


A Diagnostic Intervention for Toddlers with Suspected Motor Speech Difficulties


Cindy Earle • The Hanen Centre

ASHA 2012 Convention

A Diagnostic Intervention for Toddlers with Suspected Motor Speech Difficulties


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The Hanen Program® for Parents of
Children who are Late Talkers



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Helping the Help Children Communicate

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Disclosure Statement


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Good afternoon. My name is Cindy Earle and today I'm here to discuss how an initial intervention for children under 30 months of age, who present with a primary expressive language delay, can help us differentiate the children who are late talkers from those with motor speech concerns.

I work at The Hanen Centre and am the Program Director for Target Word® - The Hanen Program® for Parents of Children who are Late Talkers. I am the author of a workbook used in this program and am co-author of the Target Word® program leaders guide. Some of the information I will be presenting today is from this program. The Hanen Centre holds the copyright to the Target Word® program resources and I receive no financial benefit from the sale of these resources. I am also a member of Ontario's Ministry of Children and Youth Services Provincial workgroup charged with looking at the identification, assessment and treatment of young children with suspected motor speech difficulties. I do not receive any compensation for this role.


The Hanen Centre:

A not-for-profit charitable organization

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The Hanen Centre's Programs reflect:

- A family-centered orientation
- A naturalistic approach to intervention
- The parent/caregiver as primary change agent



Features of Hanen Programs



- Offered to groups of parents or educators
- Personalized intervention for each child-caregiver dyad
- Evidence-based
- Based on principles of adult education
- User-friendly resources
- Comprehensive training for professionals and ongoing member support

Learner Outcomes



- Identify the similarities in the clinical profiles of children who:
 - a) are late talkers and
 - b) may have motor speech difficulties
- Describe the responsive strategies caregivers use to use to create a supportive, safe, communicative environment for young children
- Describe how the criteria used for choosing initial vocabulary targets support both children's overall communication and oral communication needs

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My Clinical Experiences



Child may be a Late talker?

...or not talking because of motor speech difficulties?




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A Child may be a late talker if s/he presents with:

- a) limited expressive vocabulary but is quite communicative (e.g. gestures, nonverbal turns)
- b) no other significant concerns
- c) relatively good social, comprehension and pretend play skills
- d) all of the above



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Definition of Children who are Late Talkers

18-20 months < 10 words
21-24 months < 25 words
24-30 months < 50 words
&/or **no or limited word combinations**

No other developmental concerns

...Research Definition




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Hanen's Definition:
Children who are late talkers and appropriate for intervention

18-20 months < 24 words
21-24 months < 40 words
24-30 months < 100 words
&/or limited word combinations


No other developmental concerns
Positive for the presence of two or more risk factors

ASHA Perspectives on Language Learning and Education, 2008
Based on MCDI – Words and Sentences 15th percentile norms




Motor speech may be a concern for a child who presents with :

- a) limited expressive vocabulary but is quite communicative (e.g. gestures, non-verbal turns)
- b) no other significant concerns
- c) relatively good social, comprehension and pretend play skills
- d) all of the above



Childhood Apraxia of Speech

CAS/SMS*



- 1 Known neurological etiology
- 2 Complex neurobehavioral disorder
- 3 Idiopathic neurogenic speech sound disorder

* Childhood Apraxia of Speech/Suspected Motor Speech (ASHA 2007):2


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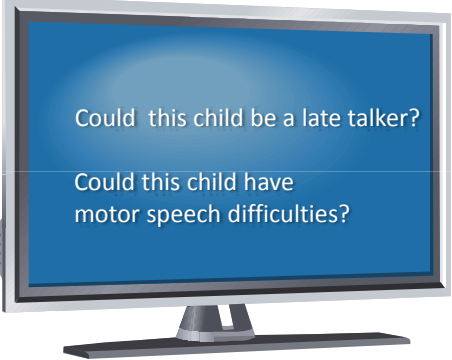
 In my area, we refer to these very children as having:

- a) motor speech difficulties
- b) suspected motor speech difficulties
- c) childhood apraxia of speech
- d) oral motor delays/difficulties
- e) oral apraxia
- f) other



 For this presentation:

- 1) motor speech difficulties
- 2) suspected motor speech difficulties
- 3) childhood apraxia of speech
- 4) oral motor delays/difficulties
- 5) oral apraxia
- 6) other

Could this child be a late talker?



Could this child have motor speech difficulties?

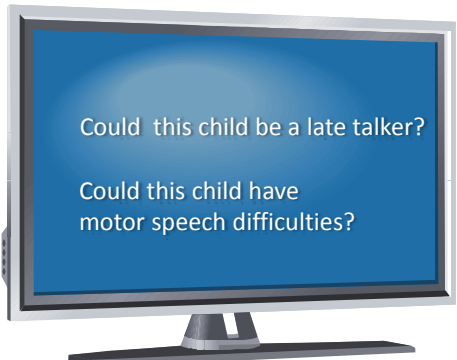
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What do you think?

Abby may:

- a) be a late talker
- b) have motor speech difficulties
- c) I'm unsure
- d) a & b






Could this child be a late talker?

Could this child have motor speech difficulties?



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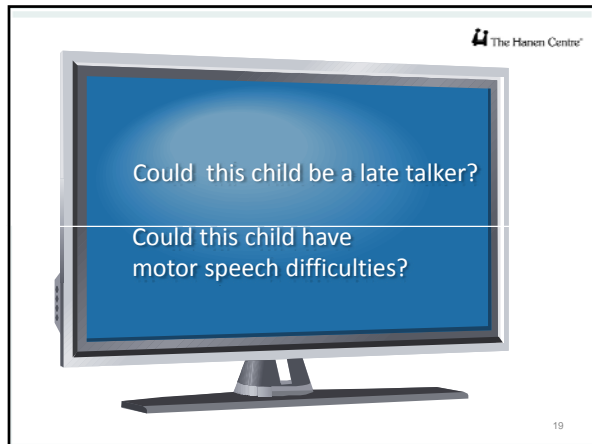


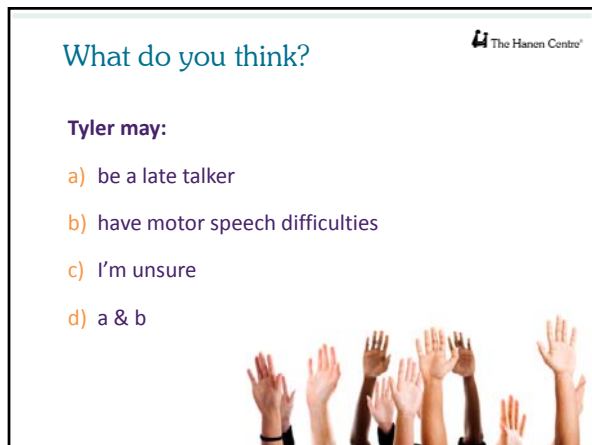
What do you think?

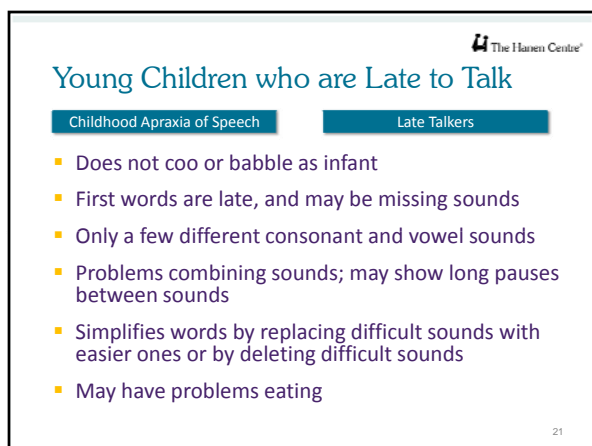
Brendan may:

- a) be a late talker
- b) have motor speech difficulties
- c) I'm unsure
- d) a & b









Definition:
Childhood Apraxia of Speech (CAS)



"A neurological childhood (pediatric) speech sound disorder, in which the precision and consistency of movements, underlying speech are impaired in the absence of neuromuscular deficits (e.g. abnormal reflexes, abnormal tone)."

"The core impairment in planning and/or programming spatio-temporal parameters of movement sequences results in errors in speech sound production and prosody."

American Speech-Language-Hearing Association's Position Statement, 2007 (p6)

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Edythe Strand: A simplified definition of Childhood Apraxia of Speech



- A speech disorder in processes involved in planning and programming movement sequences
- Difficulty reaching and maintaining specific articulatory configurations and moving from one articulatory configuration to the next
- No difficulty moving muscles with the correct range, speed and force for non-speech activity
- Respiration and phonation will be unimpaired
- May have linguistic deficits

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For very young children it can be difficult to determine:



- a) a speech disorder involving the planning and programming of movement sequences
- b) difficulties reaching and maintaining specific articulatory configurations and moving from one articulatory configuration to the next
- c) muscle movements for correct range, speed and force for non-speech activity
- d) respiration and phonation abilities
- e) linguistic deficits



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Child may be a
Late talker?

...or not talking
because of motor
speech difficulties?



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Assessment: under 30 months

Includes assessment (informal or formal) of:


- History
- Receptive language
- Social communication
- Play
- Verbal and nonverbal communication
- Note any red flags suggesting possible motor speech involvement
- Look for additional factors

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Risk Factors and Predictors of Change

- ✓ Quiet as an infant/now
- Family history
- Parent interaction style
- Recurrent otitis media
- ✓ Limited consonant repertoire
- ✓ Lack of sequenced pretend play
- ✓ Mild delay in receptive skills
- ✓ Lack of or reduced use of communicative gestures
- ✓ Limited vocabulary (mostly nouns and few or no verbs)
- ✓ Poor social skills
- ✓ Limited change over time



Target Word
Appendix D

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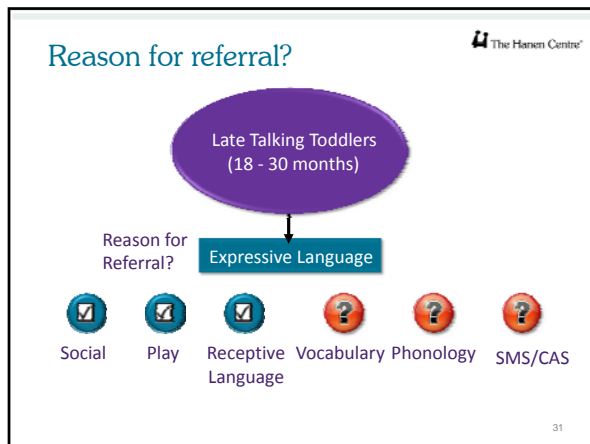
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Target Word
Appendix E

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Remember for children < 30 months

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- Delay or impairment?
- Identification is a process
- Don't draw conclusion too early
- Cautious application of the label for infants and toddlers
(Davis and Velleman, 2000)
- Diagnostic intervention



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A Diagnostic Intervention

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- Assessment results indicate expressive language is the primary area of concern
- View intervention as diagnostic and continue to gather information to confirm whether there is a motor speech component
(Davis & Velleman, 2000)

Social Play Receptive Language Vocabulary Phonology SMS/CAS



Why an Initial Diagnostic Intervention?

“.... allow establishment of a valid differential diagnosis in infants and toddlers over a period of time, as well as increasing their overall communication competence”

Davis and Velleman, 2000



What do we know about intervention for very young children with Suspected Motor Speech Disorder?

Children with CAS (or SMS) difficulties need a supportive environment that helps them feel successful with communication



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

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What do we know about intervention for very young children with Suspected Motor Speech Disorder?

“A key role for speech-language pathologists is to guide and support parents in developing the necessary techniques, skills and confidence to foster the child’s communication development and to maximize the child speech learning ecology through education, and active modeling and coaching” Hodge, 2006



Provide a Supportive, Encouraging Communicative Environment


Responsive Partners

- Face to face
- **O**bserve, **W**ait & **L**isten (OWL)
 - encourage initiations
 - recognize messages
- Contingent responses
- Balanced turns



Which strategies could Abby's mom add to her interactions to create a more supportive, encouraging communicative environment?

- Face to face
- **O**bserve, **W**ait, **L**isten (OWL)
 - encourage initiations
 - recognize messages
- Contingent responses
- Balanced turns



A Safe, Encouraging Communicative Environment

Responsive Parent-child Interactions

- Face to face
- OWL
 - encourage initiations
 - recognize messages
- Contingent responses
- Balanced turns

Facilitating Child's Oral Communication

- Focused stimulation
- Pair words with gestures
- Consider existing speech sound repertoire and motor speech needs
- Create opportunities for child to send messages



Facilitating Oral Communication



Look for examples of:

- 1) Focused stimulation
- 2) Pairing words with gestures
- 3) Considering the child's existing speech sounds and motor speech goals (target words)
- 4) Providing opportunities for the child to send messages
- 5) Other

Facilitating Oral Communication



Look for examples of:

- 1) Focused stimulation – turn, tight, cut
- 2) Pairing words with gestures – oh oh, turn, tight, cut
- 3) Considering the child's existing speech sounds and motor speech goals (target words) – jaw gradation, lip rounding
- 4) Providing opportunities for the child to send messages – waits, models, repeats
- 5) Other

First Intervention should be Diagnostic



- Spaced over time
- Create a supportive environment that helps the child feel successful with communication
- Increase child's overall communicative competence
- Consider the child's oral communication needs
- Identify next steps

(Davis and Velleman, 2000)



A Supportive, Encouraging Communicative Environment

Must address child's:

- ✓ Overall communication needs
- ✓ Oral communication needs

We do this by:

- ✓ Increasing frequency of responsive parent-child interactions
- ✓ Incorporating specific child goals to increase child's expressive language




Target Word® - The Hanen Program® for Parents of Children who are Late Talkers

<p>Responsive Interactions and Facilitating Oral Communication</p> <ul style="list-style-type: none"> ▪ Face to face ▪ Observe, Wait and Listen ▪ Contingent responses ▪ Focused Stimulation ▪ Gestures ▪ Questions and comments that continue the conversation ▪ Expand child's messages & play ▪ Create opportunities for child to send messages 		<p>Child Goals</p> <ul style="list-style-type: none"> ▪ Noisy ▪ Spontaneous Imitation ▪ Spontaneous use of single words ▪ Combinations <p>10 individual target words</p> <p>Offered over 10 – 12 weeks</p>
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Target Word® - The Hanen Program® for Parents of Children who are Late Talkers

Childs Goals


- Noisy
- Spontaneous imitation
- Spontaneous use of single words
- Combinations



Addressing Each Child's Oral Communication Needs

Guidelines for choosing target words...

- Be motivating for the child to say
- Be understood by the child
- Start with a sound the child can make
- Consider planes of movement**
- Occur throughout the child's day
- Include at least 4 verbs



Addressing Each Child's Oral Communication Needs

- Very quiet children
- Children with generic 'ba' or 'da'
- Very limited consonant sounds
- Limited jaw movement/gradation
- No lip rounding



Risk Factors - Abby

- ✓ Quiet as an infant/now
- ✓ Family history
- ✓ Parent interaction style
- Recurrent otitis media
- ✓ Limited consonant repertoire
- Lack of sequenced play
- Mild delay in receptive skills
- Lack of or reduced use of communicative gestures
- ✓ Lack of verbal imitation
- ✓ Limited vocabulary (mostly nouns and few or no verbs)
- Poor social skills
- ✓ Limited change over time

Red Flags: Abby – 20 months



- difficulty with prolonged phonation
- can't coordinate gesture with vocalization
- non speech sounds to communicate
- limited speech sounds and productions may be poorly differentiated *
- limited variety of speech motor movements *
- variable productions
- not imitating speech *
- drooling

Communication goal:

- noisy
- imitation
- spontaneous use
- combinations

Risk Factors - Brendan



- ✓ Quiet as an infant/now
- Family history
- Parent interaction style
- Recurrent otitis media
- ✓ Limited consonant repertoire
- Lack of sequenced play
- Mild delay in receptive skills
- Lack of or reduced use of communicative gestures
- ✓ Lack of verbal imitation
- ✓ Limited vocabulary (mostly nouns and few or no verbs)
- Poor social skills
- ✓ Limited change over time

Red Flags: Brendan – 24 months



- difficulty with prolonged phonation
- can't coordinate gesture with vocalization
- non speech sounds to communicate
- limited speech sounds and productions may be poorly differentiated *
- limited variety of speech motor movements
- variable productions *
- not imitating speech *
- drooling

Communication goal:

- noisy
- imitation
- spontaneous use
- combinations

Risk Factors - Tyler



- ✓ Quiet as an infant/now
- Family history
- ✓ Parent interaction style
- ✓ Recurrent otitis media
- ✓ Limited consonant repertoire
- Lack of sequenced play
- Mild delay in receptive skills
- Lack of or reduced use of communicative gestures
- ✓ Lack of verbal imitation
- ✓ Limited vocabulary (mostly nouns and few or no verbs)
- Poor social skills
- ✓ Limited change over time

Red Flags: Tyler – 24 months



- difficulty with prolonged phonation
- can't coordinate gesture with vocalization
- non speech sounds to communicate
- limited speech sounds and productions may be poorly differentiated *
- limited variety of speech motor movements *
- variable productions *
- not imitating speech *
- drooling

Communication goal:

- noisy
- imitation
- spontaneous use
- combinations

What Parents Tell Us



What Parents Tell Us



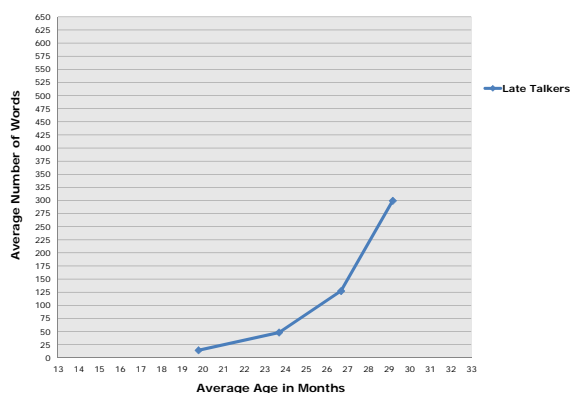
- Spaced over time
- Create a supportive environment that helps the child feel successful with communication
- Increase child's overall communicative competence
- Consider the child's oral communication needs
- Identify next steps

Target Word® as a Diagnostic Intervention



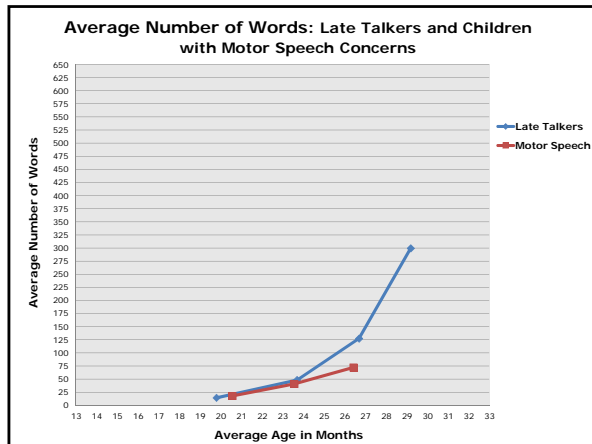
Target Word Program	Davis and Velleman's Diagnostic Intervention
<ul style="list-style-type: none"> ▪ Pre-program assessment ▪ 5 group sessions ▪ 2 individual consultations with video feedback ▪ Over 10-12 weeks 	<ul style="list-style-type: none"> ✓ Spaced over time ✓ Create a supportive environment that helps the child feel successful with communication ✓ Increase child's overall communicative competence ✓ Consider the child's oral communication needs ✓ Identify next steps

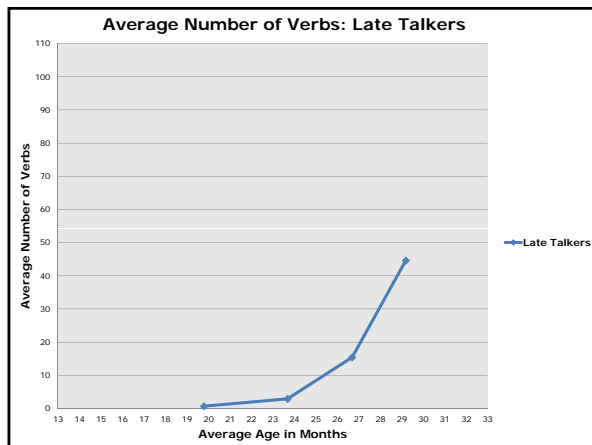
Average Number of Words: Late Talkers

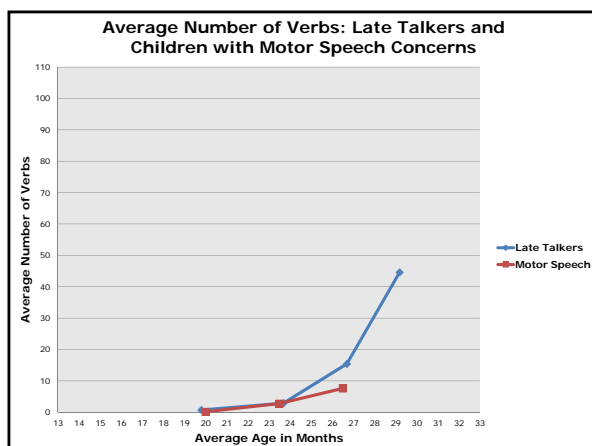


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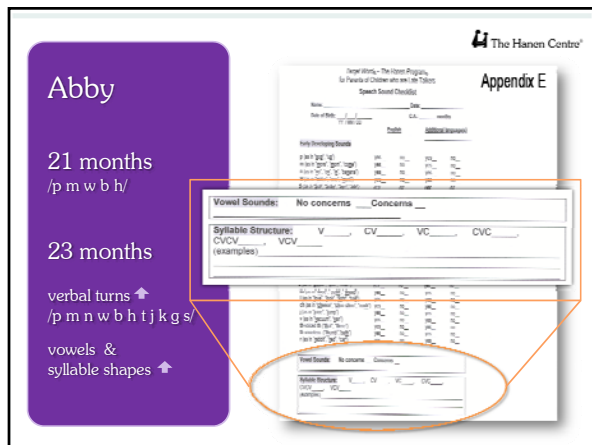


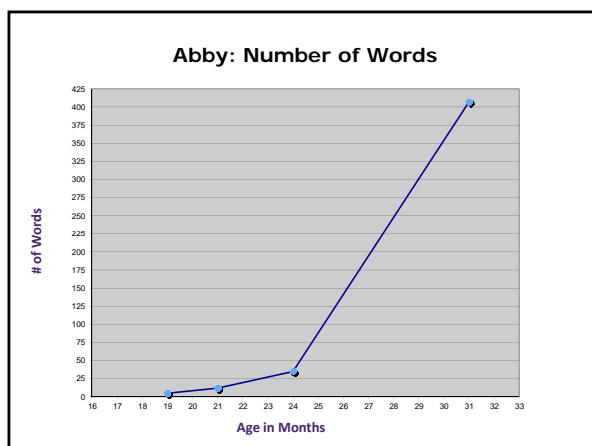


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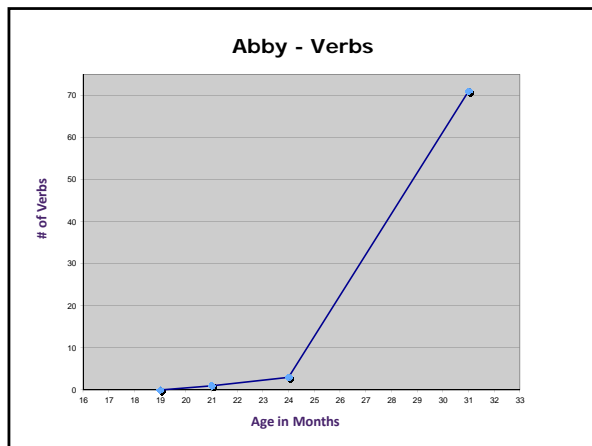


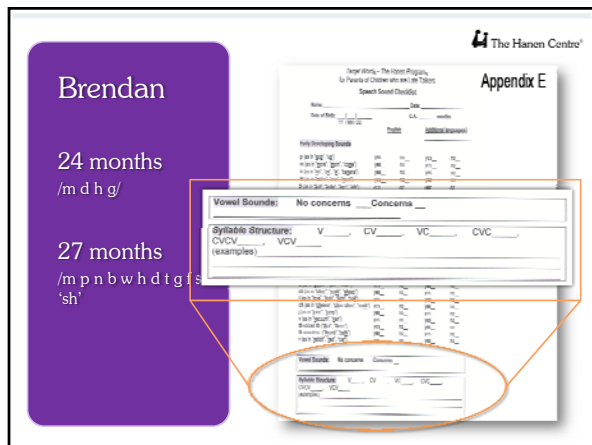


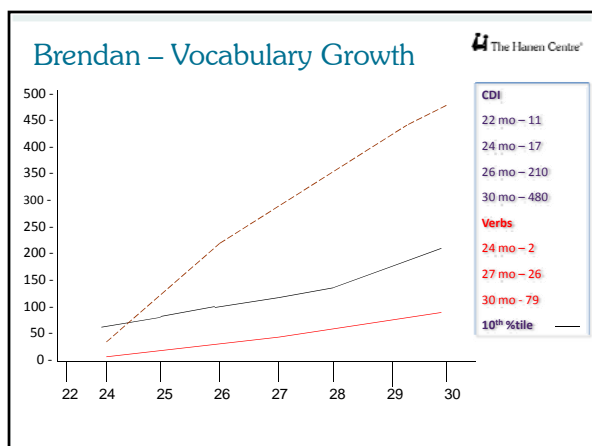


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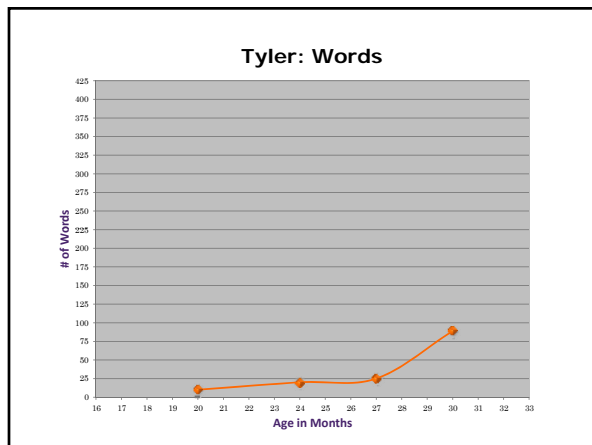
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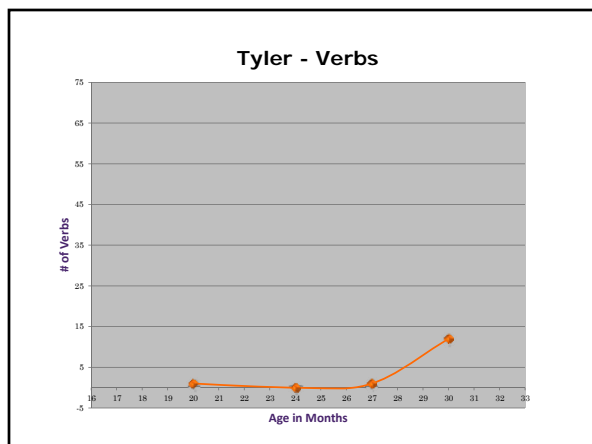
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Tyler

24 months
/d n h m/

27 months
/d n h m p/





Summary: Response to Intervention



Look at:

- Progress in specific goal areas to confirm motor speech continues to be primary area of concern
 - Progress with sound production and sound combinations
 - Child's prerequisites for a more focused speech approach
- Make recommendations re: consolidation or continued intervention based on severity and readiness for more direct speech intervention

Target Word as a RTI - Summary



Motor speech:

...is no longer a concern

- Communicative turns are verbal/vocal
- Increase in expressive vocabulary
- Increase in number of consonant and vowel sounds and syllable shapes

...continues to be a concern

- Communicative turns are verbal/vocal
- Although trying more words – many sound the same and intelligibility limited
- Increase in gesture use
- Limited increase, if any, in consonant and vowel sounds and syllable shapes

To Summarize:



Young children with isolated expressive language delay:

- May have similar clinical profiles
- Are best served through an initial diagnostic intervention that supports parents as responsive communication partners
- Intervention must consider the child's overall communication needs in addition to oral communication needs
- Participation in Target Word® can be diagnostic with next steps determined based on the child's RTI

Questions / Comments



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Thank you



Handouts available at:
www.hanen.org/hanen-happenings