When should I be concerned?

Detecting, Studying, and Treating Autism Early: The One-Year Well-Baby Check-Up Approach

Karen Pierce, PhD, Cindy Carter, PhD, Melanie Weinfeld, PhD, Jamie Desmond, MPH, Roxana Hazin, BS, Robert Bjork, MD, and Nicole Gallagher, BA

Disrupted Neural Synchronization in Toddlers with Autism

Ilan Dinstein,1,4,* Karen Pierce,1,3 Lisa Eyler,1,2 Stephanie Solso,1 Rafael Malach,4 Marlene Behrmann,5 and Eric Courchesne1,3

1Autism Center of Excellence

These slides do not reflect decisions of the IACC and are for discussion purposes only.
How common is autism?

Kim YS, Leventhal BL, Koh YJ, Fombonne E, Laska E, Lim EC, Cheon KA, Kim SJ, Kim YK, Lee H, Song DH, Grinker RR

Prevalence of Autism Spectrum Disorders in a Total Population Sample

Table 3: Prevalence Estimates of Autism Spectrum Disorders (ASDs) in a South Korean Community

<table>
<thead>
<tr>
<th>Measure</th>
<th>Prevalence (%)</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>2.64</td>
<td>1.91–3.37</td>
</tr>
<tr>
<td>General-population sample</td>
<td>1.89</td>
<td>1.43–2.36</td>
</tr>
<tr>
<td>High-probability group</td>
<td>0.75</td>
<td>0.58–0.93</td>
</tr>
<tr>
<td>ASD Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any ASD</td>
<td>2.64</td>
<td>1.91–3.37</td>
</tr>
<tr>
<td>Autistic disorder</td>
<td>0.94</td>
<td>0.56–1.34</td>
</tr>
<tr>
<td>Other ASDs</td>
<td>1.70</td>
<td>1.08–2.32</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>3.74</td>
<td>2.57–4.90</td>
</tr>
<tr>
<td>Female</td>
<td>1.47</td>
<td>0.60–2.37</td>
</tr>
</tbody>
</table>

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How can I understand what is happening?

Epidemiology of Autism Spectrum Disorders in Adults in the Community in England

Traolach S. Brugha, MD(NUI), FRCPsych; Sally McManus, MSc; John Bankart, MSc, PhD; Fiona Scott, PhD, CPsychol; Susan Purdon, MSc, PhD; Jane Smith, BSc; Paul Bebbington, PhD, FRCPsych; Rachel Jenkins, MD, FRCPsych; Howard Meltzer, PhD

<table>
<thead>
<tr>
<th>Dx</th>
<th>n (unwtd)</th>
<th>% all yrs</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any DD</td>
<td>15956</td>
<td>13.87</td>
<td>17.1%</td>
</tr>
<tr>
<td>ADHD</td>
<td>7652</td>
<td>6.69</td>
<td>33.0%</td>
</tr>
<tr>
<td>Autism</td>
<td>537</td>
<td>0.47</td>
<td>289.5%</td>
</tr>
<tr>
<td>Intell Dis</td>
<td>868</td>
<td>0.71</td>
<td>-1.5%</td>
</tr>
</tbody>
</table>

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How can I understand what is happening?

Converging models for autism

Transcriptomic analysis of autistic brain reveals convergent molecular pathology

Irina Voineagu¹, Xinchen Wang², Patrick Johnston³, Jennifer K. Lowe¹, Yuan Tian¹, Steve Horvath⁴, Jonathan Mill⁵, Rita M. Cantor⁴, Benjamin J. Blencowe² & Daniel H. Geschwind¹,⁴

Protein Interactome Reveals Converging Molecular Pathways Among Autism Disorders

Yasunari Sakai¹,² Chad A. Shaw²,⁎ Brian C. Dawson¹,² Diana V. Dugas², Zaina Al-Mohtaseb², David E. Hill³, Huda Y. Zoghbi¹,²,⁴,⁵,⁶,⁎

8 June 2011 Vol 3 Issue 86 86ra49

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What caused this to happen and can it be prevented?

**Genetic Heritability and Shared Environmental Factors Among Twin Pairs With Autism**

Joachim Hallmayer, MD; Sue Cleveland, BS; Andrea Torres, MA; Jennifer Phillips, PhD; Brianne Cohen, BA; Tiffany Torigoe, BA; Janet Miller, PhD; Angie Fedele, BA; Jack Collins, MBA; Karen Smith, BS; Linda Lotspeich, MD; Lisa A. Croen, PhD; Sally Ozonoff, PhD; Clara Lajonchere, PhD; Judith K. Grether, PhD; Neil Risch, PhD

<table>
<thead>
<tr>
<th>Concordance in male twin pairs:</th>
<th>Dizygotic</th>
<th>Monozygotic</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASD (n = 90 pairs)</td>
<td>.31</td>
<td>.77</td>
</tr>
<tr>
<td>Autism (n = 71 pairs)</td>
<td>.21</td>
<td>.58</td>
</tr>
</tbody>
</table>

**Antidepressant Use During Pregnancy and Childhood Autism Spectrum Disorders**

Lisa A. Croen, PhD; Judith K. Grether, PhD; Cathleen K. Yoshida, MS; Roxana Odouli, MSPH; Victoria Hendrick, MD

**Birth cohort 1995 – 1999, (n = 88,163)**

Any antidep 1 yr prior to delivery:
- 20/298 (6.7%) ASD vs 50/1507 (3.3%) con.
- 1st trimester SSRI use: 14/298 ASD vs 19/1507 con. (O.R. = 3.8)

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What caused this to happen and can it be prevented?

**Perinatal and Neonatal Risk Factors for Autism: A Comprehensive Meta-Analysis**

**Authors:** Hannah Gardener, ScD, Donna Spiegelman, ScD, and Stephen L. Buka, ScD

**40 studies, > 60 variables:**
- Low birth wt
- Resp distress
- Med prob < 1 mo

**Epidemiology • Volume 22, Number 4, July 2011**

**Prenatal Vitamins, One-carbon Metabolism Gene Variants, and Risk for Autism**

**Authors:** Rebecca J. Schmidt, Robin L. Hansen, Jaana Hartiala, Hooman Allayee, Linda C. Schmidt, Daniel J. Tancredi, Flora Tassone, and Irva Hertz-Picciotto

**Month of Conception and Risk of Autism**

**Authors:** Ousseny Zerbo, Ana-Maria Iosif, Lora Delwiche, Cheryl Walker, and Irva Hertz-Picciotto

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What caused this to happen and can it be prevented?

Simons Simplex Study:
8% with CNVs
1 in 38 with recurrent
5 recurrent mutations
Synaptic genes implicated
Where can I turn for services?
What does the future hold, particularly for adults?

**Elderly with Autism: Executive Functions and Memory**

Hilde M. Geurts · Marlies E. Vissers

**Do sheltered workshops enhance employment outcomes for adults with autism spectrum disorder?**

Robert Evert Cimera, Paul Wehman, Michael West and Sloane Burgess
*Autism* published online 24 May 2011

**College students on the autism spectrum**

Prevalence and associated problems

Susan W. White, Thomas H. Ollendick and Bethany C. Bray
*Autism* published online 24 May 2011
What other infrastructure and surveillance needs must be met?

Available Records: 106,210

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