Meeting of the IACC

Science Update

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Director, National Institute of Mental Health and Chair, IACC
IACC Full Committee Meeting – July 9, 2013

These slides do not reflect decisions of the IACC and are for discussion purposes only.
Publications Jan 1 – June 30

Articles listed as “autism” in PubMed for first 6 months of each year
Q1. When should I be concerned?

**Compared to What? Early Brain Overgrowth in Autism and the Perils of Population Norms**

**Confirmation of chromosomal microarray as a first-tier clinical diagnostic test for individuals with developmental delay, intellectual disability, autism spectrum disorders and dysmorphic features**

**Children’s Compliance with American Academy of Pediatrics’ Well-Child Care Visit Guidelines and the Early Detection of Autism**
Daniels AM, Mandell DS

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Q2. How can I understand what is happening?

**June 2, 2013**

Circuit level defects in the developing neocortex of Fragile X mice
Goncalves JT, Anstey JE, Golshani P, Portera-Cailliau C

**May 8, 2013 & June 5, 2013**

Excitatory/Inhibitory Synaptic Imbalance Leads to Hippocampal Hyperexcitability in Mouse Models of Tuberous Sclerosis
Bateup HS, Johnson CA, Deneefio CL, Saulnier JL, Kornacker K, Sabatini BL

Temporal and Mosaic Tsc1 Deletion in the Developing Thalamus Disrupts Thalamocortical Circuitry, Neural Function, and Behavior
Normand EA, Crandall SR, Thorn CA, Murphy EM, Voelcker B, Browning C, Machan JT, Moore CI, Connors BW, Zervas M

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Q2. How can I understand what is happening?

**BRAIN**  
June 2013

Impaired thalamocortical connectivity in autism spectrum disorder: a study of functional and anatomical connectivity  
Aarti Nair, Jeffrey M. Treiber, Dinesh K. Shukla, Patricia Shih, and Ralph-Axel Müller

**JAMA Psychiatry**  
June 18, 2013

Salience Network–Based Classification and Prediction of Symptom Severity in Children With Autism  
Lucina Q. Uddin, PhD; Kaustubh Supekar, PhD; Charles J. Lynch, BA; Amira Khouram, MA; Jennifer Phillips, PhD; Carl Feinstein, MD; Srikanth Ryali, PhD; Vinod Menon, PhD

**PNAS**  
Proceedings of the National Academy of Sciences of the United States of America  
June 17, 2013

Underconnectivity between voice-selective cortex and reward circuitry in children with autism  

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Underconnectivity between voice-selective cortex and reward circuitry in children with autism

Q2. How can I understand what is happening?

Markers of Celiac Disease and Gluten Sensitivity in Children with Autism
Lau NM, Green PHR, Taylor AK, Hellberg D, Ajamian M, Tan CZ, Kosofsky BE, Higgins JJ, Rajadhyaksha AM, Alaedini A

June 18, 2013
July 3, 2013

Reduced Incidence of *Prevotella* and Other Fermenters in Intestinal Microflora of Autistic Children
Dae-Wook Kang, Jin Gyoon Park, Zehra Esra Ilhan, Garrick Wallstrom, Joshua LaBaer

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Q3. What caused this to happen and can it be prevented?

American Journal of Epidemiology

Maternal Dietary Fat Intake in Association With Autism Spectrum Disorders
Lyall K, Munger K, O'Reilly E, Santangelo A, and Ascherio A.

JAMA®

Prenatal Valproate Exposure and Risk of Autism Spectrum Disorders and Childhood Autism
Christensen J, Gronberg TK, Sorensen MJ, Schendel D, Parner ET, Pedersen LH, Vestergaard M

June 27, 2013

Perinatal Air Pollutant Exposures and Autism Spectrum Disorder in the Children of Nurses’ Health Study II Participants

June 18, 2013

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Q3. What caused this to happen and can it be prevented?

Rare Complete Knockouts in Humans: Population Distribution and Significant Role in Autism Spectrum Disorders

Jan, 2013

Network Topologies and Convergent Aetiologies Arising from Deletions and Duplications Observed in Individuals with Autism

June 9, 2013

Intellectual Disability Is Associated with Increased Runs of Homozygosity in Simplex Autism

July 3, 2013

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Q4. Which treatments and interventions will help?

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Accommodating to motor difficulties and communication impairments in people with autism: the MORE intervention model
Emerson A, Dearden J

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Environmental Enrichment as an Effective Treatment for Autism: A Randomized Controlled Trial
Woo CC, Leon M

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Q5. Where can I turn for services?

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Q6. What does the future hold, particularly for adults?

Predictors of sustainable work participation of young adults with developmental disorders
Holwerda A, van der Klink J JL, de Boer MR, Groothoff JW, Brouwer S

Cognitive Enhancement Therapy for Adults with Autism Spectrum Disorder: Results of an 18-month Feasibility Study
Eack SM, Greenwald DP, Hogarty SS, Bahorik AL, Litschge MY, Mazefsky CA, Minshew NJ

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Q7. What other infrastructure and surveillance needs must be met?

June 18, 2013

The autism brain imaging data exchange: towards a large-scale evaluation of the intrinsic brain architecture in autism
Di Martino A, et.al.

April 7, 2013

The International Collaboration for Autism Registry Epidemiology (iCARE): Multinational Registry-Based Investigations of Autism Risk Factors and Trends
Schendel DE et. al.