

[illegible]

Batson Children's Hospital
University of Mississippi Health Care

Slide 2

Disclosure (Buttross and Curtis)

- ▶ We have no disclosures.
- ▶ We do intend to discuss unapproved or investigational uses of medications and alternative treatments.

- ▶ We have no disclosures.
- ▶ We do intend to discuss unapproved or investigational uses of medications and alternative treatments.

Slide 3

Objectives

- Identify normal speech/language milestones in the young child.
- Understand the differential diagnosis for speech/language delay.
- Identify appropriate assessment tools used in screening for ASD.
- Recognize the diagnostic criteria for autism spectrum disorders (ASD).
- Understand the diagnostic workup that should be complete for children with symptoms of ASD.
- Know effective treatment modalities for children with ASD.

- ▶ Identify normal speech/language milestones in the young child.
- ▶ Understand the differential diagnosis for speech/language delay.
- ▶ Identify appropriate assessment tools used in screening for ASD.
- ▶ Recognize the diagnostic criteria for autism spectrum disorders (ASD).
- ▶ Understand the diagnostic workup that should be complete for children with symptoms of ASD.
- ▶ Know effective treatment modalities for children with ASD.

Slide 4

- ▶ Kelvin, 30 months, comes in for an ear check after an ear infection. His TMs look almost normal. He missed his 2 y/o check-up. On questioning mom about speech she says that he has about 15 single words, but doesn't put 2 words together. Mom doesn't understand most of what he says. He has an older brother who talks for him and he just doesn't have a reason to talk. Mom's not worried.
Are you?

Slide 5

- ▶ Emma is a 23 month old who has a history of cooing a babbling prior to 6 months of age, but seemed to just stop at some point. She doesn't follow directions and tantrums often. She walked at 13 months, can feed herself with a spoon and can complete a simple puzzle. When you walk into the room. She looks up and runs to her mother.

Slide 6

- ▶ Caleb is in for his 2 y/o check-up. You walk in the exam room with his Reach Out and Read book, loudly close the door and say "Hi, Caleb!" He doesn't look up at you and continues to stand in the corner of the room playing with a string. He has no words and doesn't follow simple commands. You pull your chair over to the corner by him and open the book and start reading. He doesn't look at you.

Slide 7

- Karen, now 24 months, walked at 18 months, and developed a good pincer grasp at about 15 months. She doesn't yet use a spoon, but finger feeds herself well. She now says "mama", "dada" and "bye-bye". She is a happy child and warms up to you quickly. When you say "Where's Daddy?" She looks over at her dad.

Slide 8

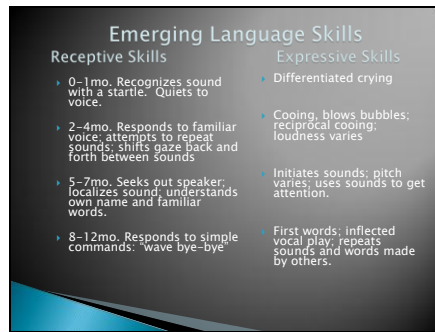
- Korbin is 26 months referred for possible autism. Specific complaints include that he seemed to develop normally until about 9 months. He has marked sleep and dietary problems and often engages in head banging and rocking. There are periods of aggressive behavior when he will slap and scream. Lack of sleep is the major complaint now.
- You observe that the child has nystagmus and alternating strabismus.

Slide 9

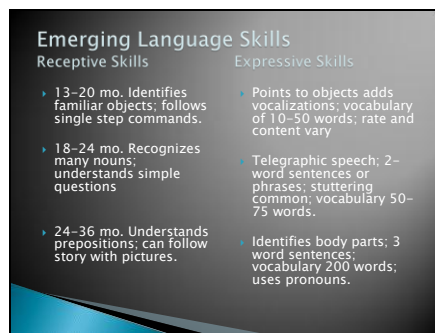
Answers

- Kelvin 30 month old: speech/language delay
- Emma 23 month old: Profound hearing loss
- Caleb 2 year old: Autism
- Karen 24 month old: global developmental delay
- Korbin 26 month old: severe visual impairment

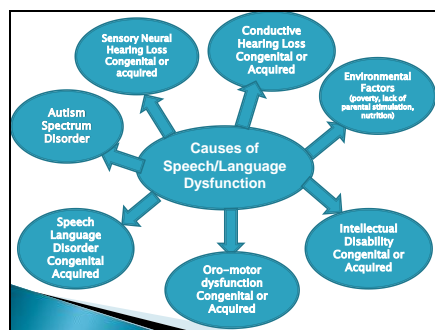
Slide 10



Slide 11



Slide 12



Slide 13

Don't skimp on hearing tests**

- ▶ Life-long deficits can occur in a child with an undiscovered hearing loss
- ▶ Just because the hearing was normal at birth doesn't mean it is normal now.
- ▶ Just because the mother believes the child can hear doesn't mean he can
- ▶ Just because you think he can hear doesn't mean he can.
- ▶ **Don't Skimp on Hearing Tests**

Slide 14

What Is Autism?

- ▶ **Complex developmental/behavioral disorder**
 - A qualitative impairment in reciprocal social interaction
 - A qualitative impairment in the development of language and communication.
 - A restricted range of activities and interests.

Slide 15

Present DSM IV Criteria

- ▶ A. A total of 6 or more items from 1, 2, & 3 with at least 2 from 1 and 1 each from 2 & 3 (Got it?)
- ▶ B. Delays or abnormal functioning in at least one of the following areas, with onset prior to 3 years (1) social interaction, (2) Language as used in social communication, or (3) symbolic play.
- ▶ C. The disturbance is not better accounted for by Rett's Disorder or Childhood Disintegrative Disorder.

Slide 16

▶ 1. Qualitative impairment in social interaction as manifested by at least two of the following:

- Marked impairment in the use of multiple nonverbal behaviors
- Failure to develop peer relationships appropriate to developmental level
- Lack of spontaneous seeking to share enjoyment, interests, or achievements with other people
- Lack of social or emotional reciprocity

Slide 17

▶ 2. Qualitative impairments in communication as manifested by at least one of the following:

- Delay in, or total lack of, the development of spoken language (not accompanied by an attempt to compensate through alternative modes of communication such as gesture or mime)
- Marked impairment in the ability to initiate or sustain conversation with others
- Stereotyped and repetitive use of language or idiosyncratic language
- Lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level

Slide 18

▶ 3. Restricted repetitive and stereotyped patterns of behavior, interest, and activities as manifested by at least one of the following:

- Encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
- Apparently inflexible adherence to specific, nonfunctional routines or rituals
- Stereotyped and repetitive motor mannerisms
- Persistent preoccupation with parts of objects.

Slide 19

Autism Spectrum Disorders

- ▶ Autistic Disorder
- ▶ Asperger's Disorder
- ▶ Rett's Disorder
- ▶ Pervasive Developmental Disorder Not Otherwise Specified
- ▶ Childhood Disintegrative Disorder

Slide 20

Proposed Changes in DSM V

- ▶ Autism Spectrum Disorder
- ▶ Must meet criteria A, B, C and D:
 - A. Persistent deficits in social communication and social interaction across contexts, not accounted for by general developmental delays and manifest by all of the 3 following:
 - Deficits in social-emotional reciprocity
 - Deficits in nonverbal communicative behaviors used for social interaction
 - Deficits in developing and maintaining relationships, appropriate to developmental level (beyond those with caregivers)

Slide 21

- B. Restricted, repetitive patterns of behavior, interests, or activities as manifested by at least two of the following:
 - Stereotyped or repetitive speech, motor movements or use of objects
 - Excessive adherence to routines, ritualized patterns of verbal or nonverbal behavior or excessive resistance to change
 - Highly restricted, fixated interests that are abnormal in intensity or focus
 - Hyper- or hypo-reactivity to sensory input or unusual interest in sensory aspects of environment;

Slide 22

- C. Symptoms must be present in early childhood (but may not become fully manifest until social demands exceed limited capacities)
- D. Symptoms together limit and impair everyday functioning.

Slide 23

| Severity Level for ASD | Social Communication | Restricted Interests & rituals /repetitive behaviors (RRB's) |
|---|--|--|
| Level 3 Requiring very substantial support | Severe deficits and verbal and nonverbal social communications skills causing severe impairments | Preoccupations, fixated RRB's markedly interfere with functioning in all spheres. |
| Level 2 Requiring substantial support | Marked deficits in verbal and nonverbal social communication skills; social impairments apparent even with supports in place | RRB's and/or preoccupations or fixated interests appear frequently enough to be obvious to the casual observer |
| Level 1 Requiring support | Without supports in place, deficits in social communication cause noticeable impairments. | RRB's cause significant interference with functioning in one or more contexts. Resists attempts by others to interrupt RRB's |

Slide 24

Prevalence of Autism

- › Pediatric News (1997) indicated a 100% increase in the diagnosis of Autism from 1990 to 1995.
- › AMA News (99) reported that in the last eleven years there had been a 273%.
- › The Center for Disease Control and Prevention 2001 estimated 2 per 1,000 individuals with autism.
- › 2007 prevalence statistics from the Center for Disease Control and Prevention: 1 in 150 births

Slide 25



Slide 26



Slide 27

California's increase in autism said not to be a case of better reporting

- ▶ Study funded by NIH
- ▶ Published in *Epidemiology*, Jan 2009.

Found the 7–8 fold increase in the number of children in California with autism since 1990 cannot be explained by either changes in how it is diagnosed or reported.

Also noted that there is no signs of the increasing numbers abating.

Slide 28

Autism is found in every country and region of the world, and in families of all racial, ethnic, religious and economic backgrounds.

Slide 29

Autism Statistics

- ▶ Four times more common in boys than in girls
- ▶ Girls with the disorder tend to have more severe symptoms and lower intelligence

Slide 30

- ▶ *Differences in White Matter Fiber Tract Development Present from 6-24 months in Infants with Autism*
- ▶ *Am J Psychiatry Wolff et al*
ajp.psychiatryonline.org

*Included data from an Autism Center of Excellence funded by the NIH
The Infant Brain Imaging Study (IBIS is an ongoing study of infants at risk for autism).*

Four clinical data collection sites
University of North Carolina
University of Washington, Seattle
Children's Hospital of Philadelphia
Washington University St. Louis.

Slide 31

- ▶ 92 high risk infant siblings of children with autism had ongoing imaging at 6 months with majority having additional imaging at 12 and/or 24 month.
- ▶ At 24 months, 28 infants met the criteria for ASD and 64 did not.
- ▶ The results suggested that aberrant development of white matter pathways may precede the manifestation of autistic symptoms in the first year of life.

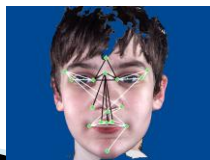
Slide 32

- Perinatal antidepressant exposure alters cortical network function in rodents*
Simpson et al. PNAS Early Edition University of Mississippi Medical Center and University of California, San Francisco
- ▶ Study done looking at early brain development in rat-pups who were exposed to an SSRI citalopram.
 - ▶ Showed that early manipulation of serotonin disturbs characteristic chemo-architectural and electrophysiological brain features.
 - ▶ The exposed rat pups also exhibited neophobia (fear of anything new) and disrupted juvenile play behavior
 - ▶ www.pnas.org/cgi/doi/10.1073/pnas.1109353108

Slide 33

How do children with autism differ from those without the disorder?

Social behaviors, mostly - things like avoiding eye contact or ignoring tone of voice. But recent research has shed light on a more subtle difference - facial features. Scientists at the University of Missouri found that children with autism share certain facial features that distinguish them from other children. At left is an example of a face study author and anatomy professor Dr. Kristina Aldrige mapped with 17 points to calculate facial traits.



Slide 34



Slide 35

Paternal Age and Autism Spectrum Disorders
Parner E., et al
<http://dx.doi.org/10.1016/j.jannwouswn.2011.006>

- ▶ Cohort: all single births in Denmark from Jan. 1, 1980–Dec. 31, 2003.
- ▶ Total births: 1,311,736.
- ▶ 9556 Cases of ASD were obtained from the Danish National Psychiatric Register Using ICD 8 and 10.

Slide 36

Results

- ▶ Both maternal and paternal age were associated with a greater risk of ASD in the offspring.
- ▶ Hazard ratios ranging from 1.21–1.65 depending on combinations of paternal age categories: <35, 35–39 and 40+ years
- ▶ For mothers younger than 35 years, the risk of ASD increased with increasing father's age group.
- ▶ For fathers younger than 35 years, the risk of ASD increased with increasing maternal age.

Slide 37

Conclusions

"...an association between parental age and ASD in the cohort study; but the combined underlying mechanisms through which paternal and maternal age impact ASD risk do not seem to act synergistically. The results of the sibling analysis suggest that the association between parental age and ASD found in the cohort study cannot be accounted for by common genetic and environmental factors."

Slide 38

Association between Microdeletion and Microduplication at 16p11.2 and Autism

Weiss et al N Engl J Med 2008; 358:667-675

- ▶ Genome-wide association study of families from the Autism Genetic Resource Exchange (AGRE) found that 5 of 512 children referred to Children's Hospital Boston as well as 3 in 299 persons with autism in an Icelandic population of a de novo deletion on Chromosome 16p11.2
- ▶ Reciprocal duplication occurred in 7 of the AGRE group and 4 of the Children from Children's Hospital Boston

Slide 39

Results and Conclusions

- ▶ Deletion and duplication events observed in nearly 1% of multiplex families with autism, in 1% of subjects in Iceland, and in more than 1.5% of clinical samples with developmental delay.
- ▶ The carrier frequency in the general population is <0.01%.
- ▶ ***"a region of chromosome 16p11.2 influences susceptibility to autism when it is either deleted or duplicated."***

Slide 40

What is Autism?



Slide 41

Qualitative Impairment of Reciprocal Social Interaction

- › Poor eye contact
- › Resistance to physical contact
- › Decreased joint attention
- › Limited use of and ability to interpret non-verbal social cues such as facial expression and body posturing

Slide 42

Core Deficits

- › Joint Attention
- › Social Referencing
- › "Theory of Mind" The Sally/Anne test allows one to attribute thoughts, desires, and intentions to others, to predict or explain their actions, and to imagine their intentions

Slide 43

Impairment in Language Development

- › Delayed acquisition
- › Not used for social communication
- › Echolalia
- › Confusion of personal pronouns
- › Verbal perseveration
- › Abnormalities of modulation of volume, pitch and rate of speaking
- › Paucity of nonverbal communication and facial expression

Slide 44

Restrictive, Repetitive and Stereotypic Behaviors and Interests

- › Desire for sameness
- › Resistance to change
- › Motor or vocal stereotypies
- › Preoccupation with specific topics

Slide 45

Other Characteristics Often Seen in Autistic Individuals

- › Either exaggerated or diminished responses to sensory and emotional stimuli
- › Attentional problems
- › Anxiety and/or depression
- › Emotional lability
- › Self injurious behaviors

Slide 46

Other Characteristics Often Seen In Autistic Individuals

- Aggressive behavior
- Tendency toward concrete rather than abstract thinking
- Splinter skills
- Mental retardation
- Seizure disorder
- Hyperactivity

Slide 47

Prognostic Indicators For Eventual Development of Meaningful Speech

- Higher I.Q. (cognitive abilities can range from superior intelligence to severe cognitive deficits) 2/3 of children with ASD will have cognitive deficits; measuring cognition is difficult in children with ASD
- Significant language development by age 6 years

Slide 48

Etiology? Genetics a strong factor

- Risk of recurrence in full siblings 3–8%
- Increased prevalence of other pervasive developmental disorders in families of affected individuals
- Strong evidence from twin studies: 60% of monozygotic twins have the full syndrome and 90% will have related cognitive or social abnormalities.

Slide 49

Etiology

- ▶ Biochemical studies
 - Serotonergic system
 - Noradrenergic system
 - Immune System
- ▶ Infectious disease
 - Intrauterine Rubella
 - Herpes simplex encephalitis

Slide 50

Diagnosis of Autism Spectrum Disorders

Slide 51

Differential Diagnosis

- ▶ Intellectual Disability
- ▶ Language disorder
- ▶ Severe hearing impairment
- ▶ Severe visual impairment
- ▶ Tourette's Syndrome
- ▶ Obsessive-compulsive disorder
- ▶ Habit phenomena
- ▶ Neglect
- ▶ Psychosis
- ▶ Neurodegenerative disorders
- ▶ Metabolic Disorders

Slide 52

History

- Specific age/developmental level appropriate questions
- Timing of the onset of symptoms
 - temporally related events
- Prior history of normal and/or abnormal development
- General medical history
- Family history
- Social history

Slide 53

History- Children Under 3 Years of Age

- Poor eye contact
- Poor joint attention
- Delay in onset of speech
- Lack of imitative play

Slide 54

What is joint attention?



Slide 55



Slide 56

Screening Tool

- ▶ Many tools available
- ▶ PDDST-II (Pervasive Developmental Disorders Screening Test -II)
- ▶ M-CHAT (Modified Checklist for Autism in Toddlers)
 - Chosen by AAP expert panel on autism and published in [AAP News](#) in February 2004 with algorithm.

Slide 57

PDDST-II
 PENDING DEVELOPMENTAL
 DISORDERS SCREENING TEST - II
 BRYNA SIEGEL

Child's name _____
 Sex _____ Date of birth _____ Child's age in months _____ Date of assessment _____
 Completed by _____ Relationship to child _____

Directions: For each item listed check **Yes**, **Usually True** or **No**, **Usually Not True** to indicate the response that best describes the child's behavior. Try to recall your child's behavior during that age range. Use age ranges as only guidelines. Check **Yes**, **Usually True** if you experienced this difficulty with your child at any age; No, your experience with other children; the child's siblings; or that you expected this child to behave in a certain fashion for comparison when responding to the items.

1. Did your baby ever begin to show what he/she wanted, or her by using words or pointing?

3. Did your baby either spend very much of the time, or play almost all of the time with one or two things?

4. Did your baby ever seem bored or unsatisfied in connection with going on ground (crawling)?

5. Did you ever notice that your baby could not seem to get to some sounds, but seemed often

5. Did anyone express concern that your baby might have a hearing loss?

7. Did you baby stare at his/her fingers while sucking them or use his/her fingers to suck at patches of light?

8. Did you ever think that you baby's development was slow because he/she didn't want to do anything, like walking, until he/she could do it just right?

5. (Did your baby ever do something scary and even for so long that you were surprised a baby that age could concentrate so well?)

continued on back

TODAY 10% OFF

PsychCorp Copyright © 2006 by Pearson Education, Inc.
All rights reserved. Printed in the United States of America.



Slide 58

| PDSST 10-2: Phase 1: Data Sources PDSST combined | | Yes | No |
|--|--|--------------------------|--------------------------|
| | | Answer | Answer |
| 10 to 24 Months | | | |
| 01 | Did you usually really enjoy talking and sharing, but not just at a meal? | <input type="checkbox"/> | <input type="checkbox"/> |
| 02 | Did you often, at times, get your toddler's back out of your front or side? | <input type="checkbox"/> | <input type="checkbox"/> |
| 03 | Did your toddler when you sat, put his arm to touch each when you returned? | <input type="checkbox"/> | <input type="checkbox"/> |
| 04 | Was you ever seeing that your toddler's attitude, that he sometimes took that he was sometimes angry? | <input type="checkbox"/> | <input type="checkbox"/> |
| 05 | Did your toddler seem uncomfortable in playing with kids he related to? | <input type="checkbox"/> | <input type="checkbox"/> |
| 06 | Did your toddler seem actively upset in a child he or related to? | <input type="checkbox"/> | <input type="checkbox"/> |
| 07 | Did your toddler have his (her) hand used in playing with toys, even though he/she actually seemed to know when he/she got used to it? | <input type="checkbox"/> | <input type="checkbox"/> |
| 08 | Did your toddler seem uncomfortable in knowing how to hold? | <input type="checkbox"/> | <input type="checkbox"/> |
| 09 | Did your toddler with his (her) hand, especially when he/she was excited? | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | Did your toddler seem gradually becoming to notice a flapping upper-limb, difference among things or something else? | <input type="checkbox"/> | <input type="checkbox"/> |
| 11 | Did your toddler seem to get along with his/her brother, his sister, their parents? | <input type="checkbox"/> | <input type="checkbox"/> |
| 12 | Did your toddler seem to get along with kids he/she associated, like seeing his/her, brother/sister, or something like that? | <input type="checkbox"/> | <input type="checkbox"/> |

Total Raw Score (Final Tot)

Stage 1 Raw Score

Slide 59

M-CHAT
Modified Checklist for Autism in Toddlers

The M-CHAT is designed to screen for Autism Spectrum Disorders in toddlers (i.e., over the age of 12 months, and ideally over the age of 18 months). A parent can complete the items independently. The M-CHAT does not allow a clinician to make a diagnosis of an Autism Spectrum Disorder, but is a very useful clinical tool that has excellent sensitivity and specificity. Positive results suggest a high risk for an Autism Spectrum Disorder, and may necessitate referral.

The M-CHAT does not require clinician observation. The CHAT, however, does require clinician observation, and has poor sensitivity, but excellent specificity.

Slide 60

[illegible]

Slide 61

M-CHAT Scoring Instructions

A child fails the checklist when 2 or more critical items are failed OR when any three items are failed. Yes/no answers convert to pass/fail responses. Below are listed the failed responses for each item on the M-CHAT. Bold capitalized items are **CRITICAL** items.

Not all children who fail the checklist will meet criteria for a diagnosis on the autism spectrum. However, children who fail the checklist should be evaluated in more depth by the physician or referred for a developmental evaluation with a specialist.

| | | | | |
|--------------|--------------|---------------|---------|---------|
| 1. No | 6. No | 11. Yes | 16. No | 21. No |
| 2. NO | 7. NO | 12. No | 17. No | 22. Yes |
| 3. No | 8. No | 13. NO | 18. Yes | 23. No |
| 4. No | 9. NO | 14. NO | 19. No | |
| 5. No | 10. No | 15. NO | 20. Yes | |

Slide 62

Diagnostic Instruments

- ▶ CARS 2 HF and ST (Childhood Autism Rating Scale)
- ▶ Autism Diagnostic Interview
- ▶ ADOS 2(Autism Diagnostic Observation Schedule)
- ▶ GARS-2 (Gilliam Autism Rating Scale -Second Edition)

Slide 63

Laboratory Evaluation

- › DNA Molecular Study for Fragile-X (<5%)
- › FISH for MECP2 gene on X chromosome– (diagnostic of Rett's syndrome)
- › High Resolution Chromosomes
- › Micro-array (looks at gene sequencing and much more detailed than high resolution chromosomes) replacing chromosomal analysis
- › Lead, CBC, Chem 8 and Thyroid Panel
- › Lactate and Pyruvate?
- › Metabolic Screen?

Slide 64

Evaluation

- ▶ EEG
 - Prolonged study which includes stage III and IV sleep is most informative
 - Particularly important if there is history of regression
 - Acquired epileptic aphasia (Landau-Kleffner Syndrome)
 - Electrical status-epilepticus during slow-wave sleep

Slide 65

Psychological Evaluation

- ▶ Level of general intellectual and adaptive function
 - WISC III
 - Bayley Scales of Infant Development
 - Leiter International Performance Scale
 - Vineland Scales of Adaptive Behavior
- ▶ Academic achievement
- ▶ Formal language evaluation

Slide 66

Multi-modal Management

- ▶ Educational
- ▶ Behavioral
- ▶ Pharmacological
- ▶ Nontraditional/experimental:
what is safe and/or useful?

Slide 67

What is Applied Behavior Analysis (ABA)?

- ▶ Is evidence-based programs for improving language and communications skills.
- ▶ Is the science to understanding and improvement of human behavior, which focuses on objectively defining observable behaviors of social significance.
- ▶ Is a natural science like biology, not a social science like psychology.

Slide 68

Verbal Behavior

- ▶ Operant Behavior reinforced through the mediation of other persons (socially mediated)
- ▶ Oral or Non-Oral form of communication (not just vocal speech)
- ▶ Helps people get what they want, and avoid what they don't want faster and more efficiently (functional)

Slide 69

Forms of Verbal Behavior

- ❖ Don't confuse Verbal with Vocal (Verbal is not limited to vocal speech)

Forms of Verbal Behavior include:

- Speaking
- Signing
- Pointing (can be, sometimes not)
- Writing
- Gesturing, touching, smiling
- Picture cards

Slide 70

Verbal Operants

- › Mands/Request
- › Tacts/Labeling
- › Intraverbal
- › Receptive Language

Slide 71

Mands/Request

- › Requesting or asking for highly desirable items or activities

Examples:
Asking for the cookie because you want a cookie

“Where is the closest gas station?”

Slide 72

Mand Training

- › Manding is verbal behavior that produces immediate benefit for the learner and therefore strengthens it.
- › Development of a strong manding repertoire may be essential for the development of all other types of verbal behavior (e.g. tacting, intraverbal).
- › Manding teaches a child that verbal behavior is valuable; the other repertoires teach what to say once the learner “wants to talk”

Slide 73

Mand Training Cont.

- ▶ This is the First repertoire learned by all children' (e.g. children cry when they are hungry and as a result they receive food). Eventually the child learns to say words to ask for different things which are reinforcing.
- ▶ By teaching a mand repertoire you may replace many problem behaviors.

Slide 74



Slide 75



Slide 76



Slide 77



Slide 78

Tact/Requesting

- › Response consist of naming or labeling
- › Tacts can be of objects, actions, features, relationships and function of items

Example:
Saying "shoe" because you see a shoe
Saying "horse" when you drive by a pasture

Slide 79

Intraverbals

- ▶ Response may take the form of
 - Answering a question
 - Commenting
 - Otherwise known as conversation

Examples:

Saying "shoe" after someone else says "what do you wear on your feet?"

Saying "Moooo" after someone else says "what does a cow say?"

Slide 80

Receptive Language

- ▶ The response is not verbal
- ▶ Receptive language is the behavior of the listener, not the speaker
- ▶ Response involves following instruction, nonverbal compliance with a request

Example:

"Bring me the shoe please"

"Go and get your hat"

Slide 81

What is it? A Mand, Tact, Intraverbal or Receptive Language

1. Saying "Coke" as a result of seeing a bottle of Coke
2. Saying "Twilight DVD" when asked "What do you want for your birthday?"
3. Sarah is hungry. She goes up to her mom who is eating cookies and says "cookie". Her mom gives her a cookie. Sarah saying "cookie is ..."

Slide 82

What is it? A Mand, Tact, Intraverbal or Receptive Language Cont.

4. Jack arrives to his classroom and his teacher asks him to get his markers. Jack complies and gets his markers. Jack following directions is an example of...

Slide 83

Effective Teaching Procedures

1. Use positive reinforcement (pairing)
2. Mix and vary tasks
3. Reduce learner error (use errorless teaching methods)
4. Intersperse easy and hard task/demands
5. Fade in number of demands
6. Fade in effort and difficulty of responses
7. Immediately deliver reinforcement
8. Quick pace

Slide 84

Introduction to the Assessment of Basic Language and Learning Skills (ABLLS)

Other/Traditional Assessment tools:

- HELP
- Brigance
- Preschool Language Scale
- Peabody Picture Vocabulary Test

Deficits:

- Assess language as form, not function
- Test only receptive and expressive
- Does not account for motivation
- Does not provide a starting point for instruction

Slide 85

Advantages to the ABLLS

- ▶ Large emphasis on function of language!
- ▶ Motivation-conditions that may affect responding
- ▶ Tracking system over time-updates

Some Limitations

- ▶ Does not proved age norms
- ▶ Does not compare the learner's skills to their peer group

Slide 86

ABLLS Cont.

Rather it is

- ▶ Criterion-referenced skills assessment
- ▶ Where to begin an intervention
- ▶ What language objectives might be appropriate for a child's IEP

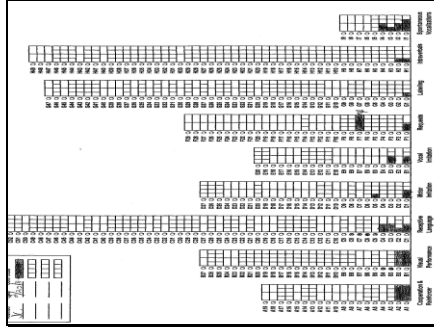
Slide 87

ABLLS Cont.

Purpose:

- ▶ Identification of language skills that other tests do not assess
- ▶ Identification of skills in other important areas such as academics, self-help and motor skills

Slide 88



Slide 89

Selection Based (pictures/PECS) vs. Topography Based (gestures/signing)

- ▶ The two have been analyzed behaviorally and conceptually, it is clear that the two systems are actually quite different from the perspective of the speaker
- ▶ Most practitioners in the field of Autism must often choose between a SB and a TB method or some combination for their non-vocal learners

Slide 90


Differences between the two types of Communication

- ▶ TB methods (talking, signing, writing) have very distinctly motor movement. For example the sign for candy requires a different topography than the sign for shoes.
- ▶ SB methods virtually have the same motor movement for each relation (e.g. pointing or exchanging), what is different is the picture that is pointed to or exchanged.

Slide 91

SB vs. TB Cont.

- ▶ The analysis of the two methods lead to the observation that signing and talking are quite similar while selection based systems share many less characteristics with talking.




Slide 92

Which is better? (signs or pictures)

Important Considerations:


- ▶ How easily can it be acquired and how efficient it is
- ▶ The motor movements necessary to communicate with a picture (scanning, selecting, and pointing or giving picture) shows a difference in efficiency between SB and TB.



Slide 93

Education Management

- ▶ Intensive and persistent speech therapy is often the most important therapy that can be offered.
- ▶ When coupled with behavioral therapy profound gains in level of functioning can be made.



Slide 94

Resources for Educational and Behavioral Management

- ▶ **Birth to age 3 years**
 - Early Intervention Programs
 - Individual Family Service Plan (IFSP)
 - Local health departments
 - Local mental health centers
 - Regional developmental centers
- ▶ **Age 3 to 21 years**
 - Public school districts
 - Individual Education Plan (IEP)

Slide 95

Pharmacological Management

- ▶ No Cure Available
- ▶ Select Target Behaviors
- ▶ Watch for Side-effects
- ▶ Try to Avoid Poly-pharmacy

Slide 96

Medications used in treating symptoms

| Medication | Treatment of symptoms | Potential side-effects |
|---|---|---|
| Atypical antipsychotics | Aggressive, self-injurious behaviors Often helpful with sleep repetitive and obsessive behaviors | Weight gain Movement disorder Akathisia Elevated blood glucose, prolactin and blood lipids |
| Risperidone (Risperdal) Aripiprazole (Ablify) | | |
| SSRI's | Repetitive behaviors Obsessive behaviors Anxiety or depressive symptoms | Increased agitation Suicidal ideation Appetite increase |
| Fluoxetine (Prozac) Sertraline (Zoloft) Fluvoxamine (Luvox) | | |
| Central Acting alpha agonists | Hyperactivity Inattention Aggression Agitation | Lowing of BP Sleepiness |
| Clonidine (Catapres) Guanfacine (Tenex) | | |

Slide 97

Use of CAM Therapies in Children with Autism

- ▶ Nontraditional Therapies
 - Use is not supported by sound scientific studies.
 - Anecdotal Reports
 - Lack of FDA Regulation
 - Widely Available O.T.C.
 - Some Therapies Warrant further Investigation

Slide 98

Nontraditional/Controversial Therapies

- ▶ Omega 3 Fatty acids
- ▶ Gluten–Casein free diet
- ▶ Carnitine
- ▶ Dimethylglycine (DMG)
- ▶ Vitamin B6, B12 and magnesium
- ▶ Secretin
- ▶ Auditory Integration Training
- ▶ Facilitated Communication
- ▶ Chelation Therapy
- ▶ Bariatric Therapy

Slide 99

Exploring Program Options

Parents may find these questions helpful as they consider various programs (NIMH recommendations):

- ▶ *How successful has the program been for other children?*
- ▶ *How many children have gone on to placement in a regular school and how have they performed?*
- ▶ *Do staff members have training and experience in working with children and adolescents with autism?*
- ▶ *How are activities planned and organized?*

Slide 100

Helpful Questions

(Continued)

- ▶ Are there predictable daily schedules and routines?
- ▶ How much individual attention will my child receive?
- ▶ How is progress measured? Will my child's behavior be closely observed and recorded?
- ▶ Will my child be given tasks and rewards that are personally motivating?
- ▶ Is the environment designed to minimize distractions?
- ▶ Will the program prepare me to continue the therapy at home?
- ▶ What is the cost, time commitment, and location of the program?

Slide 101

Autism is a Lifelong Disorder

- ▶ Take time with the parents to explain the disorder.
- ▶ Remember that there will be a typical grief reaction to the diagnosis.
- ▶ Treatment can make a difference in the outcome.
- ▶ Lead the parent to reputable and reliable intervention.

Slide 102

References

- ▶ National Institute of Mental Health: www.nimh.nih.gov
- ▶ Child and Adolescent Psychiatric Clinics of North American. Asperger Syndrome. Vol.. 12, No. 1, January 2003.
- ▶ Journal of Autism and Developmental Disorders
- ▶ CNS Spectrums, *The International Journal of Neuropsychiatric Medicine*, Vol.. 9, No. 1, January 2004
- ▶ Kemper, et al; The Use of Complementary and Alternative Medicine in Pediatrics. *Pediatrics* 2008;122;1374-1386.

Slide 103

References

- ▶ Johnson C, Myers S. Identification and Evaluation of Children with Autism Spectrum Disorders. *Pediatrics*. 2007;120:1183–1215.
- ▶ Myers S, Johnson C. The Council on Children with Disabilities. Management of Children with Autism Spectrum Disorders. *Pediatrics*. 2007;120: 1162–1183.
- ▶ The Zuckerman Parker Handbook of Developmental and Behavioral Pediatrics for Primary Care, 3rd ed. Lippincott, Williams and Wilkins 2011;chap 26: 134–138

Slide 104

References

- ▶ Practice parameter: Screening and diagnosis of autism, Report of the Quality Standards Subcommittee of the American Academy of Neurology and the Child Neurology Society, Filipek, PA et al, *Neurology* 2000; 55:468–479
- ▶ Aid in Screening and Diagnosis, The Different Shades of Autism, Updated 9-15-04:
[www.aap.org\bookstore](http://www.aap.org/bookstore)

Slide 105

References

- ▶ Cheng K, Myers K. Child and Adolescent Psychiatry: The Essentials, 2nd edition. Lippincott Williams and Wilkins 2011; chap 16: 278–297.
- ▶ Carbone, Vincent: Teaching Verbal Behavior to Children with Autism and Other Developmental Disabilities Manual. 2011 Manual
