The New DSM 5 & Autism

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Faculty Disclosure

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DSM IV - Pervasive Developmental Disorders, Autism Spectrum Disorders

- Autistic disorder, high functioning autism
- Asperger’s disorder
- PDD NOS
- Rett’s syndrome
- Childhood Disintegrative Disorder

Autism Spectrum Disorders Signs and Symptoms

- Impaired social interaction
  - Lack of empathy, impaired nonverbal communication, failure to develop relationships, lack of reciprocity

Autism and Impaired Social Skills

- Children with autism attach to their mothers.
- Do not engage in attention-sharing behaviors.
- Do not recognize emotional expression, gesture, and non-verbal vocalizations.
- Do not know social (pragmatic) rules of interpersonal communication.
- Deficit in joint attention, theory of mind, affective reciprocity.

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Autism Spectrum Disorders Signs and Symptoms (cont’d)

- Restricted, repetitive, stereotyped behaviors
  - Excessive circumscribed preoccupations, inflexible, motor mannerisms, preoccupation with parts of whole, difficulty with transitions
- Language abnormalities
- No significant language delay or cognitive delay in Asperger’s syndrome, not schizophrenia

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Autism Spectrum Disorder (DSM-5)

- New name for category which included autistic disorder, Asperger’s disorder, childhood disintegrative disorder, and pervasive developmental disorder NOS.
- Three domains become two:
  1. Social/communication deficits
  2. Restricted, repetitive patterns of behavior, interests, or activities
- Several social/communication criteria were merged and streamlined to clarify diagnostic requirements.

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ASD DSM-5 Criteria

Meet criteria A, B, C, D & E including all 3 in A

A. Persistent deficits in social communication and social interaction across contexts:
- Social-emotional reciprocity (e.g. sharing interests, emotions, or affect; initiation; response)
- Non-verbal communicative behaviors (e.g. eye contact, body language, facial expression, gestures)
- Developing, maintaining & understanding relationships (e.g. adjusting behavior, imaginative play, making friends)
ASD DSM-5: Criteria (cont)

B. Restricted, repetitive patterns of behavior, interests or activities; at least 2 of the following:
   • Stereotyped/repetitive speech, motor movements or use of objects
   • Excessive adherence to routines/rituals or excessive resistance to change
   • Highly restricted fixated interest, abnormal in intensity or focus
   • Hyper/hypo reactivity to sensory input or unusual interest in sensory aspects of the environment

ASD DSM-5: Severity Level

3 levels of severity (not for service eligibility)
   • Level 1: Requiring Support (HFA)
     – Difficulty initiating social interaction
     – RRB’s cause significant interference
   • Level 2: Requiring Substantial Support
     – Marked deficits in verbal and nonverbal skills
     – RRB’s obvious to causal observer; distress
   • Level 3: Requiring Very Substantial Support
     – Severe deficits in verbal and nonverbal skills
     – Preoccupations & RRB’s markedly interfere

ASD DSM-5: Criteria (cont)

C. Symptoms must be present in early childhood (but may not become fully manifest until social demands exceed limited capacities; or masked by learned strategies)

D. Symptoms cause clinically significant impairment

E. Not better explained by Intellectual Disability (ID) or Global Developmental Delay

ASD DSM-5 Notes and Specifiers

• Note: Individuals with a well-established DSM-IV diagnosis of autistic disorder, Asperger’s disorder or PDD-NOS should be given the diagnosis of ASD
• Specify if
  – W or W/O intellectual impairment
  – W or W/O language impairment
  – Associated with known medical or genetic condition or environmental factor (Rett’s, epilepsy, FAS)
  – Associated with another neurodevelopmental, mental or behavioral disorder (ADHD, dev coordination d/o, disruptive behavior, impulse –control or CD, etc)
  – With catatonia (slowing, freezing)
**ASD DSM-5: Other:**

- Receptive and expressive language considered separately
- RRB’s were present during childhood but may not be present in adulthood
- Best predictors of prognosis are the association of ID and/or language impairment
- 15% associated with known genetic mutation

**ASD Differential DX (DSM-5):**

- Rett Syndrome
- Selective Mutism
- Language Disorders and Social (pragmatic) Communication Disorder
- Intellectual Disability (ID) w/o ASD
- Stereotyped Movement Disorder
- Attention-Deficit Hyperactivity Disorder (ADHD)
- Schizophrenia

**ASD Comorbidity (DSM-5):**

- 70% with ASD may have one comorbid disorder and 40% may have 2 or more
- ID and structural language disorder
- ADHD
- Developmental coordination disorder
- Anxiety Disorders
- Depressive Disorders
- Bipolar Disorder
- Aggression – 53% - younger; assoc with medical comorbidities
- Sleep, feeding, GI issues

**Social (Pragmatic) Communication Disorder**

A. Persistent difficulties in pragmatic or social uses of verbal & nonverbal communication

- Deficits in using communication for social purposes in appropriate manner
- Impairment in ability to change communication to match context
- Difficulties following rules for conversation and storytelling (e.g. taking turns, rephrasing)
- Difficulties understanding what is not explicitly stated and nonliteral or ambiguous meanings of language

1Mazurek MO Research in ASD, 2013; 455-465
Social (Pragmatic) Communication Disorder

B. Deficits result in functional limitations
C. Onset is in early developmental period (but deficits may not become manifest until later)
D. Symptoms not attributable to another medical or neurological condition or to low abilities in word structure or grammar or better explained by ASD, ID, GDD or another mental disorder.

Global Developmental Delay

- Children under age 5 when the clinical severity level cannot be reliably assessed.
- Fails to meet expected developmental milestones in several areas.

Language Delay DDx

- Autism Spectrum Disorder
- Hearing loss
- Mental retardation
- Expressive-receptive language disorder
- Verbal Apraxia
- Seizures (e.g. Landau-Kleffner Syndrome; acquired epileptic aphasia)
- Neurodegenerative Disorder
- Mitochondrial/metabolic Disorder

Social (Pragmatic) Communication Disorder

- Result in functional limitations in effective communication, social participation, social relationships, academic achievement, or occupational performance
- ADHD, behavioral problems and LD more common.
- Outcome is variable
- Fam Hx of ASD, communication disorders or LD more common
- DDX – ASD, ADHD, Social anxiety disorder, ID and GDD

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ADHD and ASD

- Clinically significant symptoms of ADHD have been reported in 16 to 66% of children with ASD\(^1\)
- Greater impairment in adaptive functioning and poorer health related quality of life in children with ASD and ADHD than when there are fewer ADHD symptoms\(^2\)
- Now allowed as a comorbidity in DSM-5

\(^1\)Hanson, JADD, 2012 epub; Sikora, Pediatrics 2012, 130:2:s91-7;

Justification & Controversy Regarding Change

- No consistent differences in diagnostic practices for autism, Asperger’s disorder, and PDD NOS
- Lack of evidence for differentiation
- Delays in language not unique or universal
- Diagnosis may change over time
- Problem with loss of identity, stigma, and qualification for services
- Comparative testing and field testing not conclusive
- More severely affected children not likely to lose dx


Asperger’s Disorder and DSM 5

- Meta-analysis of 52 studies
  - Individuals with AspD had significantly higher full-scale IQ, verbal IQ (VIQ), and performance IQ (PIQ) than did individuals with HFA;
  - individuals with AspD had significantly higher VIQ than PIQ; and (c) VIQ was similar to PIQ in individuals with HFA.
  - These findings seem to suggest that AspD and HFA are two different subtypes of Autism.
  (Chiang HM et al, JADD, 2013, Dec 22)

Asperger’s Disorder and DSM-5

- 125 studies compared AsD and AD
  - 30 studies concluded that AsD and AD were similar conditions while 95 studies found quantitative and qualitative differences between them.
  - 37 studies compared PDDNOS with AD. Nine of these concluded that PDDNOS did not differ significantly from AD while 28 reported quantitative and qualitative differences between them.
  - These findings do not support the conceptualization of AD, AsD and PDDNOS as a single category of ASD.
  (Tsai & Ghaziuddin, JADD, 2013, Jun 27)
**Prevalence of ASD with DSM-5**

- Of 210 participants who met DSM-IV-TR criteria for a PDD [i.e., autistic disorder, Asperger’s disorder and pervasive developmental disorder-not otherwise specified (PDD-NOS)], only 57.1% met DSM-5 criteria (specificity = 1.0) for autism spectrum disorder when criteria during diagnostic assessment.
- High-functioning individuals (i.e., Asperger’s disorder and PDD-NOS) were less likely to meet DSM-5 criteria than those with autistic disorder.
- A failure to satisfy all three criteria in the social-communication domain was the most common reason for exclusion (39%).

(Young & Rodi, JADD, 2013, Sep 22)

**Prevalence of ASD with DSM-5**

- 4,453 children with DSM-IV clinical PDD diagnoses and 690 with non-PDD diagnoses (e.g., language disorder). Items from ADI-R and ADOS were matched to DSM-5 criteria and current DSM-IV criteria when compared with clinical diagnoses.
- Based on just parent data, the proposed DSM-5 criteria identified 91% of children with clinical DSM-IV PDD diagnoses. Sensitivity remained high in specific subgroups, including girls and children under 4.
- The specificity of DSM-5 ASD was 0.53 overall, while the specificity of DSM-IV ranged from 0.24, for clinically diagnosed PDD not otherwise specified (PDD-NOS), to 0.53, for autistic disorder.


**Prevalence of ASD with DSM-5**

- Among the 6577 children classified by the ADDM Network as having ASD based on the DSM-IV-TR, 5339 (81.2%) met DSM-5 ASD criteria.
- Similar for boys and girls but higher for those with than without ID (86.6% and 72.5%, respectively; P<0.001).
- 304 children met DSM-5 ASD criteria but not current ADDM Network ASD case status.
- ASD prevalence per 1000 for 2008 would have been 10.0 (95% CI, 9.6-10.3) using DSM-5 criteria compared with the reported prevalence based on DSM-IV-TR criteria of 11.3 (95% CI, 11.0-11.7).


**Opinions on DSM 5 ASD**

Opinions on DSM 5 ASD (cont)


Case Presentation

Identifying Information
Arthur, a 10 year old boy lives with his parents, an older sister and a younger brother.

Chief Complaint
Arthur’s parents are seeking a second opinion about possible diagnoses of attention-deficit/hyperactivity disorder (ADHD) and obsessive-compulsive disorder (OCD). They mention having recently read an article describing autism that gave them new insight regarding possible causes for their son’s behavioral problems.

History of Present Illness
Arthur’s behaviors of concern have been present since early childhood. He is easily distracted, fidgety, always out of his seat, and unable to wait his turn. The compulsive and rigid behaviors that he has exhibited since he was much younger have become more pronounced. He does not do well if there are changes in his routine. He becomes upset if his mother does not always drive the same route, and he flies into a rage if she changes their afternoon schedule. Arthur’s early preoccupation with cars has intensified. At school he responds angrily if rules are not followed exactly as he thinks they should be.

Arthur’s parents feel that his play behavior has always been unusual. He is more interested in taking toys apart than engaging in pretend play. He makes no effort to interact with children in the neighborhood and does not know how to respond when they approach him. He struggles to share and take turns at school. His teacher and the principal view his behavior as oppositional. His parents, however, suspect that he has difficulty understanding the give and take in relationships.

Past Psychiatric History
Arthur’s parents had vague concerns during his first year as it was difficult to get him to smile back at them. From the time he was a toddler he seemed less emotionally expressive and “harder to read” than his siblings. As a preschooler he did not enjoy playing dress up or other imaginative games. He displayed no empathy towards children who may have injured themselves while playing or who were emotionally upset and he made no efforts to comfort them.

When he entered kindergarten at age 5, Arthur behaved aggressively towards classmates when they invaded his physical space. He appeared not to understand how to engage with other children in conversation or in play. He did not participate in group games such as hide-and-seek and did not join in
when the other children were pretending to be Super Heroes. At recess he usually went off by himself. As Arthur progressed through the early elementary grades, his behavior problems worsened. He was frequently suspended from school because he would become agitated and aggressive especially in loud and overstimulating settings such as the playground at recess.

Medical History
Over the years, his parents obtained several evaluations for Arthur, including psychoeducational testing. A psychiatrist prescribed several medications including clonidine, stimulants and Paxil. None were effective and each caused unpleasant side effects.

A neurologist evaluated Arthur at age 6 because his parents reported that he periodically "spaced out." The results of the electroencephalogram and hearing and vision tests were normal. The neurologist noted motor clumsiness, difficulty holding a pencil correctly, and poor handwriting.

Developmental History
Arthur was the product of a normal, full-term pregnancy and uncomplicated delivery. No problems were noted during his early infancy. He walked at age 12 months and began using single words between 24 and 28 months. He rapidly progressed from using single words to using complex sentences. Although grammatically correct, his speech had a stilted and pedantic quality. He often greeted other people by asking them what make and model car they owned and then recited a list of facts about them. His parents often had to prompt him to respond to others' comments and to look at them while speaking.

Finding adequate educational services for Arthur has been difficult. On numerous psychoeducational assessments, his IQ has been in the average range with superior to gifted abilities in information and block design. Despite Arthur's high cognitive abilities, he was withdrawn from a regular classroom due to his behavior problems, including inattention and impulsivity, and placed in an alternative program for children with severe behavior disturbances. He was lost in this program and easily targeted for teasing by his more socially competent classmates.

Social History
Arthur's parents are college educated professionals. There are no significant family stressors and no history of abuse or neglect.

Family History
A second-degree relative on the paternal side has ADHD. No other psychiatric or learning problems are present in either parent or the extended family.

Mental Status Examination
Arthur was an appropriately dressed, attractive 10-year-old boy. He appeared restless, fidgeting in his seat. He was not interested in answering questions and instead asked the interviewer what type of car she drove. Once she responded, he immediately listed all of her vehicle’s design features and commended her on her choice. When Arthur talked about the technicalities of cars, his eye contact improved and his tone of voice became more expressive. Otherwise, it was difficult to engage Arthur in conversation. He acknowledged that he did not have many friends but could not explain why this was so. Given his limited range of facial expressions and inability to describe his feelings, it was difficult to assess the quality of Arthur’s mood. He denied ever wanting to hurt himself, and his mother never observed him losing interest in favorite activities. Sleep and appetite were normal. Arthur denied hearing voices or seeing things that were not present, and his mother never observed him responding to internal stimuli.

Diagnostic Measures
In addition to taking a comprehensive history and observing Arthur, we administered the Social
Communication Questionnaire (SCQ; Rutter et al. 2003) to his parents and conducted the Autism Diagnostic Observation Schedule—Second Edition (ADOS-2; Lord et al. 2012) with Arthur. These instruments are used to facilitate the detection of autism spectrum disorders in children and adolescents.

**Diagnostic Formulation**

According to DSM-5, an autism diagnosis is based on impairments in two domains: social communication and social interaction comprise one domain and restricted, repetitive behaviors and interests make up the second. For an individual to meet diagnostic criteria all three items in the social communication domain are required and at least two of the four repetitive behaviors and interests must also be present.

Arthur’s history and current presentation are consistent with the DSM-5 diagnostic criteria for ASD. He meets criteria for all three social-communication symptoms. His limited social emotional reciprocity is evident in his challenges carrying on a back and forth conversation and sharing his interests. He has a history of difficulties with turn taking and sharing at school, and when he was younger he did not like to join in early social games. He has seemed oblivious to other children’s distress and does not offer them comfort.

Arthur’s parents recognize that he has had longstanding problems with his nonverbal communication—in his first year he did not look at them when babbling and he continues to have poor eye contact. He has never pointed to things of interest and has always had a limited range of facial expressions which has made it difficult to gauge his emotions and feelings.

Arthur also has had difficulties developing and maintaining age appropriate relationships. He has been disinterested in playing with children in his neighborhood or making friends with them. At recess he does not join in imaginative games or do role-play with peers and he is typically off by himself.

Regarding the second domain, Arthur demonstrated several repetitive or restricted behaviors and interests when young and continues to do so. He cannot tolerate changes in his routine and insists his mother drive the same route. His early preoccupation with the makes and models of cars has evolved into an intense focus on their technical specifications. Arthur has always been hyper-reactive to sensory input—loud (noisy) and overstimulating environments are often the cause of his agitation and distress.

Although Arthur’s parents and several professionals missed the early signs that he had autism his symptoms were present from early childhood. DSM-5 requires that symptoms of ASD be present from early childhood (which they were in Arthur’s case) though it acknowledges that they may not be fully evident until later.

In documenting Arthur’s diagnosis, his co-occurring ADHD should be specified. Severity levels are also included in DSM-5. Arthur requires substantial support in dealing with his social communication deficits. His extreme difficulty coping with changes in his routine requires substantial support as well.

**Clinical Diagnosis:**

Autism spectrum disorder associated with ADHD (314.01) requiring substantial support for deficits in social-communication and requiring substantial support for restricted,
repetitive behaviors, without accompanying intellectual impairment or language impairment.