**THE EARLIEST INDICATORS OF AUTISM SPECTRUM DISORDERS:**

FROM IDENTIFICATION TO EARLY INTERVENTION

Juliann Woods, Ph.D. &
Amy M. Wetherby, Ph.D.
Florida State University

Presented at DEC 2000 Conference

---

**DSM IV Diagnostic Criteria for Autistic Disorder**

- Impairment in Social Interaction
- Impairment in Communication
- Restricted Repertoire of Activity and Interests

---

**Impairment in Social Interaction**

- Impairment in the use of nonverbal behavior
- Lack of spontaneous sharing
- Lack of social/emotional reciprocity
- Failure to develop peer relationships

---

**Impairment in Communication**

- Delay in or lack of development of spoken language & gestures
- Impairment in the ability to initiate or maintain conversation
- Repetitive and idiosyncratic use of language
- Lack of pretend play

---

**Restricted Repertoire of Activity and Interests**

- Preoccupation with restricted patterns of interest
- Inflexible adherence to routines
- Repetitive movements
- Preoccupation with parts of objects

---

**DSM-IV Diagnostic Criteria for Pervasive Developmental Disorder**

- Autistic Disorder
- PDD- Not Otherwise Specified
- Asperger’s Disorder
- Rett’s Disorder
- Childhood Disintegrative Disorder
Core Communication Deficits In Young Children with Autism

- **CAPACITY FOR JOINT ATTENTION**
  - Orienting to social stimuli
  - Shifting attention between people & objects
  - Sharing positive affect
  - Following gaze/point of another person
  - Drawing another’s attention to objects and events for the purpose of sharing

- **CAPACITY FOR SYMBOL USE**
  - Using conventional & symbolic gestures
  - Using communicative vocalizations
  - Using and understanding conventional meanings of words
  - Using objects functionally & in symbolic play

Accuracy of Specific Language Impairment Diagnosis at Age 2

- About half of children identified as late talkers at age 2 received a diagnosis of specific language impairment at age 3
- Children delayed in expressive language only were very likely to catch up on their own
- Children also delayed in receptive language, gestures, sounds, and play were more likely to have persisting language problems

Accuracy of Autism Spectrum Diagnosis at Age 2

- Diagnosis of Autistic Disorder
  - 94% of children diagnosed at age 2 remained on the autism spectrum at age 3
  - 72% retained the diagnosis of autism at age 3
- Diagnosis of Atypical Autism (PDD-NOS)
  - 74% of children diagnosed at age 2 remained on the autism spectrum at age 3
  - 42% retained the diagnosis of PDD-NOS at age 3

Clinical Features of Autism Spectrum in Young Children

- Social Impairments were prominent at 24 months
- Communication Impairments were prominent at 24 months
- Restricted Repertoire of Activities and Interests were not prominent until 36 months

Markers Based on CHAT at 18 months

- Proto-declarative pointing
- Gaze-monitoring
- Pretend play

38 of 16,235 failed these 3 key items (10 diagnosed PDD)
369 of 16,235 failed 2 of 3 key items (22 diagnosed PDD, 37 DD, and 310 typical)

35% SENSITIVITY 98% SPECIFICITY


(Lord, 1995; Lord & Risi, 2000)

(Lord, 1995; Stone, Lee, Astor, Brissie, Hopkins, Caanrod, & Weiss, in press)

(Baird, Charman, Baron-Cohen, Cox, Swettenham, Wheelwright, & Drew, 2000)
Features Distinguishing Autism Based on Home Videotapes at 12 months

- Pointing
- Showing
- Looking at Others
- Orienting to Name

Only the latter two distinguished children with autism from children with developmental delays.

(Osterling & Dawson, 1994; 1999)

Practice Parameters for Screening and Diagnosis of Autism Spectrum

Absolute Indications for Immediate Further Evaluation:

- No babbling by 12 months
- No gesturing (pointing, waving bye-bye) by 12 months
- No single words by 16 months
- No 2-word spontaneous (not just echolalic) phrases by 24 months
- ANY loss of ANY language or social skills at ANY age

Child Neurology Society and American Academy of Neurology (Filipek, Accardo, Baranek, et al., 1999)

Comprehensive Programs

- Curriculum addresses all areas of concern
- Focus on communication and social interaction
- Intervention linked to assessment
- Family collaboration
- Systematic teaching of functional skills
- Team coordination
- Ongoing evaluation for child and family outcomes

(Dawson & Osterling, 1997)

What we know.... what we want to know

- Intensity matters
  - What range is best for very young children?
  - Early is better
  - How soon can we intervene and with what approach?
  - Family participation is essential
    - What roles are priorities? What do parents do best?
  - Joint attention, communication and engagement are key
  - What specific strategies are most effective?
  - Interaction with peers is beneficial

Considerations for Intervention Planning

- Focus on what the child IS DOING, rather than what the child is not doing; on what the child’s INTERESTS are, rather than the limitations
- Recognize the relevance of the child’s conventional and unconventional behaviors for communication and interaction

Prioritizing Intervention

- Family concerns and priorities
- Disability specific priorities
  - Language and communication
  - Social interaction and relationships
  - Engagement and play
- Cognitive, adaptive, sensory and motor as prioritized by family and team as important
### Why Family Participation

- Primary force behind the child’s program now and in the future
- Vested interest in child’s behavior and interaction development and use
- Time and resource availability
- Information, support, and skills
- Improved child and family outcomes

### Identifying Contexts for Intervention

- Identify activities, routines, events that are preferred by the child and comfortable for the family. Routines that are predictable and meaningful can provide a familiar framework.
- Choose routines that
  - Build more sophisticated skills
  - Require joint attention
  - Provide structure for communication opportunities
  - Encourage imitation

### Steps for Intervening in Natural Contexts

- Use developmental and functional assessment
- Discuss positive and negative “contexts”
- Establish “first line” communication and interaction functions
  - Behavior regulation (requesting and protesting)
  - Joint attention
  - Gestures (social signals) and choice making
  - Initiating and turn-taking (rate and quality)

### Embedding Intervention

- Family and team must coordinate:
  - Targets within routines and activities
  - Sequence and frequency of embedding
  - Facilitators and locations of intervention
  - Methods used to initiate interaction, maintain child’s engagement, encourage participation, and motivate child
  - Data collection and analysis

### Systemizing Caregiver Interventions

- Clearly identify intervention routines and activities
- Match intervention targets (outcomes) to the appropriate routine or activity
- Observe sequence and strategies used
- Embed targets within typical sequence UNLESS sequence is dictated by child’s disorder

### Systemizing Caregiver Interventions continued

- Identify opportunities to practice each outcome clearly… “more” isn’t better
- Carefully plan who will be involved, when, and where it will occur
- Provide caregivers time to practice and problem solve “what might happen if…”
- Use natural cues with the routine