MINIMALLY CHILDREN WITH AUTISM

SUMMARY OF NIH WORKSHOP
APRIL 13-14, 2010

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IACC Meeting
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Planning committee

Co-Chairs:
Judith Cooper – NIDCD
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Committee Members
Frank Avenilla (NIMH), Lisa Gilotty (NIMH), Dan Hall (NIMH/NDAR), Alice Kau (NICHD), Lana Shekim (NIDCD), Ann Wagner (NIMH)
Goals

**Focus:** Minimally verbal school-aged children with ASD

1. What do we know?
2. What are the gaps in our knowledge based on current research?
3. What are the critical opportunities for advancing knowledge in this area?
Participants

Grace Baranek (UNC)
April Benasich (Rutgers)
Nancy Brady (U Kansas)
John Connolly (McMaster)
Nicole Gage (UCI)
Barry Gordon (Hopkins)
Portia Iversen
Rebecca Landa (KKI)

Janice Light (Penn State)
Catherine Lord (Cornell)
Mark Mahone (KKI)
Stewart Mostofsky (KKI)
Rhea Paul (Yale)
MaryAnn Romski (GSU)
Laura Schreibman (UCSD)
Larry Shriberg (UW)
Three Major Topics

1. Who are these individuals?

1. How can we assess their skills and knowledge across different domains?

1. What interventions are potentially effective in improving spoken language and communication in these children?
Summary of Workshop

Who Are These Individuals?

- This is a highly heterogeneous population with no single set of defining characteristics.
- It is a significant challenge to assess their underlying skills and knowledge – current measurement tools have low validity/reliability.
- It is possible to begin speaking after age 5 - almost all who do begin to between 5 and 7; only 1 case after puberty.
- Almost no research focuses on this group.
Assessment

Novel implicit measures of cognitive and brain function

1. Eye-tracking measures of language comprehension and processing – demonstrated reliability and validity
2. Magnetoencephalography (MEG) – to assess auditory processing impairments
3. Electroencephalography (EEG/ERP) – to assess brain processing of language – words, grammar and discourse
Novel Technologies

Eye-Tracking

MEG

EEG/ERP
What Interventions are Effective?

Non-Augmentative:
- Behavioral approaches – classic DTT; newer naturalistic (PRT; milieu etc.) can be effective with some children (e.g., those who engage with toys prior to intervention)
- Studies based on teaching core skills - language precursors (engagement, joint attention)

Augmentative:
- Covers all non-speech means for communication (e.g., PECS, Sign, SGD – speech generating devices etc.)
- Can be effective in increasing communication; in decreasing challenging behavior
- Limited real world use in the classroom and sometimes in homes
Future Directions in Interventions Research

- Insufficient description of participants
- Limitations in study designs (mostly single case) – need for flexible designs; RTI etc., longer term outcomes
- Predictors of responses to specific interventions – match intervention to child characteristics
- Measurement issues – what is meaningful change – in spoken language; communication; other areas?
- Urgent need for novel interventions for this population, who are often excluded from research studies, even on efficacy of EI