

Algorithm

1. Inclusion ICD9 codes for Autism, Asperger's and PDD-NOS (299.0, 299.80,299.9)
2. Exclusion ICD-9 codes : 299.1,295*,330.8,759.5,759.83
3. DSM-IV Symptom criteria
 - 3a. DSM-IV: At Least 2 unique from Social Interaction, 1 from Communication, 1 from Behavior, Interests and Activities = total at least 6 Elements
Autistic Disorder CASE
 - 3b. DSM-IV: At Least 2 unique from Social Interaction, 1 from Behavior, Interests and Activities + no language delay + average cognitive function
Asperger's Syndrome CASE
 - 3c. DSM-IV: More than one element from one or more categories of Social Interaction/Communication/Behavior, Interests and Activities
PDD-NOS CASEIf patient does not meet criteria for CASE in 3a-3c, exclude
4. DSM-V Symptom Criteria
 - 4a. Each of DSM-V criteria set A (A1,A2,A3) + At least 2 from criteria set B (B1,B2,B3,B4)
 - 4b. Both criteria set C and D

Controls

Control 1: Patients without any history of ASD ICD-9 codes (299.0,299.80,299.9)

Control 2: Patients without any history of any Psychiatry ICD-9 codes (290-319), and not seen in any Neurology, Developmental Psychology or Psychology departments

DSM-IV Criteria

Autism Spectrum Disorder

See attached "Autism glossary of terms.pdf" for code descriptions.

Autistic: total of six (or more) items from I, II, and III, with at least two from I, and one each from II and III:

Asperger's: total of three (or more) items from I, and III, with at least two from I, and one from III:

PDD-NOS: total of two (or more) items from I, II, and/or III:

I. Social Interaction Criteria (Codes 1.0 – 4.9)

- A. Marked impairment in the use of multiple non-verbal behaviors to regulate social interaction
- B. Failure to develop peer relationships appropriate to developmental level, Inconsistently participates in group activities
- C. A lack of spontaneous seeking to SHARE enjoyment, interests or achievements with other people

D. Lack of social or emotional reciprocity, Little reciprocity with therapist, Social interactions are consistent with Autism

II. Communication Criteria (5.0 - 8.10)

- A. Delay in, or total lack of, the development of spoken language -Communication disorder
- B. In individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others
- C. Stereotyped and repetitive use of language or idiosyncratic language
- D. Lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level

III. Behavior, Interests, and Activities Criteria (9.0-12.4)

- A. Encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal in either intensity or focus
- B. Apparently inflexible adherence to specific, non-functional routines or rituals
- C. Stereotyped and repetitive motor mannerisms
- D. Persistent preoccupation with parts of objects

DSM-V Criteria

Autism Spectrum Disorder

Must meet criteria A, B, C, and D:

- A. Persistent deficits in social communication and social interaction across contexts, not accounted for by general developmental delays, and manifest by all 3 of the following:
 - 1. Deficits in social-emotional reciprocity; ranging from abnormal social approach and failure of normal back and forth conversation through reduced sharing of interests, emotions, and affect and response to total lack of initiation of social interaction,
 - 2. Deficits in nonverbal communicative behaviors used for social interaction; ranging from poorly integrated- verbal and nonverbal communication, through abnormalities in eye contact and body-language, or deficits in understanding and use of nonverbal communication, to total lack of facial expression or gestures.
 - 3. Deficits in developing and maintaining relationships, appropriate to developmental level (beyond those with caregivers); ranging from difficulties adjusting behavior to suit different social contexts through difficulties in sharing imaginative play and in making friends to an apparent absence of interest in people
- B. Restricted, repetitive patterns of behavior, interests, or activities as manifested by at least two of the following:
 - 1. Stereotyped or repetitive speech, motor movements, or use of objects; (such as simple motor stereotypies, echolalia, repetitive use of objects, or idiosyncratic phrases).
 - 2. Excessive adherence to routines, ritualized patterns of verbal or nonverbal behavior, or excessive resistance to change; (such as motoric rituals, insistence on same route or food, repetitive questioning or extreme distress at small changes).
 - 3. Highly restricted, fixated interests that are abnormal in intensity or focus; (such as strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interests).

4. Hyper-or hypo-reactivity to sensory input or unusual interest in sensory aspects of environment;
(such as apparent indifference to pain/heat/cold, adverse response to specific sounds or textures, excessive smelling or touching of objects, fascination with lights or spinning objects).
- C. Symptoms must be present in early childhood (but may not become fully manifest until social demands exceed limited capacities)
 - D. Symptoms together limit and impair everyday functioning.