Lewis County Autism Coalition
Friday, November 2nd, 2012

Update: Autism Spectrum Disorder

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Outline:

- Autism spectrum disorder (ASD)
- Prevalence data (2008)
- DSM-V + ICD-10 diagnostic criteria
- Early diagnosis
- IEP eligibility
- Autism insurance mandated benefits
Autism: Practice Parameters

2000

2007

2007

2008

2009

2010

Glenn C. Tripp, MD, FAAP; 2010
Autism Spectrum Disorder

- Common neurobiological disorder with impairments in social interaction, communication, and repetitive and stereotypic behaviors.

- Multi-factorial causation (genetic + ??)

- Gender differences (males 4:1-13:1)

- Variable expression (spectrum)

- Positive treatment responses
### DSM-IV-TR: Autism Spectrum Disorder

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- Two (2) or more of the above present
- Total of six (6) items for 1, 2, and 3.
- Onset prior to three (3) years of age
- Not Rett or CDD

- One (1) or more of the above present
Autism Spectrum Disorders

- Autism
- Asperger
- PDD, NOS

Cognitive-Adaptive Performance Level

- "Lower functioning" [PIQ<70 (70%)]
- "Higher functioning" [PIQ>70 (30%)]

Levels:
- Severe
- Moderate
- Mild
- Borderline
- Normal Range

Values:
- 30
- 40
- 50
- 60
- 70
- 80
- 90
- 100
- 110
- 120
## Autism: Coding Classifications

<table>
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<tr>
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<th>DSM-IV-TR</th>
<th>ICD-10-CM</th>
<th>DSM-V</th>
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Autism: Genetic factors

- Multiple candidate genes
  - Embryogenesis (midbrain, cerebellum)
  - Neuron proliferation/determination
  - Neuron migration/synapse formation
  - Neurotransmitter systems

“The nature of the genetic risk for ASD is not well understood; whatever is transmitted from parents to children is not “classic autism”, but rather a risk for social, communication, and behavioral difficulties that may manifest as autism, PDD-NOS, or Asperger syndrome, or as less pervasive language delays, social deficits, or restricted interests”.

- Recurrence risk in siblings: 6-18%
  - Idiopathic autism: 6%
  - Broader phenotype: additional 10-18%

Miles, J. and McCathren, R. Autism Overview. GeneReviews. 04/13/10

Lord, C. Detecting Autism in a Toddler. Medscape. 2007
Possible Neurochemistry in Autism

- Complex and largely unknown mechanism
- Hypothesized differences in brain neurotransmitter systems:
  - Core autism symptoms
  - Co-existing symptoms:
    - Intellectual impairment (70%)
    - Sleep problems (~60%)
    - Seizures (~30%)
    - Disordered attention
    - Overanxious; OCD
    - Sensory/emotional regulation
    - Mood disorders
    - Aggressive, self-injury
Autism: Medical Evaluation

- **Family history:**
  - Three generation pedigree (language, social, psychiatric)

- **Clinical examination:**
  - Growth parameters
    - Height, weight, head circumference (macrocephaly, microcephaly)
  - Physical features
    - Autism Dysmorphology Measure (Miles et al, 2008)
  - Skin
    - Woods lamp exam (NF-1; TS complex)

- **Genetic studies:**
  - Array comparative genomic hybridization (aCGH)
  - FMR1 molecular genetic testing
  - Specific molecular genetic testing (FISH)

- **Other studies:**
  - EEG
    - If clinical signs of seizures or developmental regression
  - Brain MRI
    - Localized brain lesions, TS complex, Joubert syndrome, microcephaly
  - Metabolic testing
    - Limited value in ASD; directed by history and PEx

Miles, JH et al, GeneReviews: Autism Spectrum Disorders. 2010
Outline:

• Autism spectrum disorder (ASD)
• Prevalence data (2008)
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Autism: Increasing Prevalence Rate

Center for Disease Control (CDC):
http://www.cdc.gov/od/media/pressrel/2007/r70208.htm
Autism & Developmental Disabilities Monitoring Network

ADDMN Sites

ASD Prevalence Data (2008)

Identified Prevalence of Autism Spectrum Disorders
ADDM Network 2000-2008
Combining Data from All Sites

<table>
<thead>
<tr>
<th>Surveillance Year</th>
<th>Birth Year</th>
<th>Number of ADDM Sites Reporting</th>
<th>Prevalence per 1,000 Children (Range)</th>
<th>This is about 1 in X children...</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>1992</td>
<td>6</td>
<td>6.7 (4.5-9.9)</td>
<td>1 in 150</td>
</tr>
<tr>
<td>2002</td>
<td>1994</td>
<td>14</td>
<td>6.6 (3.3-10.6)</td>
<td>1 in 150</td>
</tr>
<tr>
<td>2004</td>
<td>1996</td>
<td>8</td>
<td>8.0 (4.6-9.8)</td>
<td>1 in 125</td>
</tr>
<tr>
<td>2006</td>
<td>1998</td>
<td>11</td>
<td>9.0 (4.2-12.1)</td>
<td>1 in 110</td>
</tr>
<tr>
<td>2008</td>
<td>2000</td>
<td>14</td>
<td>11.3 (4.8-21.2)</td>
<td>1 in 88</td>
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http://www.cdc.gov/ncbddd/autism/data.html
Autism & Developmental Disabilities Monitoring Network

ADD MN Sites

ASD + Intellectual impairment

http://www.cdc.gov/ncbddd/autism/data.html
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• Preoccupations with parts of objects |

- Two (2) or more of the above present
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**DSM-V: Autism Spectrum Disorder**

**Persistent deficits in social communication and social interaction:**
- Social-emotional reciprocity
- Nonverbal communication used in social interaction
- Developing and maintaining relationships, appropriate for developmental level

**Restricted, repetitive patterns of behavior, interests, activities:**
- Stereotyped or repetitive speech, motor movements, or use of objects
- Excessive adherence to routines, ritualized patterns of behavior, or excessive resistance to change
- Highly restricted, fixated interests
- Hyper- or hypo-reactivity to sensory input or unusual sensory interests

*All 3 of the above criteria*

*At least 2 of the above criteria*

# DSM-V: Autism Spectrum Disorder

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<th>Severity Level</th>
<th>Social Communication</th>
<th>Restricted Interests/Repetitive Behaviors (RRB)</th>
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<td>3: Very substantial support</td>
<td>Very limited initiation of social interactions and social reciprocity</td>
<td>Marked functional impairment from RRB; marked distress when RRB are interrupted, difficult to redirect or returns to RRB quickly</td>
</tr>
<tr>
<td>2: Substantial support</td>
<td>Limited initiation of social interactions and social reciprocity with support</td>
<td>RRB obvious to casual observer, interfere with functioning in multiple contexts. Some distress when RRB are interrupted, difficult to redirect</td>
</tr>
<tr>
<td>1: Some support</td>
<td>Noticeable impairments in social interactions and social reciprocity without support</td>
<td>RRB cause significant interference with functioning in one or more contexts. Resists attempts by others to interrupt or redirect RRB</td>
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**DSM-V: Social Communication Disorder**

- Persistent difficulties with the social use of verbal and nonverbal communication is a naturalistic context that adversely affects social reciprocity and social relationships

- Persistent difficulties in the acquisition and use of spoken, written, and other modalities of language for narrative, expository, and/or conversational discourse

- The low social communication abilities result in functional limitations in effective communication, social participation, academic achievement and/or occupational performance

- Symptoms present in early childhood but not fully manifest until communication demands exceed capacity

- Rule out autism spectrum disorder

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Autism: Presentation

Motor

Language

Social

12 m

17.5 m

* M-CHAT (18-30 m)

70% Mixed developmental delays with autistic symptoms

30% "Normal" developmental progress Autistic regression (12-18 m)

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### Autism: Presentation

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- **Motor**
- **Language**
- **Social**

**M-CHAT** (18-30 m)

12 m

17.5 m
# Autism: Early Detection

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**By 6 months:**
- Turn to name
- Smile at person
- Respond to sound with sounds
- Social play (peek-a-boo)

**Red Flags (6 months):**
- Lack of eye contact
- Lack of social interest
- Too passive

**By 12 months:**
- Use simple gestures (bye-bye)
- Makes consonant sounds
- Imitates actions
- Responds to “no”
- Follows parent pointing (Avg: 10-12 months)

**Red Flags (12 months):**
- No babbling
- No pointing/gestures

**By 18 months:**
- Simple pretend play (“talk” on telephone)
- Point to out of reach objects (Avg: 12-14 months)
- Bring objects to show parent
- Uses several words
- Spontaneous point to interesting objects (Avg: 14-16 months)

**Red Flags (18-24 months):**
- No words by 16 months
- No 2-word phrases by 24 months

**Developmental regression at any age!**
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Educational Services

• Individuals with Disabilities Education Act (IDEA)
  – Part C: 0-3 years (IFSP)
  – Part B: 3-21 years (IEP)

“Children are eligible for a free, appropriate, and adequate public education in the least restrictive environment”
Eligibility for Special Education (WAC 392-172A-01035)

Eligibility categories:

- Developmental delay (3-8)
- Speech or language impairment
- Specific learning disability
- Intellectual disability
- **Autism**
- Emotional behavioral disability
- Hearing impairment
- Visual impairment
- Deaf-blindness
- Other health impairment
- Orthopedic impairment
- Traumatic brain injury
- Multiple disabilities

Autism spectrum disorder:

Developmental disability that:

- Significantly affects verbal and nonverbal communication + social interaction
- Often associated with repetitive behaviors, stereotyped movements, resistance to change in daily routines, and/or unusual sensory experiences
- Adversely affects educational performance
- Not primarily due to emotional or behavioral disturbance
- May manifest >3 years of age
IDEA: Is a medical diagnosis required for any disability category?

IDEA: Part B (3-21 yr):

• Evaluation for eligibility for special education:
  – Purpose: determine if a child qualifies as a child with a disability and the nature and extent of the educational needs of the child.
  – Public agency must use a variety of assessment tools and strategies to gather relevant functional, developmental, and academic information.
  – No single measure or assessment can be used as sole criterion.
  – The group of qualified professionals and the parent must draw information from a variety of sources (aptitude, achievement, parent input, teacher recommendations, child’s physical condition, social/cultural background, and adaptive behavior).
  – One of the sources of information could be a physician, if determined appropriate, to assess the effect of the child’s medical condition on the child’s eligibility and educational needs.

• However:
  – There is no explicit requirement in IDEA or Part B regulations to include physician input
  – There is nothing to prohibit a public agency from obtaining a physician input, provided the evaluation is at public expense and there is no cost to the parent.
  – There is nothing to prohibit a State from requiring a physician evaluation, but this needs written notification by the State that is supersedes the requirement of IDEA
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Autism Insurance Benefits

• Behavioral health treatment (ABA)
• Pharmacy care
• Psychiatric care
• Psychological care
• Neurodevelopment therapy (0-18 yr)
  – Speech therapy
  – Occupational therapy
  – Physical therapy
Applied Behavior Analysis

• Legislation
  – WA Mental Health Parity Act (2005)
  – “Shayan’s Law”

• Litigation
  – Class action lawsuits (6)
    • Premera, Regence, Group Health
  – “Shayan’s settlement”
    • State Employee’s Regence Health Care Plan [700]
    • Medicaid Apple Health for Kids Program [9100]

• Self-insured employers covering ASD
  • Active military: Tricare Echo
  • AOL, Cisco, Deloite, Eli Lily, Fred Hutch Cancer Research, Google, Home Depot, IBM, Intel, Michelin, Microsoft, Oracle, Symantec, Wells Fargo.