

LANGUAGE SCREENING

UCSF PEDIATRIC RESIDENT CONTINUITY CLINIC LECTURE
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OBJECTIVES

- Understand normal language development in children
- Be able to identify children at risk for speech and language delay
- Know when to refer a child for a speech evaluation and possible hearing test
- Be familiar with community resources and speech referral centers

NORMAL LANGUAGE DEVELOPMENT

<u>AGE</u>	<u>AUDITORY EXPRESSIVE LANGUAGE</u>	<u>AUDITORY RECEPTIVE LANGUAGE</u>
4-6 wks	cooing	respond to vocal stimuli by eye widening/sucking
4 months	bilabial sounds	watch and listen to adult speak (2-3 mo old); turn head to locate voice
6-8 months	polysyllabic babbling "lalala", "mamama"	attentive to name
9 months	"mama", "dada" nonspecific	comprehend "no"; gestures
12 months	"mama", "dada" specific; additional 1-2 words	respond to 1-step commands; point
18-20 mos	20 words	follows 1-step command without gestures; names pictures of common objects
24 months	1+words/day new, 50 words, 2-word phrases 50% intelligible speech	follow 2-step commands; point to objects on command by name
24-30 mos	3-5 word sentences; pronouns "Me want cookie."	
36 months	grammatically correct sentences in present tense 75% intelligible speech; several new words/day	
4 years	completely intelligible speech; 5-6 word sentences	

EPIDEMIOLOGY

- Speech and language delays occur at prevalence rates of 2-19% depending on how they are defined.

DEFINITIONS

- Speech—verbal production of language
- Language (the conceptual processing of communication)—refers to 4 domains
- Semantics—rules that assign meaning to words and strings of words
- Syntax—rules for combining words into phrases and sentences
- Phonology—rules for combining sounds of language/sound production
- Pragmatics—rules for social use of language

- Language skills include both
 - Reception—ability to understand an incoming message
 - Expression—ability to formulate and express an outgoing message
- Language is commonly thought of in its spoken form, but can include a visual form, such as ASL.

LANGUAGE DEVELOPMENT

- Atypical development of language
 - Classified as disordered or delayed
 - Delayed language will progress in a typical sequence, but at a slower rate than normal.
 - Disordered language does not progress typically. An example may be a child who can speak a well-formed sentence but cannot answer “wh-“ questions.

LANGUAGE DEVELOPMENT

- Delayed and disordered language can occur as a primary condition or as a secondary condition of other physical and developmental problems that first show up as language problems:
 - Hearing loss, mental retardation, autistic spectrum disorders, and learning disabilities

LANGUAGE DEVELOPMENT

- Speech problems can signal a specific physical disorder:
 - Speech apraxia—a coordination disorder of speech articulators
 - Dysarthria—impaired muscular function in speech production
 - Other neuromuscular disorders that affect speech production (cerebral palsy)
 - Phonological disorder—unable to process speech sounds

LANGUAGE DEVELOPMENT

- Speech production problems can occur independently of language problems, but can also co-occur with language difficulties.
- A combined speech and language delay occurs in 5% to 8% of preschool-aged children.

Hearing Loss

- Hearing loss severe enough to affect language development and learning occurs in 1-6/1000 children
- Hearing loss usually causes a delay in language development rather than a disorder. Children with hearing loss may be slower in vocabulary development, syntax, and may have distorted speech sounds.
- Fortunately with the start of neonatal hearing screening, many congenital hearing problems are identified at birth. In the United States, 45 states and the District of Columbia have legally mandated or voluntary compliance programs to screen newborn hearing.

Mental Retardation

- Children will usually show a language delay. Children who have mild cognitive impairment will use speech as preschoolers, but those who are more severe may not use any words.

Autistic Spectrum Disorders

- A key component usually is a pattern of language disorder. They may show phonological, syntactic, semantic, or pragmatic impairments. Young autistic children may not express any words, have limited receptive language, and/or use echolalia. Autistic children commonly show significant pragmatic difficulties in their inability to initiate or sustain a conversation.

Language Disorder as Primary Problem

- Referred to as expressive or mixed receptive-expressive language disorder or SLI (specific language impairment); often related to subsequent learning disabilities like dyslexia or other reading disorders.

TYPICAL PRESENTATION

- A toddler or preschool child who has a language disorder might present in a pediatrician's office for a well-child check.
- Some parents may bring up the fact that they are worried about the child's speech development, or the pediatrician may note an atypical pattern of communication during the examination.

SCREENING MEASURES FOR LANGUAGE DEVELOPMENT

- The U.S. Preventive Services Task Force evaluated the use of brief, formal screening instruments for speech and language delays in young children (up to 5 years of age) that can be used in a primary care setting, focusing on measures requiring 10 minutes or less to complete.
- Results indicated that there was no sufficient evidence that screening instruments are any more reliable or effective than using physician observations or parental concerns to identify children who need further evaluation.

SCREENING MEASURES FOR LANGUAGE DEVELOPMENT

- The Task Force noted that there is no single “gold standard” for screening because measures and terminology are used inconsistently.
- The Task Force recommended further research in this area, but did not recommend the use of screening instruments.
- The most consistently reported risk factors for speech and language problems include family history of speech/language delay (siblings, parents, grandparents as late talkers, with learning disabilities, dyslexia, special education services, history of speech therapy, or stuttering), male gender, and perinatal factors (preterm, low birth weight, birth difficulties, toxemia, and poor sucking).

SCREENING MEASURES FOR LANGUAGE DEVELOPMENT

- Guidelines for referring a child to a specialist for further evaluation (items for this chart were taken from four sources of normal development of language skills: Denver Developmental Screening Test II, the Rossetti Infant-Toddler Language Scale, and schedules of language development from the American Speech-Language-Hearing Association and the Child Development Institute.

Should absolutely refer for a speech-language evaluation if:

<u>At age</u>	<u>Receptive</u>	<u>Expressive</u>
15 months	Does not look, point at 5-10 objects/people named by parents	Not using three words
18 months	Does not follow simple directions ("Get your shoes.")	Not using Mama, Dada, or other names
24 months	Does not point to pictures or body parts when they are named	Not using 25 words
30 months	Does not verbally respond or nod/shake head to questions	Not using unique two-word phrases, including noun-verb combinations
36 months	Does not understand prepositions or action words; does not follow two-step directions	Vocabulary <200 words; does not ask for things by name; echolalia to questions; regression of language after acquiring two-word phrases

REFERRALS

- Children's speech and language can be evaluated at any age when there is a suspicion of delay or disorder.
- The most common referral is to a speech-language pathologist for an evaluation. They have standard methods for assessing language difficulties and can make recommendations regarding treatment and intervention.
- Early intervention is available through the state education system. The early intervention services in a particular state can provide speech-language evaluations of toddlers and preschoolers upon parent request. It is also an appropriate resource for pediatricians suspecting atypical language development in a patient. Private therapy services are also available.

REFERRALS

- The U.S. Federal IDEA law (Individuals with Disabilities Education Act) requires that special education services be provided to children who have learning difficulties, including those who have speech, language, and hearing problems. Services are available for children from birth to 21 years of age.
- Referral to an audiologist for a hearing evaluation should also be part of the assessment.

SUMMARY

- At the present time, parent and pediatrician impressions of atypical speech and language development are as good an indicator of problems as any type of formal screening measure. Whenever a communication disorder is suspected, children are old enough for an evaluation by specialists. Early intervention with speech and language therapy is often effective in helping to improve a child's communication disorder.

COMMUNITY RESOURCES

- Kaiser Permanente San Francisco Speech Therapy Department is available for speech evaluation referrals. Speech therapy needs are referred to outside providers or to the school district
- Hearing and Speech Center of Northern California, 1234 Divisadero Street, SF
 - www.hearingspeech.org

COMMUNITY RESOURCES

- Speech, Inc, 2000 VanNess Ave, Ste. 700
– www.speechinc.com
- San Francisco State University: Speech Therapy
– www.sfsu.edu
- Golden Gate Regional Center, 875 Stevenson, SF
- Private Speech Therapists

REFERENCES

1. Schum, RL. Language Screening in the Pediatric Office Setting. *Pediatric Clinics of North America* 2007; 54(3):425-436.
2. U.S. Preventive Services Task Force. Screening for Speech and Language Delay in Preschool Children: Recommendation Statement. *Pediatrics* 2006; 117(2):497-501.
3. Nelson, H. Screening for Speech and Language Delay in Preschool Children: Systematic Evidence Review for the U.S. Preventive Services Task Force. *Pediatrics* 2006; 117(2):e298-e319.
4. Wegner, L. Screening for Speech and Language Delay in Preschool Children: More Answers Are Needed. *Pediatrics* 2006; 117(2):533-534.

CASE #1

The parents of 23-month-old Jake are concerned because he only uses eight words. He gestures and points to what he wants as his main form of communication. He babbles to pretend he is talking to the family and makes the “vroom” sound when playing with his toy cars. He likes to “call” his 2 older siblings to the dinner table at meal time when asked by his father.

CASE #1

Jake has an expressive language delay with otherwise normal social/behavioral development. He seems to have normal receptive language and good social skills. Upon further history, you find dad and a paternal uncle were “late talkers”. It may be a good idea to refer Jake for a speech evaluation and hearing test, at least by age 2-1/2 if there are not 2-word sentences.

CASE #2

Betty is a 15-month old otherwise healthy female who is in your office for a well-visit with her parents. They are concerned because she is not saying any words. She does not even seem to attempt to vocalize. She does not really point at objects. Her older brother, now 3 years old, seemed to have a few words around 12 months of age.

CASE #2

Betty has concerning receptive and expressive language skills. It would be best to refer her for a speech evaluation, hearing test, and developmental evaluation.