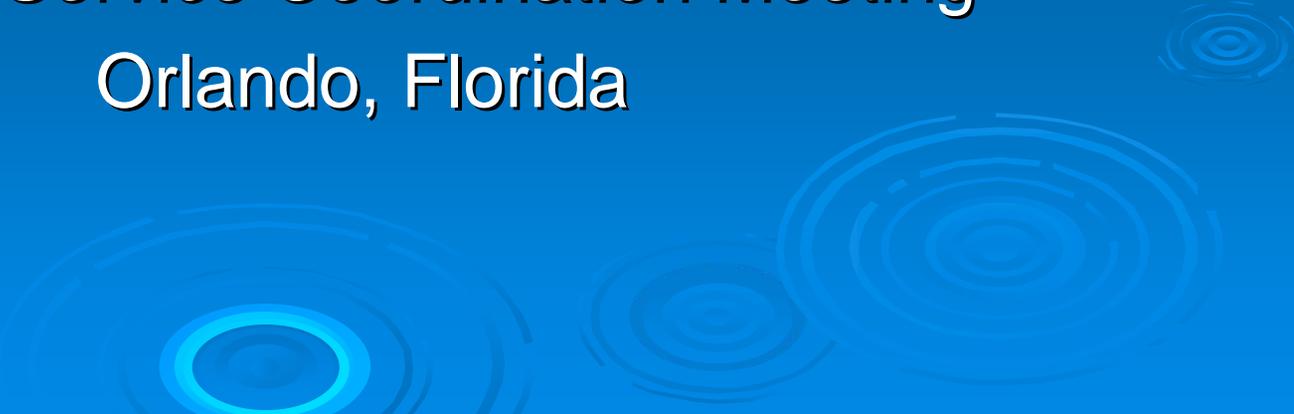


Autism Spectrum Disorder

Presented October 9, 2007
Annual Service Coordination Meeting
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The background of the slide is a solid blue color. In the lower right quadrant, there are several decorative elements consisting of concentric circles, resembling ripples in water. These circles are rendered in a lighter shade of blue and are arranged in a way that suggests movement or depth.

What is Autism Spectrum Disorder (ASD)?

- Brain disorder
- Range of developmental problems
- Appears before age 3
- Lifelong condition
- Mainly affects communication, social interaction
- Includes Autism, Pervasive Developmental Disorder, Asperger's syndrome, Rhett's syndrome, Childhood Disintegrative Disorder
- NOT Severe Attachment Disorder

Key Definitions (DSM-IV-TR)

➤ Autism

- Onset before age 3
- Qualitative impairments in 3 core areas
 - Communication (gestures, words)
 - Social Interactions (joint attention)
 - Interests and activities (symbolic play)

Key Definitions (DSM-IV-TR)

- Pervasive Developmental Disorder, NOS
 - Unusual development in core areas of communication, social interactions, interests/attention
 - Does not meet criteria for any of the other ASD
 - Often occurs with cognitive impairment

Key Definitions (DSM-IV-TR)

➤ Asperger's syndrome

- Qualitative impairment in social interaction
- Restricted, repetitive patterns of behavior, interest and activities
- No obvious delays in language (single words by 12 months, 2-words by age 2, phrases by age 3)
- No clinically significant delays in cognitive or adaptive functioning
- Clumsy

Key Definitions (DSM-IV-TR)

➤ Rhetts Disorder

- Normal development first 5 months
- Normal head circumference at birth, deceleration between 5 and 48 months
- Loss of hand skills, then stereotypical hand movements
- Loss of social engagement
- Poor coordination
- Mostly in females

Key Definitions (DSM-IV-TR)

➤ Childhood Disintegrative Disorder

- Normal development first 2 years
- Loss of acquired skills by age 10
- Qualitative impairment in social interaction, communication, interests/activities

Prevalence

- 3 to 6 of every 1,000 children
 - Autism 4 per 1,000
 - PDD and Asperger's 2 per 1,000
- 3 to 4 times more common in boys
- Genetic factors thought to cause ASD's
- Severity of symptoms varies
- Interferes with rate and pattern of development
- No known cures

ASD Signs and Symptoms

- Problems in three crucial areas
 - Communication
 - Social skills
 - Behavior/Play
- Development may seem normal first few months or years of life
- Symptoms and skills vary among children with same diagnosis

Communication Warning Signs

- Loses ability to say words
- Starts talking later than others
- Does not make eye contact
- Speaks with abnormal rhythm or tone
- Can't start a conversation or keep it going
- May repeat certain words or phrases but doesn't use them appropriately

Social Skills Warning Signs

- Fails to respond to own name
- Has poor eye contact
- Appears not to hear you
- Resists cuddling and holding
- Appears unaware of other's feelings
- Seems to prefer to play alone
- Retreats into "own" world

Behavior Warning Signs

- Performs repetitive movements: rocking, spinning, hand flapping
- Develops specific routines or rituals
- Becomes disturbed with slight changes in routines or rituals
- Moves constantly
- Fascinated with parts of objects
- May be unusually sensitive to light, noise, or touching

ASD and Learning Problems

- Majority will have learning problems (60% MR)
- Varies among children
- Adaptive skill deficits
- Attention problems
- Challenging behaviors
- Less than 5% have genius-like abilities

ASD and Mental Health Disorders

- Shared features with mental health disorders
 - ADHD
 - Anxiety
 - Bipolar
 - Depression
 - OCD
- 

ASD and Medical Disorders

- Epilepsy
 - Fragile X
 - Tuberous sclerosis
 - Tourette's syndrome
 - Prader-Willie
 - Angelman's syndrome
- 

Causes of ASD

- No single, identifiable cause
- Seems to be related to abnormalities in several areas of brain
- Environmental factors, e.g. viruses, trigger
- Structural (anatomic, cellular)
- Genetic component
 - Identical twins 60%
 - Siblings 6-8%
 - Other family members 2%

ASD Myths

- Parents/parenting styles cause ASD
- Vaccines containing thimerosal (mercury) cause ASD
- More white children affected
- Children grow out of ASD
- One proven approach (e.g. ABA, DIT)
- Sensory integration therapy will cure symptoms

Critical Developmental Milestones

- Smiling by 6 months
- Sharing of smiles, facial expressions by 9 months
- Babbling by 12 months
- Gesturing by 12 months
- Single words by 16 months
- Two-word phrases by 24 months
- Loss of previously acquired language skills at any age

Screening and Diagnosis

- Pediatric well-child screenings at 9, 18, and 30-months (APA Guidelines, 2006)
 - Ages and Stages
 - MCHAT (18 month visit)
- Referral for formal evaluation (IDEA, 2004)
 - Early Steps (0-3)
 - Child Find (3-21)

Evaluation of ASD

- Hearing evaluation
- Developmental assessment
 - Present levels of performance in 5 domains
 - Document skills development
- Social history
 - Address core features of ASD
- Speech and language
 - Form, content, and pragmatics

IDEA 2004

➤ Autism Spectrum Disorder

- Range of pervasive developmental disorders
- Adversely effects functioning
- Results in need for specially designed curriculum and related services
- Characteristics may manifest in variety of combinations
- Characteristics range from mild to severe
- Includes Autistic Disorder, PDD-NOS, Asperger's syndrome, other related disorders

ASD Assessment Tools

- Parent report and observational measures
 - Autism Diagnostic Observation Schedule (ADOS)
 - Child Behavior Checklist (CBCL)
 - Gilliam Autism Rating Scale (GARS-2)
 - Gilliam Asperger's Disorders Scale (GADS)
 - Temperament and Atypical Behavior Rating Scale (TABRS)

Medical Tests

- Electroencephalogram (EEG)
 - Metabolic Screening (blood & urine)
 - Magnetic Resonance Imaging (MRI)
 - Computer Assisted Axial Tomography (CAT Scan)
 - Genetic (blood tests)
- 

Genes and Autism

- As many as 12 genes may be involved (NIH, 2005)
 - HOX genes (brain stem and cerebellum)
 - Chromosome 7 (AUTS1-speech and language disorders)
 - Chromosome 13 (families with ASD)
 - Chromosome 15 (Angelman and Prader-Willie)
 - Chromosome 16 (seizures and tuberous sclerosis)
 - Chromosome 17 (problems with serotonin, OCD)
 - X Chromosome (46 chromosomes; XX, XY)

Intervention:

One size does not fit all

➤ Educational interventions

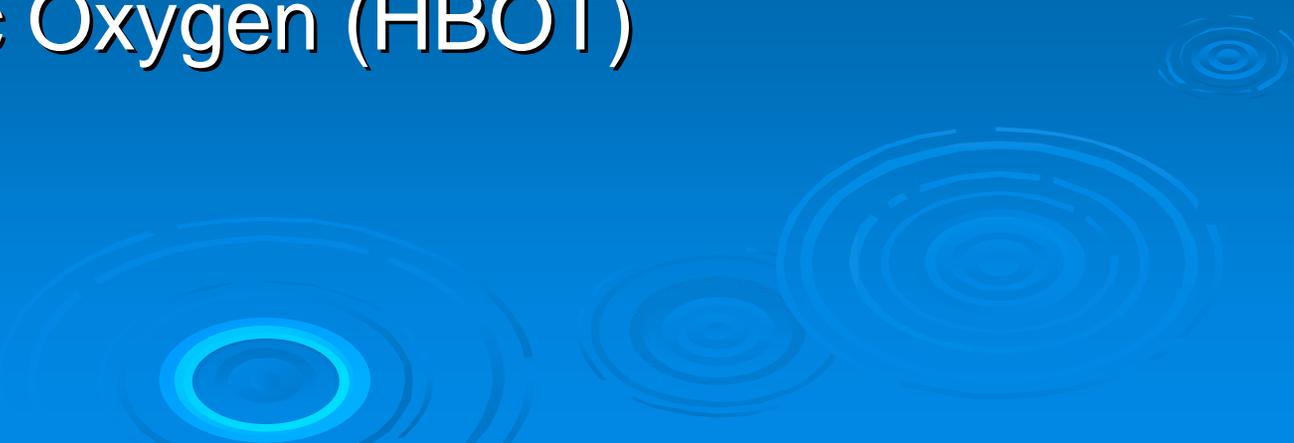
- Speech and language (e.g. *Hanen*)
- Social skills training (e.g. Social Stories)
- Early relationships (e.g. Greenspan's *Floor time*)
- Behavioral Approaches
 - Positive Behavior Support (PBS)
 - Discrete Trials (Applied behavior analysis)
 - TEACCH Program

Pharmacological Interventions

➤ Medical therapies

- No medications address core features of ASD
- Symptoms may be helped
 - Stimulants
 - Antipsychotics
 - Sleep aides
 - Anti-infection medication (sinuses, fungal, bacteria)

Complementary Approaches

- Reduced exposure to environmental toxins
 - Detoxification
 - Dietary modifications
 - Nutritional supplements
 - Herbal medications
 - Hyperbaric Oxygen (HBOT)
- 

Effectiveness of Early Intervention for Children with ASD

➤ Complex topic

- Different interventions, different followers
- What works more often opinion than evidence
- Belief that particular intervention can change outcomes
- Many individuals already receiving multiple treatments (eclectic approach)
- Difficulty in transferring intervention from research to practice setting

Questions regarding intervention

- Child factors
 - Developmental issues
 - Challenging behavior
- Intensity
 - How much is needed?
- Duration
 - How often?
- Setting
 - Where?

Evidence-base for ASD Interventions

- Interventions work best for:
 - Higher functioning children
 - Children with less severe behavioral symptoms
 - Children who begin intervention early (<60 months)
 - 25 hours per week of engagement
 - Intervention across natural settings
 - Multiple methods

Issues Related to Early Intervention

➤ Dilemma in early identification

- Children identified early show less severe symptoms compared with those identified later
- Children flagged early for ASD may not meet criteria later on
 - Changes in natural course?
 - Result of early intervention?
 - Misidentified?

Issues Related to Intensity

- How intensity measured
 - Sessions
 - Hours per week
 - Where completed
 - Opportunities for responding
 - Focus of intervention (e.g. flash cards, joint attention, symbolic play)
- *Child will learn what is taught*

Issues Related to Approaches

- Unclear which approach is better
 - Very little research with toddlers
 - About half children show improvement, regardless of approach
 - Studies do not have comparison groups
 - Cannot extend preschool approaches to toddlers/families
 - Home/childcare settings versus laboratory/clinical applications

How Children Learn

- Joint attention and symbolic play both important developmental tasks of childhood
 - Dyadic (interest in people)
 - Play (play with objects)
 - Imitation
 - Language
- Target of early intervention
 - Specific skills, requiring interaction with others
 - Parent moderated
 - Most effective when intervention completed in short period of time (20 sessions or less)

HOT DOCS[©]

- Helping Our Toddlers, Developing Our Children's Skills
 - 6-week parent training curriculum
 - Based upon science of behavior
 - Problem-solving approach to understanding and addressing development
 - Improve relationship with child
 - Strengthen support system and reduce parental stress

HOT DOCS[©] Classes

- Early childhood development
 - Routines & schedules
 - Understanding behavior
 - Using preventions
 - Helping children learn new skills
 - Reducing stress
- 

Session Format

- Meet and greet time
 - Review and feedback
 - New lesson
 - Role plays and video vignettes
 - Guided practice
- 

HOT DOCS[©] Special Play

- Play activities to promote relationship (joint attention) & build skills
- Topics/Activities
 - Relationships-bubbles
 - Routines-books
 - Communication-art
 - Limit setting-play doh
 - Turn-taking-balls
 - Relaxation-progressive relaxation CD

HOT DOCS® Parenting Tips

- Parenting strategies that work right away
 - *Positive words*
 - *Catch them being good*
 - *Teaching calm voice*
 - *Using preventions*
 - *Redirection and follow-through*
 - *Take 5 for yourself*

HOT DOCS[©] Evaluation

- Number of families
- Number of providers
- Classes completed
- Pre-post test
- Standardized scales (CBCL, ABAS-II, SDIS)
- Satisfaction
- Individual coaching sessions/outcomes

Resources

- Centers for Autism and Related Disabilities (CARD)
- Partnership for Effective Programs for Students with Autism <http://www.autism-society.org/site/PageServer>
- Autism Society of Florida <http://www.autismfl.com/>
- National Institute of Mental Health <http://www.nimh.nih.gov/publicat/autism.cfm>
- Genes and Autism <http://www.nichd.nih.gov/autism>
- American Academy of Pediatrics <http://www.dbpeds.org>
- Center on the Social and Emotional Foundations for Early Learning <http://csefel.uiuc.edu>
- HOT DOCS© <http://www.usfpeds.hsc.usf.edu>
- IDEA, 2004 <http://idea.ed.gov>

Thank you!!!!

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