessary to obtain valid test results when working with the child who has an ASD.




Presentation Outline

- Introduction: Reasons for Increased Vigilance
- Diagnostic Classifications and Special Education Eligibility
- School Psychologist Roles, Responsibilities, and Limitations
- **Case Finding**
- Screening and Referral
- Assessment: Diagnostic and Psycho-educational Evaluation




Case Finding

- Known Risk Factors
 - High Risk
 - Having an older sibling with autism.
 - Moderate Risk
 - The diagnosis of tuberous sclerosis, fragile X, or epilepsy.
 - A family history of autism or autistic-like behaviors.



Case Finding


- Currently there is no substantive evidence supporting any one non-genetic risk factor for ASD.
- However, given that there are likely different causes of ASD, it is possible that yet to be identified non-heritable risk factors may prove to be important in certain subgroups of individuals with this disorder.



Case Finding

- **Infant & Preschooler Warning Signs**
 - **Absolute indications for an autism screening**
 - No big smiles or other joyful expressions by 6 months.^b
 - No back-and-forth sharing of sounds, smiles, or facial expressions by 9 months.^b
 - No back-and-forth gestures, such as pointing, showing, reaching or waving bye-bye by 12 months.^{a,b}
 - No babbling at 12 months.^{a, b}
 - No single words at 16 months.^{a, b}


Sources: ^aFilipek et al., 1999; ^bGreenspan, 1999; and ^cOzonoff, 2003.



Case Finding

- **Infant & Preschooler Warning Signs**
 - **Absolute indications for an autism screening**
 - No 2-word spontaneous (noncholalic) phrases by 24 months.^{a, b}
 - Failure to attend to human voice by 24 months.^c
 - Failure to look at face and eyes of others by 24 months.^c
 - Failure to orient to name by 24 months.^c
 - Failure to demonstrate interest in other children by 24 months.^c
 - Failure to imitate by 24 months.^c
 - Any loss of any language or social skill at any age.^{a, b}


Sources: ^aFilipek et al., 1999; ^bGreenspan, 1999; and ^cOzonoff, 2003.



Case Finding

- **School-Age Children Warning Signs**
 - **Social/Emotional Concerns**
 - Poor at initiating and/or sustaining activities and friendships with peers
 - Play/free-time is more isolated, rigid and/or repetitive, less interactive
 - Atypical interests and behaviors compared to peers
 - Unaware of social conventions or codes of conduct (e.g., seems unaware of how comments or actions could offend others)
 - Excessive anxiety, fears or depression
 - Atypical emotional expression (emotion, such as distress or affection, is significantly more or less than appears appropriate for the situation)


Sources: Adapted from *Asperger's Syndrome A Guide for Parents and Professionals* (Attwood, 1998), *Diagnostic and Statistical Manual of Mental Disorders, 4th ed.* (APA, 1994), and *The Asperger Syndrome Diagnostic Scale* (Myles, Bock and Simpson, 2000).



Case Finding

- **School-Age Children Warning Signs**
 - **Communication Concerns**
 - Unusual tone of voice or speech (seems to have an accent or monotone, speech is overly formal)
 - Overly literal interpretation of comments (confused by sarcasm or phrases such as "pull up your socks" or "looks can kill")
 - Atypical conversations (one-sided, on their focus of interest or on repetitive/unusual topics)
 - Poor nonverbal communication skills (eye contact, gestures, etc.)


Sources: Adapted from Asperger's Syndrome A Guide for Parents and Professionals (Attwood, 1998), Diagnostic and Statistical Manual of Mental Disorders, 4th ed. (APA, 1994), and The Asperger Syndrome Diagnostic Scale (Myles, Bock and Simpson, 2000)



Case Finding

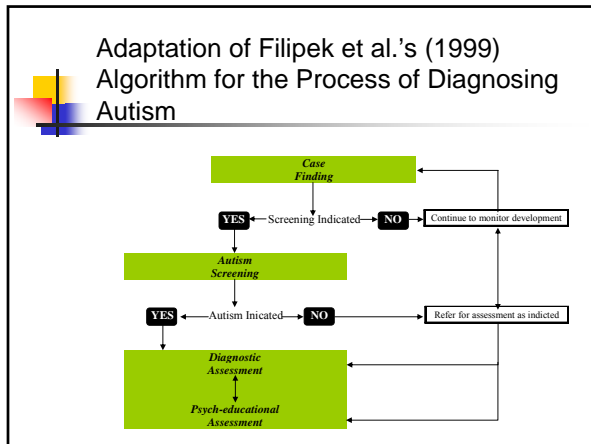
- **School-Age Children Warning Signs**
 - **Behavioral Concerns**
 - Excessive fascination/perseveration with a particular topic, interest or object
 - Unduly upset by changes in routines or expectations
 - Tendency to flap or rock when excited or distressed
 - Unusual sensory responses (reactions to sound, touch, textures, pain tolerance, etc.)
 - History of behavioral concerns (inattention, hyperactivity, aggression, anxiety, selective mute)
 - Poor fine and/or gross motor skills or coordination

Sources: Adapted from Asperger's Syndrome A Guide for Parents and Professionals (Attwood, 1998), Diagnostic and Statistical Manual of Mental Disorders, 4th ed. (APA, 1994), and The Asperger Syndrome Diagnostic Scale (Myles, Bock and Simpson, 2000)



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- **Screening and Referral**
- Assessment: Diagnostic and Psycho-educational Evaluation



Screening and Referral

- Screening is designed to help determine the need for additional diagnostic assessments.
- In addition to the behavioral screening (which at school should typically be provided by the school psychologist), screening should include medical testing (lead screening) and a complete audiological evaluation.

Behavioral Screening for ASD

- School psychologists are exceptionally well qualified to conduct the behavioral screening of students suspected to have an ASD.
- Several screening tools are available
- Initially, most of these tools focused on the identification of ASD among infants and preschoolers.
- Recently screening tools useful for the identification of school aged children who have high functioning autism or Asperger's Disorder have been developed.

Behavioral Screening of Infants and Preschoolers

- **Modified Checklist for Autism in Toddlers (M-CHAT)**
 - Designed to screen for autism at 24 months of age.
 - More sensitive to the broader autism spectrum.
 - Uses the 9 items from the original CHAT as its basis.
 - Adds 14 additional items (23-item total).
 - Unlike the *CHAT*, however, the *M-CHAT* does not require the screener to directly observe the child.
 - Makes use of a Yes/No format questionnaire.
 - Yes/No answers are converted to pass/fail responses by the screener.
 - A child fails the checklist when 2 or more of 6 critical items are failed **or** when any three items are failed.

Behavioral Screening of Infants and Preschoolers

- **Modified Checklist for Autism in Toddlers (M-CHAT)**
 - The *M-CHAT* was used to screen 1,293 18- to 30-month-old children. 58 were referred for a diagnostic/developmental evaluation. 39 were diagnosed with an autism spectrum disorder (Robins et al., 2001).
 - Will result in false positives.
 - Data regarding false negative is not currently available, but follow-up research to obtain such is currently underway.

Modified Checklist for Autism in Toddlers

Modified Checklist for Autism in Toddlers (M-CHAT)

Please fill out the following about how your child **usually** is. Please try to answer every question. If the behavior is rare (e.g., you've seen it once or twice), please answer as if the child does not do it.

1.	Does your child enjoy being swung, bounced on your knee, etc.?	Yes	No
2.	Does your child take an interest in other children?	Yes	No
3.	Does your child like climbing on things, such as up stairs?	Yes	No
4.	Does your child enjoy playing peek-a-boo/hide-and-seek?	Yes	No
5.	Does your child ever pretend, for example, to talk on the phone or talk <i>into</i> of?		No
6.	Does your child ever use his/her index finger to point, to ask for something?		No
7.	Does your child ever use his/her index finger to point, to indicate interest in		No
8.	Can your child play properly with small toys (e.g. cars or bricks) without <i>rust</i> ?		No
9.	Does your child ever bring objects over to you (parent) to show you something?		No
10.	Does your child look you in the eye for more than a second or two?	Yes	No
11.	Does your child ever seem oversensitive to noise? (e.g., plugging ears)	Yes	No

Robins et al. (2001, p. 142)

Modified Checklist for Autism in Toddlers

Modified Checklist for Autism in Toddlers (M-CHAT)

Please fill out the following about how your child **usually** is. Please try to answer every question. If the behavior is rare (e.g., you've seen it once or twice), please answer as if the child does not do it.

13.	Does your child imitate you? (e.g., you make a face-will your child imitate it?)		No
14.	Does your child respond to his/her name when you call?	Yes	No
15.	If you point at a toy across the room, does your child look at it?	Yes	No
16.	Does your child walk?	Yes	No
17.	Does your child look at things you are looking at?	Yes	No
18.	Does your child make unusual finger movements near his/her face?	Yes	No
19.	Does your child try to attract your attention to his/her own activity?	Yes	No
20.	Have you ever wondered if your child is deaf?	Yes	No
21.	Does your child understand what people say?	Yes	No
22.	Does your child sometimes stare at nothing or wander with no purpose?		No
23.	Does your child look at your face to check your reaction when faced with...		No

Robins et al. (2001, p. 142)

Modified Checklist for Autism in Toddlers

M-CHAT Scoring Instructions

A child fails the checklist when 2 or more critical items are failed OR when any three items are failed. Yes/no answers convert to pass/fail responses. Below are listed the failed responses for each item on the M-CHAT. Bold capitalized items are CRITICAL items.

Not all children who fail the checklist will meet criteria for a diagnosis on the autism spectrum. However, children who fail the checklist should be evaluated in more depth by the physician or referred for a developmental evaluation with a specialist.

1. No	6. No	11. Yes	16. No	21. No
2. NO	7. NO	12. No	17. No	22. Yes
3. No	8. No	13. NO	18. Yes	23. No
4. No	9. NO	14. NO	19. No	
5. No	10. No	15. NO	20. Yes	

Robins et al. (2001)

Modified Checklist for Autism in Toddlers

<http://www.firstsigns.org/downloads/m-chat.PDF>

Behavioral Screening of School Age Children

- **Childhood Asperger Syndrome Test (CAST)**
 - Scott, F. A., Baron-Cohen, S., Bolton, P., & Brayne, C. (2002). The CAST (Childhood Asperger Syndrome Test). *Autism*, 6, 9-31.
 - A screening for mainstream primary grade (ages 4 through 11 years) children.
 - Has 37 items, with 31 key items contributing to the child's total score.
 - The 6 control items assess general development.
 - With a total possible score of 31, a cut off score of 15 "NO" responses was found to correctly identify 87.5 (7 out of 8) of the cases of autistic spectrum disorders.
 - Rate of false positives is 36.4%.
 - Rate of false negatives is not available

Childhood Asperger Syndrome Test

Childhood Asperger Syndrome Test (CAST)


1. Does she join in playing games with other children easily?	YES	NO
2. Does she come up to you spontaneously for a chat?	YES	NO
3. Was she speaking by 2 years old?	YES	NO
4. Does she enjoy sports?	YES	NO
5. Is it important to her to fit in with the peer group?	YES	NO
6. Does she appear to notice unusual details that others miss?	YES	NO
7. Does she tend to take things literally?	YES	NO
8. When she can't see or feel that she wants, but at the same time has to do something, does she do it because of the consequences?	YES	NO
9. Does she like to do things over and over again, in the same way all the time?	YES	NO
10. Does she find it easy to interact with other children?	YES	NO
11. Can she keep a two-way conversation going?	YES	NO
12. Can she read appropriately for her age?	YES	NO
13. Does she usually have the same interest as her peers?	YES	NO
14. Does she have an interest which takes up so much time that she does little else?	YES	NO
15. Does she have friends, rather than just acquaintances?	YES	NO
16. Does she often bring you things she is interested in to show you?	YES	NO

From Scott et al. (2002, p. 27)

Childhood Asperger Syndrome Test


17. Does she have a hobby?	YES	NO
18. Does she have difficulty understanding the rules for public behavior?	YES	NO
19. Does she appear to have an unusual manner for adults?	YES	NO
20. Is her hair nice, combed (e.g., with a comb, hair or very neatness)?	YES	NO
21. Are people important to her?	YES	NO
22. Can she draw lines herself?	YES	NO
23. Is she good at copying writing to a computer?	YES	NO
24. Does she play independently with other children, and engage in role play?	YES	NO
25. Does she often do or say things that are unusual or socially inappropriate?	YES	NO
26. Can she count to 10 without having to see numbers?	YES	NO
27. Does she make marked eye contact?	YES	NO
28. Does she have any unusual facial expressions?	YES	NO
29. Is she the most obedient, most well-behaved child in her class?	YES	NO
30. Does she like to know the names of things (e.g., the names of things)?	YES	NO
31. Does she often play the computer to her? (e.g., does she play a video game, or does she play a board game?)	YES	NO
32. Can she read a block of text if she understands?	YES	NO
33. Does she like to know the names of things (e.g., the names of things)?	YES	NO
34. Does she often play the computer to her? (e.g., does she play a video game, or does she play a board game?)	YES	NO
35. Does she like to know the names of things (e.g., the names of things)?	YES	NO
36. Does she often play the computer to her? (e.g., does she play a video game, or does she play a board game?)	YES	NO
37. Does she like to know the names of things (e.g., the names of things)?	YES	NO

From Scott et al. (2002, pp. 27-28)




Childhood Asperger Syndrome Test

http://www.autismresearchcentre.com/tests/cast_test.asp



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Autistic Disorder Diagnostic Criteria

A. A total of six (or more) items for (1), (2), and (3), with at least two from (1), and one each for (2) and (3):

- (1) qualitative impairment in social interaction, as manifested by at least two of the following:
 - marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures 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 lack of showing, bringing, or pointing out objects of interest)
 - lack of social or emotional reciprocity




Autistic Disorder Diagnostic Criteria

A. A total of six (or more) items for (1), (2), and (3), with at least two from (1), and one each for (2) and (3):

(2) qualitative impairments in communication as manifested by at least one of the following:

- 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)
- in individuals with adequate speech, 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





Autistic Disorder Diagnostic Criteria

A. A total of six (or more) items for (1), (2), and (3), with at least two from (1), and one each for (2) and (3):

(3) restricted repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:


- 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





Autistic Disorder Diagnostic Criteria

B. Delays or abnormal functioning in at least one of the following areas, with onset prior to age 3 years: (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 Disintegrative Disorder.






Other ASDs


- Asperger's Disorder
 - The criteria for Asperger's Disorder are essentially the same as Autistic Disorder with the exception that there are no criteria for a qualitative impairment in communication.
 - In fact Asperger's criteria require "... no clinically significant general delay in language (e.g., single words used by 2 years, communicative phrases used by 3 years)".






Other ASDs


- Childhood Disintegrative Disorder (CDD)
 - Criteria are essentially the same as Autistic Disorder.
 - Difference include that in CDD there has been ...
 - (a) "Apparently normal development for at least the first 2 years after birth as manifested by the presence of age-appropriate verbal and nonverbal communication, social relationships, play, and adaptive behavior;" and that there is
 - (b) "Clinically significant loss of previously acquired skills (before age 10 years) in at least two of the following areas:
 1. expressive or receptive language;
 2. social skills or adaptive behavior;
 3. bowel or bladder control;
 4. play;
 5. motor-skills."






Other ASDs


- Rett's Disorder
 - Both Autistic Disorder and Rett's Disorder criteria include delays in language development and social engagement (although social difficulties many not be as pervasive).
 - Unlike Autistic Disorder, Rett's also includes
 - (a) head growth deceleration,
 - (b) loss of fine motor skill,
 - (c) poorly coordinated gross motor skill, and
 - (d) severe psychomotor retardation.






Symptom Onset


- Autistic Disorder is before the age of three years.
 - Before three years, their must be "delays or abnormal functioning" in at least one of the following areas: (a) social interaction, (b) social communicative language, and/or (c) symbolic or imaginative play.
- Asperger's Disorder may be somewhat later.
- Childhood Disintegrative Disorder is before the age of 10 years.
 - Preceded by at least two years of normal development.
- Rett's Disorder is before the age of 4 years.
 - Although symptoms are usually seen by the second year of life.






Developmental Course


- Autistic Disorder:
 - Parents may report having been worried about the child's lack of interest in social interaction since or shortly after birth.
 - In a few cases the child initially developed normally before symptom onset. However, such periods of normal development must not extend past age three.
 - Duration of Autistic Disorder is typically life long, with only a small percentage being able to live and work independently and about 1/3 being able to achieve a partial degree of independence. Even among the highest functioning adults symptoms typically continue to cause challenges.






Developmental Course


- Asperger's Disorder:
 - Motor delays or clumsiness may be some of the first symptoms noted during the preschool years.
 - Difficulties in social interactions, and symptoms associated with unique and unusually circumscribed interests, become apparent at school entry.
 - Duration is typically lifelong with difficulties empathizing and modulating social interactions displayed in adulthood.
- Rett's and Childhood Disintegrative Disorders:
 - Lifelong conditions.
 - Rett's pattern of developmental regression is generally persistent and progressive. Some interest in social interaction may be noted during later childhood and adolescence.
 - The loss of skills associated with Childhood Disintegrative Disorder plateau after which some limited improvement may occur.






Associated Features


- Asperger's Disorder is the only ASD not typically associated with some degree of mental retardation.
- Autistic Disorder is associated with moderate mental retardation. Other associated features include:
 - unusual sensory sensitivities
 - abnormal eating or sleeping habits
 - unusual fearfulness of harmless object or lack of fear for real dangers
 - self-injurious behaviors
- Childhood Disintegrative Disorder is associated with severe mental retardation.
- Rett's Disorder is associated with severe to profound mental retardation.






Age Specific Features


- Chronological age and developmental level influence the expression of Autistic Disorder.
 - Thus, assessment must be developmentally sensitive.
 - For example, infants may fail to cuddle; show indifference or aversion to affection or physical contact; demonstrate a lack of eye contact, facial responsiveness, or socially directed smiles; and a failure to respond to their parents' voices.
 - On the other hand, among young children, adults may be treated as interchangeable or alternatively the child may cling to a specific person.






Gender Related Features


- With the exception of Rett's Disorder, which occurs only among females, all other ASDs appear to be more common among males than females.
 - The rate is four to five times higher in males than in females.






Developmental and Health History

- Health History (pre- and perinatal factors)
 - General obstetric status
 - Given the suggestion that there is some prenatal cause of autism and there is no strong relationship with any specific factor, summary measures have been considered (Newschaffer et al., 2002).
 - Greater maternal age and threatened miscarriage were the strongest factors (Glasson et al., 2004).
 - Maternal infections
 - Measles, Mumps, & Rubella; Influenza; Cytomegalovirus; Herpes; Syphilis; HIV (Newschaffer et al., 2002).
 - Drug exposure
 - Thalidomide and Valproate taken early (20 to 24 weeks) in the pregnancy (Newschaffer et al., 2002).



Developmental and Health History

- Health History (infancy & childhood factors)
 - Infection (Newschaffer et al., 2002)
 - Case studies have documented sudden onset of ASD symptoms in older children after herpes encephalitis.
 - Infections that can result in secondary hydrocephalus, such as meningitis, have also been implicated in the etiology of ASD.
 - Common viral illnesses in the first 18 months of life (e.g., mumps, chickenpox, fever of unknown origin, and ear infection) have been associated with ASD.
 - Chemical exposure and MMR?
 - Available data does not support these as risk factors (Madsen et al., 2002).




Developmental and Health History

- Health History (infancy & childhood factors)
 - Head circumference (Courchesne et al., 2003).
 - Slightly reduced head size at birth.
 - Excessive increase between 1 to 2 and 6 to 14 months.
 - "A complete medical history and review of systems are important, with an emphasis on symptoms relevant to medical conditions known to be related to autism" (Hansen & Hagerman, 2003, p. 100).




Developmental and Health History

- Medical History
 - Vision and hearing
 - Chronic ear infections (and tube placement)
 - Immune dysfunction (e.g., frequent infections)
 - Autoimmune disorders (e.g., thyroid problems, arthritis, rashes)
 - Allergy history (e.g., to foods or environmental triggers)
 - Gastrointestinal symptoms (e.g., diarrhea, constipation, bloating, abdominal pain)



Developmental and Health History

- Diagnostic History (Deisinger, 2001)
 - ASD is sometimes observed in association other neurological or general medical conditions (APA, 2000).
 - Mental Retardation (up to 80%, APA, 2000)
 - Epilepsy (3-30%, APA, 2000; Hansen & Hagerman, 2003)
 - May develop in adolescence
 - EEG abnormalities common even in the absence of seizures
 - Genetic Disorders (Hansen & Hagerman, 2003)
 - 10-20% of ASD have a neurodevelopmental genetic syndrome
 - Tuberous Sclerosis (found in 2-4% of children with ASD)
 - Fragile X Syndrome (found in 2-8% of children with ASD)



Developmental and Health History

- Family History (Hansen & Hagerman, 2003)
 - Epilepsy
 - Mental Retardation
 - Genetic Conditions
 - Tuberous Sclerosis Complex
 - Fragile X Syndrome
 - Schizophrenia
 - Anxiety
 - Depression
 - Bipolar disorder
 - Other genetic condition or chromosomal abnormality




Developmental and Health History

- **Developmental Milestones** (Deisinger, 2001).
 - Normal motor development and delayed language development (Mayes & Calhoun, 2003)
 - Concerns about a hearing loss
 - Social development
 - Atypical play
 - Lack of social interest
 - Regression (Baird et al., 2003)




Developmental and Health History

- **Behavioral History**
 - Case finding questions




Diagnostic Assessments

- **Indirect Assessment**
 - Interviews and Questionnaires/Rating Scales
 - Easy to obtain
 - Reflect behavior across settings
 - Subject to interviewee/rater bias
- **Direct Assessment**
 - Behavioral Observations
 - More difficult to obtain
 - Reflect behavior within limited settings
 - Not subject to interviewee/rater bias




Psycho-educational Assessment

- Purposes
 - Develop goals and objectives (which are similar to those developed for other children with special needs).
 - To make progress in social and cognitive proficiencies, verbal and nonverbal communication abilities, and adaptive skills.
 - To minimize behavioral problems.
 - To generalize competencies across multiple environments.




Testing Accommodations

- The core deficits of autism can significantly impact test performance.
 - Impairments in communication may make it difficult to respond to verbal test items and/or generate difficulty understanding the directions that accompany nonverbal tests.
 - Impairments in social relations may result in difficulty establishing the necessary joint attention.
- Examiners must constantly assess the degree to which tests being used reflect symptoms of autism and not the specific targeted abilities (e.g., intelligence, achievement, psychological processes).



Behavioral Observations

- Students with ASD are a very heterogeneous group, and in addition to the core features of ASD, it is not unusual for them to display a range of behavioral symptoms including hyperactivity short attention span impulsivity, aggressiveness, self-injurious behavior, and (particularly in young children) temper tantrums.
- Observation of the student with ASD in typical environments will also facilitate the evaluation of test taking behavior.
- Observation of test taking behavior may also help to document the core features of autism.



Next Week

- Research normal early and middle childhood development.
- Read Ormrod, chapter 11.
- From assigned reading and/or independent research write 3 discussion questions.
