An Introduction to Autism

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What is autism?

- Autism is a neurodevelopmental disorder of onset early in life characterized by problems in:
  - Social interaction
  - Communication
  - Behavior (esp. unusual behaviors and restricted interest)
- Autism spectrum disorder (also called PDD)
- Includes Asperger’s disorder (social disability but good verbal skills) and PDD-NOS (atypical autism)
What causes autism?

- Strong evidence in favor of neurobiological causes
  - High rates of seizure disorder (epilepsy)
  - VERY strong genetic component
    - Autism tends to run in families
      - Higher rates in identical twins
    - Appears due to multiple genes interacting
    - Candidate genes have been identified
How is autism diagnosed?

- Current guidelines to diagnosis:
  - DSM-IV
  - Autism is diagnosed based on history and assessment (behavior) — there are NOT yet simple blood tests
  - Need for better approaches to screening
How common is autism

- Autism (strictly defined) is seen in about 1 in 800 children
- PDD-NOS is MUCH more common (but poorly defined) 1 in 100 or so children
- Has the rate of autism increased?
  - Evidence for this is mixed – complications include much greater awareness, use of label to get services, and tendency to equate broader spectrum with autism more strictly defined
How is autism treated?

- Educational and Behavioral interventions
  - History of interventions in autism
  - A number of model programs around the US
  - NRC report summarizes good practices
    - Importance of early and sustained intervention
    - NOT every child gets better
    - Issues in matching children to treatments
    - Some role for drug therapy
    - Importance of evidence based treatments
What is the outcome in autism?

Outcome changing over time – importance of early diagnosis. Data from Howlin (2005) – Good (independent), Fair (semi-independent), and Poor (24/7 care)
Economic aspects of autism

- In the UK (about 1/4th size of the US)
  - Autism has been estimated to cost about
    - £2.7 billion for children each year
    - £25 billion for adults
  - (Source: Knapp et al. 2009)
- Preventing disability has major implications for both human and economic costs
Outcome in autism

- Issues in research
  - Howlin, 2005
    - Differences in method, changes in criteria
- In general trend has been towards greater improvement
  - Better adult outcome
  - More individuals with language
  - Higher levels of IQ
- Problems do remain
  - Difficulties understanding ‘normal’ ‘cure’
Research on autism

- Increasingly has clarified some important brain mechanisms
- Clarifies some of the difficulties children with autism face in processing social situations
- Also may have important implications for screening
References (see www.autism.fm)

- Howlin, P. Outcome studies (2005) Handbook of autism
- Fombonne, E. Epidemiological studies (2005) Handbook of autism