



# **SPEECH & LANGUAGE PROBLEMS IN CHILDREN**

# TOPICS

- Terminology
- Characteristics
- Etiology
- Evaluation
- Management



# TERMINOLOGY: COMMUNICATION

- Receiving, sending, processing and comprehending concepts, or verbal, nonverbal and graphic symbol systems
- Verbal - Spoken
- Nonverbal - Gesture/Sign
- Graphic - Written



# TERMINOLOGY: SPEECH

- Articulation - production of speech sounds (phonemes); e.g., /p/, /f/, /s/, /k/
- Voice - production of vocal quality, pitch, loudness, resonance and duration
- Fluency - flow or smoothness of speech production



# TERMINOLOGY: LANGUAGE

- Receptive and Expressive Language

## Content

- Semantic - word meanings/vocabulary

## Form

- Syntactic - grammar, word order
- Morphological - structure of word forms
- Phonological - sounds

## Use

- Pragmatic - function or use in context



# CHARACTERISTICS OF AN ARTICULATION OR SPEECH SOUND DISORDER

- Difficulty pronouncing speech sounds
- Reduced intelligibility
- Patterns
  - use of one or more consonants for most others (e.g., “tat” for “cat”)
  - omission of consonants at ends of words (e.g., “ca-” for “cat”)
  - difficulty with consonant clusters (e.g., “tick” for “stick”)



# CHARACTERISTICS OF DYSFLUENCY/STUTTERING

- Usual onset between 2 and 5 years of age
- Highest risk of onset occurs before age of 3.5
- Onset prior to age 3: majority of children recover fluency
  
- Part-word repetitions, sound prolongations, blocks
- Struggle and tension
- Rising pitch
- Fear and avoidance
- Associated behaviors



# CHARACTERISTICS OF A VOICE DISORDER

- Quality: hoarse, harsh, breathy
- Resonance: hypernasal/hyponasal
- Pitch: too high or too low
- Loudness: too soft or too loud






# CHARACTERISTICS OF A LANGUAGE DISORDER

- Language form: “the girl hat”  
“her go her house”  
“did you remembered”
- Language content: “a frog up and down”
- Language use: “Catch Home Improvement tonight at 10:30 on Channel 7”



# CHARACTERISTICS OF AUTISM

## Communication

- Not speaking or very limited speech
  - Loss of words the child was previously able to say
  - Difficulty expressing basic wants and needs
  - Poor vocabulary development
  - Problems following directions or finding objects named
  - Repeating what is said (echolalia)
  - Problems answering questions
  - Speech that sounds different (e.g., "robotic" speech or speech that is high-pitched)
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# CHARACTERISTICS OF AUTISM

## Social skills

- Poor eye contact with people or objects
- Poor play skills (pretend or social play)
- Being overly focused on a topic or objects that interest them
- Problems making friends
- Crying, becoming angry, giggling or laughing for no known reason or at the wrong time
- Dislike being touched or held



# CHARACTERISTICS OF AUTISM

## Reacting to the world around them

- Rocking, hand flapping or other movements
- Not attending to things the child sees or hears
- Problems dealing with changes in routine
- Using objects in unusual ways
- Unusual attachments to objects
- No fear of real dangers
- Being either very sensitive or not sensitive enough to touch, light or sounds
- Feeding difficulties (refusing certain food textures)
- Sleep problems

<http://www.asha.org/public/speech/disorders/Autism/>



# REQUIREMENTS FOR NORMAL DEVELOPMENT

- Intact Mechanism

Hearing Sensitivity  
Perception  
Intelligence  
Structural integrity  
Motor skill  
Emotional stability

- Favorable Environment

Stimulation  
Reinforcement  
Realistic Expectations



# ETIOLOGY: ARTICULATION

- Hearing loss
- Neuromotor (Apraxia & Dysarthria)
- Structural defects
- Rule-based
- Developmental



# ETIOLOGY: STUTTERING

Child factors that contribute to onset of stuttering

- Age of rapid development
- High internal demand for complex language
- Impulsive/compulsive need for talking
- Temperament characteristics
- Progress of normal development: speech, language, motor, social, emotional and cognitive



# RISK FACTORS FOR PERSISTENT STUTTERING

- Gender
- Genetics and family history
- Age of onset
- Length of time since onset
- Speech sound errors





# ETIOLOGY: VOICE

- Misuse vs. Organic Changes
- Vocal nodules
- Resonance
  - Hypernasal
    - Velopharyngeal Insufficiency (VPI)
    - Cleft Palate
  - Hyponasal



# ETIOLOGY: LANGUAGE

- Specific Language Impairment (SLI)
  - discrepancy between verbal and nonverbal ability
  - strong familial incidence



# ETIOLOGY: LANGUAGE

- Mental Retardation
- Learning Disabilities
- ADHD
- CAPD
- Degenerative disorders
- Autism/PDD
- Hearing loss
- Traumatic Brain Injury
- Abuse/Neglect
- Otitis Media



# EVALUATION

- Causative Vs. Descriptive
- Standardized/Objective Testing
- Observational/Subjective Testing
- Instrumented Observation



# EVALUATION

- Language Form/Content/Use
  - Receptive
  - Expressive
- Articulation
- Voice
- Fluency



# EVALUATION

- Phonological awareness
- Auditory/Visual processing
- Memory
- Reasoning
- Reading
- Written Language
- Math



# REFERRAL CRITERIA

- Persistent concern by caregiver
- Development slows or plateaus
- No consistent words by 18 months
- No word combinations by 24 months
- Speech is difficult for parents to understand at 24 months
- Disfluencies more than tension-free, whole word repetitions



# REFERRAL CRITERIA

- Speech is difficult for others to understand at 36 months
- Difficulty following instructions
- Difficulty using language appropriately
- Child is frustrated or teased
- Child avoids speaking situations
- Academic difficulty





# MANAGEMENT

- Parent education
  - Role in stimulating language development
- Promote an optimal listening environment
  - Increase saliency of speech signal (seating, gaining attention first, speaking clearly)
  - Reducing background noise
- Enhance responsiveness of language environment
  - Responding to communicative attempts
  - Elaborating on topics
  - Rhyming games, songs, stories
  - Regular book reading



# MANAGEMENT

- Speech and Language Intervention
  - Target specific areas of concern
  - High structure (stimulus-response-reinforcement)
  - Low structure (client-led, play-based)
  - Generalization of learned skills
  - Functional Outcomes
  - Pull-out versus Inclusion



# MANAGEMENT

- Technology
  - Passy Muir speaking valve
  - Augmentative communication
  - Computer applications



# MANAGEMENT: LATE TALKERS

## ○ PREDICTORS OF A POSITIVE OUTCOME

- good language comprehension
- good sound repertoire
- verbal/gestural imitation
- gestures
- play skills
- social skills

## ○ RISK FACTORS

- otitis media
- family incidence of language & learning problems
- parental needs



# SUMMARY

- Parent/teacher/physician concerns
- Physician referral
- Evaluation and Recommendations
- Management

