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Identification of Speech-language Disorders in Toddlers

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Identification of Speech-language Disorders in Toddlers

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Identification of Speech-Language Disorders in Toddlers (invited seminar)

By Lynn Williams¹ and Carol Stoel-Gammon²

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Abstract:

This invited session provides an overview of early speech/language development with a focus on identification of delay/disorders in toddlers. Types of speech/language behaviors in prelinguistic and early linguistic development that serve as “red flags” for possible disorders will be discussed. The need for developmentally appropriate assessments will be highlighted.

Review of Phonological Acquisition

Developmental Stage	Age	Characteristics
Prelinguistic Stage	Birth-12 months	<ul style="list-style-type: none">• Babbling (reduplicated CV syllables): 6-10 months• Variegated babbling (jargon): 10-12 months
First Words Stage	12-18 months	<ul style="list-style-type: none">• First words acquired as “unanalyzed wholes”• Variable productions• Some children: word selection linked to phonetic inventory• Simple syllable structure; primarily stops, nasals and glides at labial and alveolar place of production
Phonemic Stage	18 months-4 years	<ul style="list-style-type: none">• 50-word stage at 18 months• Rule-governed strategy• Rapid vocabulary growth
Stabilization Stage	4-8 years	<ul style="list-style-type: none">• Stabilization of variable productions• Acquisition of later sounds (liquids, affricates, fricatives) and clusters

Red Flags in Development

- 🔴 **Extremely limited phonetic inventory (e.g., only labial consonants; only central vowels)**
- 🔴 **Word-final phonetic inventory substantially larger than word-initial inventory**
- 🔴 **Unusual vowel errors**
- 🔴 **Atypical consonant substitutions (e.g., substitution of glottal consonants; backing)**
- 🔴 **Atypical consonant deletions (ICD)**

Need for Developmentally Appropriate Assessments

- Comparability of testing samples across time and across children (for clinical and research purposes)
- Few available tests that include 2-year olds in the target population, but they’re standardized for large age ranges (e.g., GFTA-2 designed for age 2 years to adults)
- Most tests assess each consonant a single time in each word position
- Most tests use vocabulary that are unfamiliar to 2 year olds and elicitation techniques designed for children 3 years old and older

Desirable features

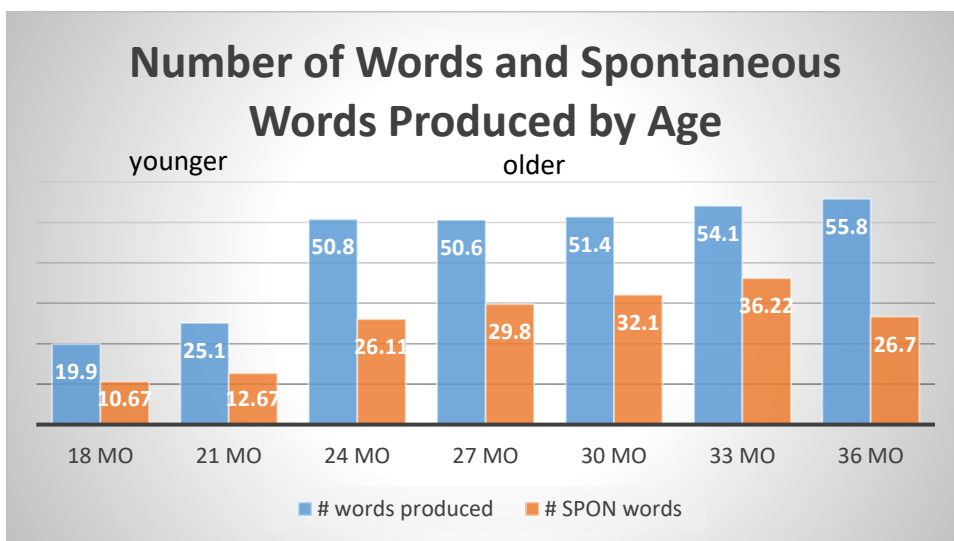
- * A test that includes words that are present in the productive vocabularies of young children
- * A test that includes words with a variety of sounds classes and syllable/word structures
- * A test that uses methods of elicitation that encourage spontaneous productions and allow for multiple prompts from the clinician/researcher

Variables	TPT ^a	PEEPS
# words	37	40 (Basic List); 20 (Expanded List); (20 Screener)
Age of Acquisition	23.45 months (22.1 – 68.5 months) 82% of words acquired <36 months	20.5 months (18-27 months) <ul style="list-style-type: none"> • Basic: 19.4 months (18-21 months) • Expanded: 22.7 months (21-27 months) 97% of words acquired by 24 months
Stimuli	Pictures	Toys
Word set	Australian/British/NZ English	American English with adapted words for British/Australian/NZ
Phonetic complexity	Medium phonetic complexity with: <ul style="list-style-type: none"> • 11/32 <u>clusters</u> • 2/32 >2 <u>syllables</u> <ul style="list-style-type: none"> ○ 18/32 (56%) were basic syll shapes (CV, CVC, CVCV) ○ 1/32 <u>non-initial stress</u> 	Low phonetic complexity <ul style="list-style-type: none"> • there are few words with <u>clusters</u> (3/40) • few words with <u>more than two syllables</u> (2/40) • few words with <u>non-initial stress</u> (2/40)

^a Toddler Phonology Test (McIntosh & Dodd, 2011)

Data on Typically and Atypically Developing Toddlers

Question: Did young children with typical speech-language development produce the target words from the PEEPS?
 By 24 months, children produced 85% of the Expanded 60 word list (at 18 months, they produced 50% of the Basic 40 word list)



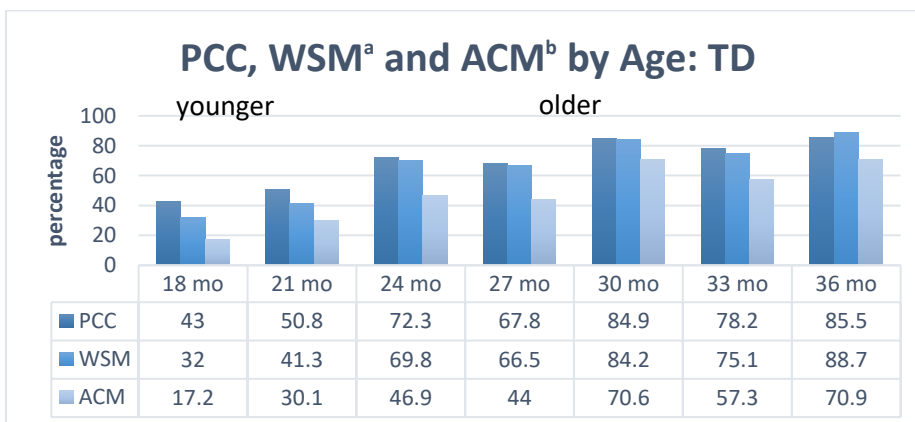
Williams, A.L., & Stoel-Gammon, C. (2016). Identification of Speech-Language Disorders in Toddlers. American Speech-Language-Hearing Convention, Philadelphia, PA, November 2016.

Question: Did a group of young children with atypical speech and language development produce the target words from the Basic List? (16 children with cleft lip and palate; Scherer et al., 2012)

YES (especially after 24 months). At 24 months, children with CLP produced 73% of the target words; at 30 months and 36 months, production rate was 93% and 99%, respectively

Age (# children)	# words produced (%)	Range: # wds produced
18 mos (1)	17/40 (42%)	NA
23-25 mos (5)	Mean: 29.2/40 (73%)	16-36
29-31 mos (4)	Mean: 37.5/40 (93%)	31-40
35-37 mos (6)	Mean: 39.8/40 (99.5%)	39-40

Question: What is the accuracy of TD children? (preliminary data on 69 children)



^a WSM: Word Shape Match; ^bACM: All Consonants Match

Shift between 18 and 24 months in terms of:

Accuracy (PCC)	Phonetic inventory (word-initial)
– 18 mo ~ 43%	– 18 mo ~ 7 consonants
– 24 mo ~ 72%	– 24 mo ~ 14 consonants

- This shift corresponds with the rapid growth that typically occurs as children move toward a rule-governed stage of acquisition