

“You Be You”  
Individualizing Therapy for Children  
with CAS and Other Concerns

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# CAS

- CAS can occur in isolation (idiopathic)
- CAS can appear to be the primary disorder, with later identification of associated problems, such as reading difficulty
  - but CAS itself is not the “cause”
- CAS can occur in conjunction with other disorders, such as
  - Genetic disorders
  - Brain injury

# Examining Co-occurring Problems and Treatment Considerations in Childhood Apraxia of Speech

Baas, Kosey, Stoeckel & Strand ASHA 2016 seminar

## Retrospective Study

A cohort of **391** children was identified

Detailed information abstracted from the records included:

Demographic data

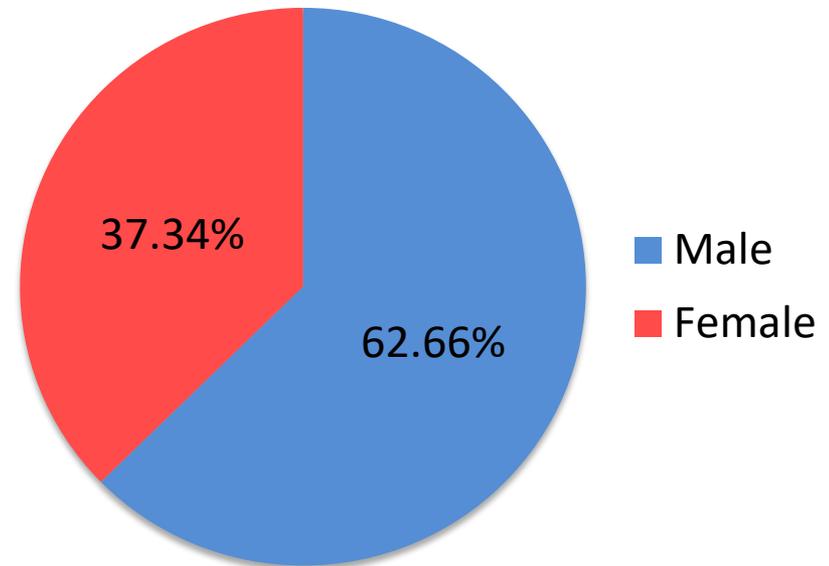
Birth and development history

Neurologic findings

Other health issues

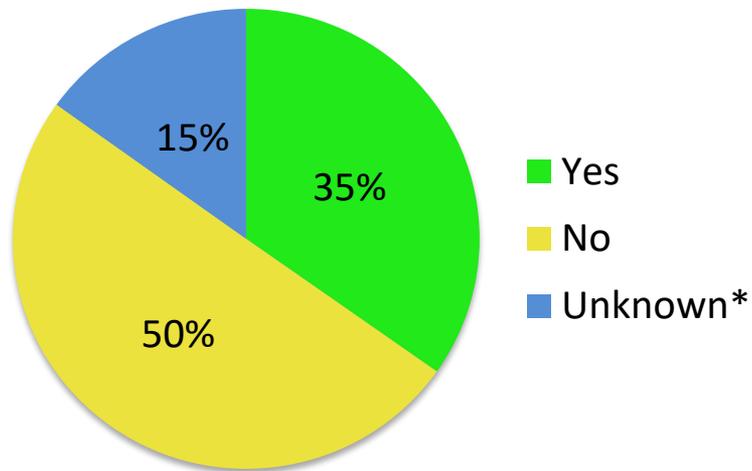
Age of diagnosis

Treatment information (when available)



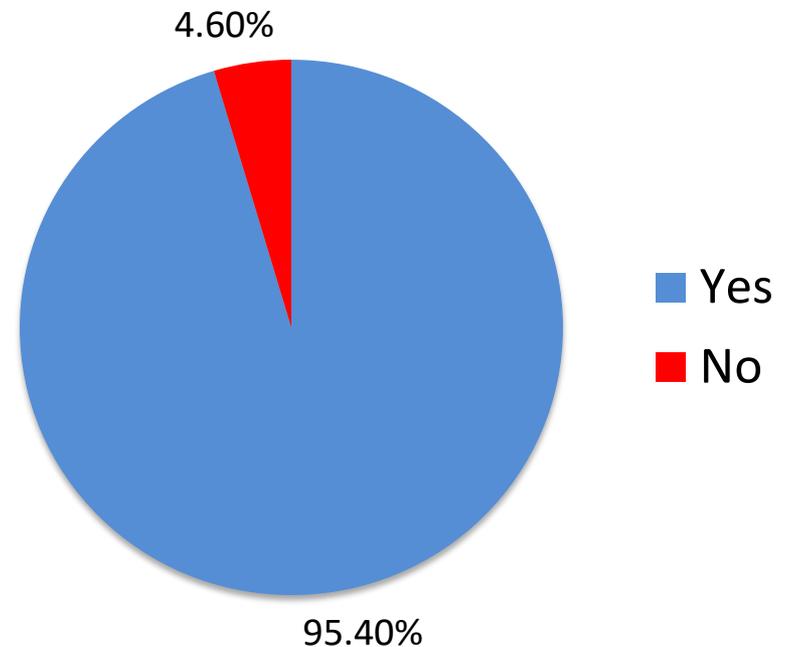
Demographics

## Oral Nonverbal Apraxia



- unknown due to not reported or could not complete assessment with patient

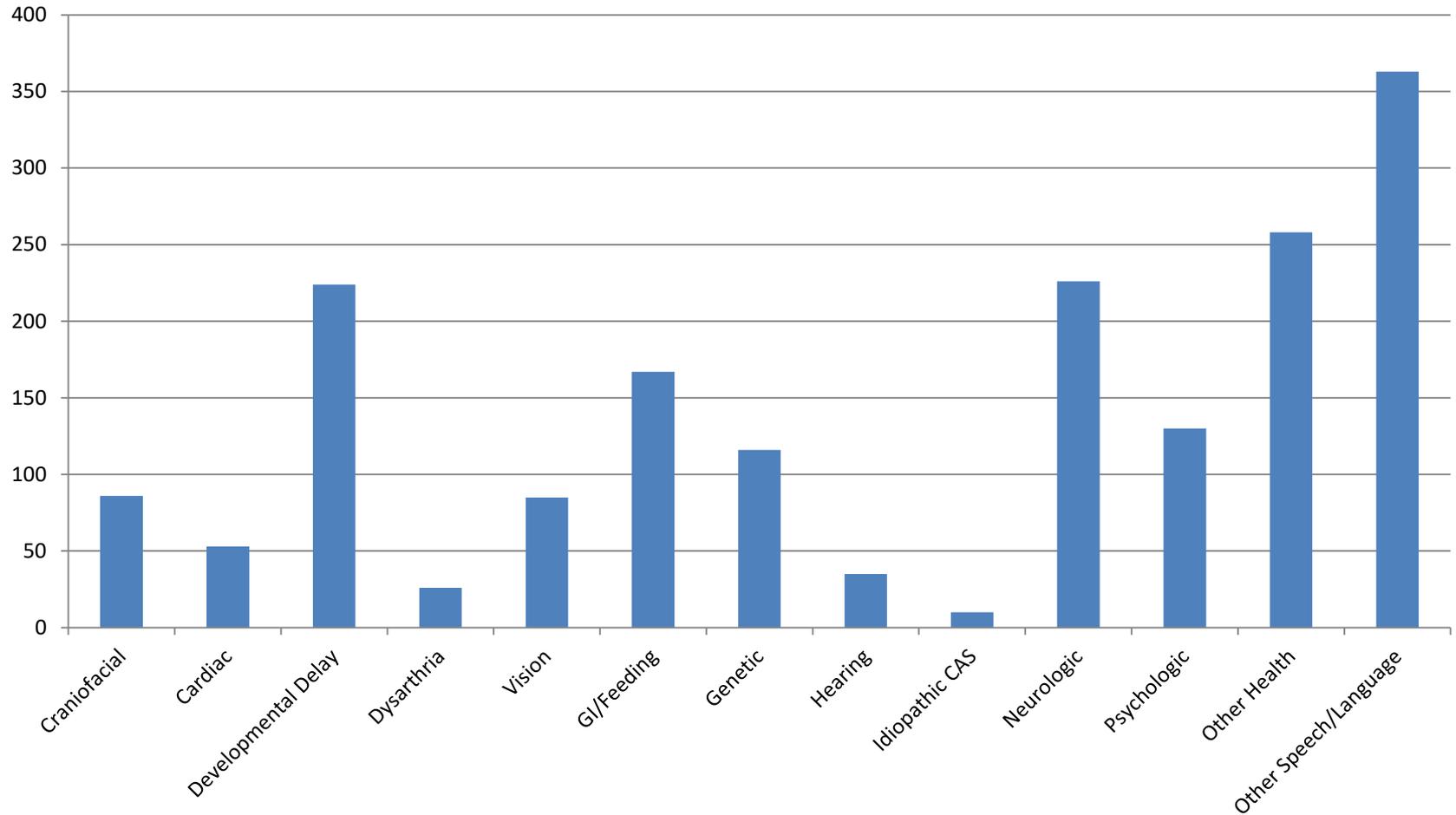
## Expressive Language Delay



# Initial Analysis: Comorbidities Categorized

- Cardiac issues
- Craniofacial issues
- Developmental/Cognitive Delay
- Dysarthria
- Genetic anomalies
- GI/Feeding problems
- Hearing problems
- Idiopathic CAS
- Neurologic problems (including abnormal MRI)
- Psychiatric/Behavioral Disorders
- Visual problems
- Other speech/language issues
- Other health issues

# Results: Comorbidities



# A few notes

- Many children seen as preschoolers were not followed into school age, so information on later learning concerns was not available
- School-age children who were seen did not always provide detailed information about academic testing or performance
- Therefore, we did not attempt to track academic issues specifically

# Problem-Solving Approach

- Rank the concerns you have for your child that influence ability to communicate effectively (use a number only once)
- **Concerns specific to communication:**
- \_\_\_ ability to produce intelligible/understandable words
- \_\_\_ ability of familiar adults to understand my child
- \_\_\_ ability of unfamiliar adults to understand my child
- \_\_\_ ability to communicate with peers through any mode
- \_\_\_ understanding and/or use of vocabulary (a range of different words for a variety of uses)
- \_\_\_ use of appropriate phrases/sentences for age
- \_\_\_ ability to communicate needs and wants (including social attention) through any mode (including
- gestures, sign language, speech generating device)
- 
- \_\_\_ other \_\_\_\_\_
- \_\_\_ other \_\_\_\_\_

- **Concerns related to learning and behavior:**
  - \_\_\_ ability to play/socialize with other children
  - \_\_\_ ability to tell caregivers what they need, or if they are ill/hurt
  - \_\_\_ ability to pay attention
  - \_\_\_ level of physical activity
  - \_\_\_ difficulty learning new concepts or information
  - \_\_\_ understanding consequences of their actions
  - \_\_\_ sensory (vision, hearing, sensory sensitivity)
  - \_\_\_ aggression
  - \_\_\_ learning to read/academic concerns
  - \_\_\_ other
-

# Problem-Solve and Plan

- What is the #1 concern regarding communication?
- What is the #1 concern regarding learning or behavior?
- Which of these two areas requires the most attention *at this time*? What percentage of intervention time should be allocated to each goal?
  - e.g., significant off-task or resistant behavior may need to be addressed before directed speech or language practice can be accomplished
- Can goals for these two concerns be coordinated or integrated?
- e.g., Teach intelligible words for making requests of adults and/or peers to reduce frustration
- e.g., Be conscious of language level and teach important vocabulary as part of a behavior plan
- Can lower level concerns be incorporated into the plan?
- Are the child's unique needs and motivation being considered in developing the plan?
- Can the child's whole "team" (parents, educators, therapists, caregivers) participate in some aspect of intervention for the target goals?

# Submitted Question

It looks like my child has auditory processing disorder as well as apraxia. Any ideas on best therapies that can help both, or how to tell if they are truly understanding the material presented?

## Problem-solving approach:

- What are the main concerns about **communication**?
- What are the main concerns about **behavior**/evidence of auditory processing issues?

# Communication

- What is the #1 concern?
  - Has speech production been carefully evaluated?
    - Production of sounds accurately in syllables and syllable sequences
    - Patterns of error
  - Has language been carefully evaluated?
    - Ability to produce phrases and sentences at an age-expected level
    - Ability to understand at an age-expected level

# Behavior

- What is the #1 concern?
  - How might listening behavior (or other indications of auditory processing difficulty) and ability to communicate be related?
  - How has behavior been evaluated and/or addressed?

# Hypothetically....

Communication: The child is able to participate in structured therapy, but seems to have trouble with carryover. Struggle is especially obvious for phrases/sequences longer than 2 words.

Behavior: The child is “busy” and doesn’t follow directions, even when repeated several times

- Assessment reveals significant expressive delay and mild receptive delay on standardized test of language, but significant difficulty “in real life”. Language skills may be a factor in listening concerns.

# Coordinating Goals

- “Auditory processing” skills correlate with language ability
- Treatment approaches for CAS often recommend use of functional phrases/language as therapy targets
- Using functional language related to daily routines or curriculum can be motivating and support skill development
  - helps parents, therapists and teachers evaluate comprehension while working on production
  - Provides opportunities for practice in context

# Best Therapies

- Depend on the severity of the child's speech disorder and behavioral/listening difficulties
- There are evidence-based approaches to treatment for CAS, phonological disorder, and language disorder (which often incorporate listening practice for target sounds/target structures)
- At this time, there is no scientific evidence for treatments specific to isolated “auditory processing” skill (e.g., decontextualized listening practice, filtered auditory input)

# Submitted Question

Child is 13 and has apraxia, dysarthria, and autism. Has had therapy for years. Any ideas on best therapy for teen to not regress?

Problem-Solving Approach:

- What are the main concerns currently about **communication**?
- What are the main concerns about **behavior**?

# Communication

- What is the #1 concern?
  - Has there been a tendency to regress previously?
  - Has the work on speech production focused on functional communication?
  - Are parents, teachers, and therapists all knowledgeable about goals and able to reinforce skills that have been achieved?

# Behavior

- What is the #1 concern?
  - Is there behavior that interferes with ability to communicate?
  - Are parents, therapists, and teachers able to reinforce desirable/target behaviors?

# Coordinating Goals

- How are goals regarding communication and behavior communicated to the “team”?
- Is there agreement on priority goals relating to communication and behavior to reinforce?

# Hypothetically....

Example: Prosody/intonation may be a factor for both ASD and Dysarthria

- Caregivers all have the intervention plan for cueing student to use varied intonation on target structures
  - I WANT to go \_\_\_\_\_ (HOME, to the STORE, to the PARK, etc.)
  - Please HELP me, Please DON'T help me
  - LOOK at the \_\_\_\_\_
- Cognitive skills may be a factor
  - More repetitions and embedding in daily activities may be needed