

Speech 101: The Importance of Right Diagnosis

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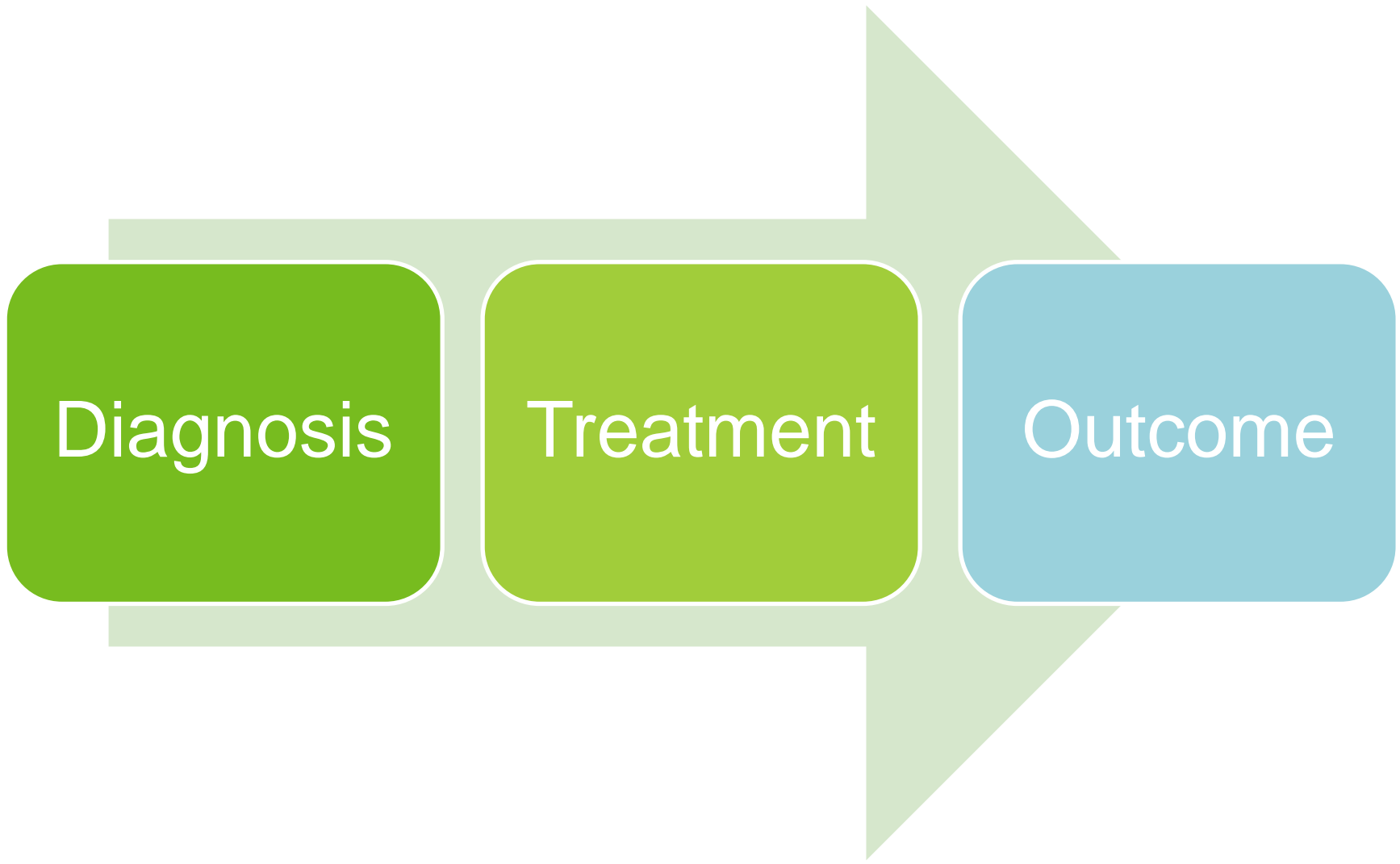
Disclosures

- Financial
- Non-financial

Key Takeaways

Through slides, examples, and discussion participants will explore:

- The types of speech differences seen in individuals with Down syndrome.
- What influences may impact speech-sound development.
- Why the right diagnosis is important to speech-sound production.



Diagnosis

Treatment

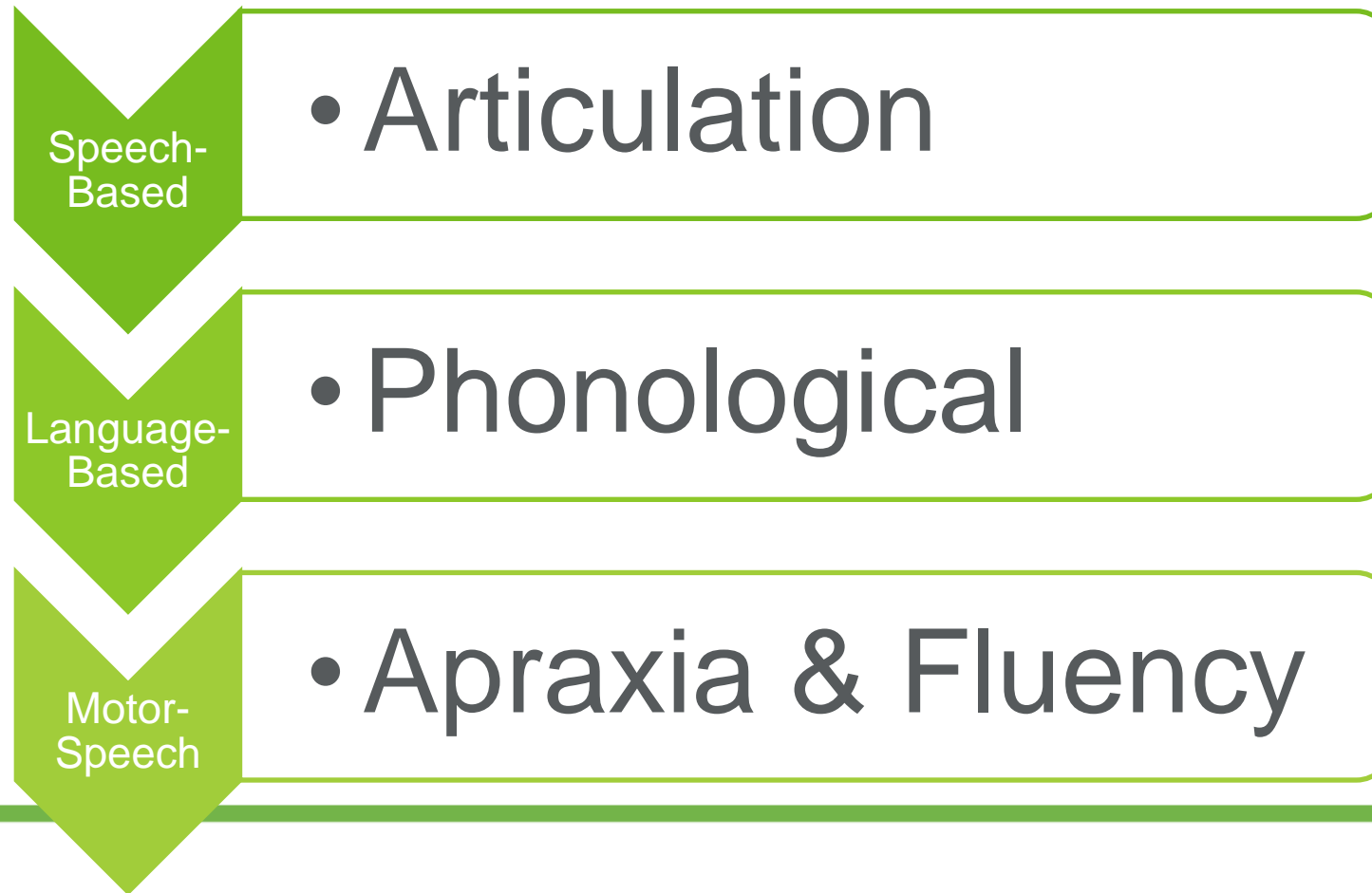
Outcome

DS Specific Influences

- Physical differences of body parts involved in speech process
- Neurological differences contributing to reduced speed and range of movement
- Medical considerations



Types of Speech Disorders



Speech-Based Disorders



- One or a few sound errors
- A child may substitute the “y” in the word *yes* with a /w/ changing the word to “wes”
- Even a few errors may make it hard for people to understand your child

Speech Based Disorders: Cause

- Largely unknown
- In children with Down syndrome this may be related to:
 - Structural differences in the mouth
 - Persistent ear infections or fluid-filled ears
 - Other health problems that interrupt development
- Is different from dysarthria (muscle weakness), apraxia (muscle coordination), or phonological disorder



Speech Based: Treatment

- Show how to produce the sound correctly
- Teach the child to recognize correct and incorrect sound productions
- Practice sounds



Language-Based Disorders

- This disorder is related to the *rules of speech production*
- Children naturally simplify speech as they are learning to talk – this is called using phonological processes
- Eventual replacement of this child-like form in typical development
- Continued use of processes may lead to a phonological disorder diagnosis

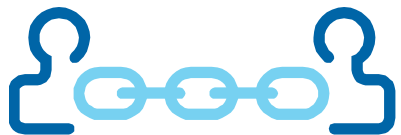
Language-Based Disorders

- Not related muscle weakness or poor coordination
- Difficulty organizing sounds and understanding the *rules* that govern their production
- Ultimately a *language* problem
- Techniques that focus on strength or coordination often prove ineffective when trying to improve speech accuracy

Language-Based: Treatment



- Target a group of sounds with similar error patterns
- A phonological approach



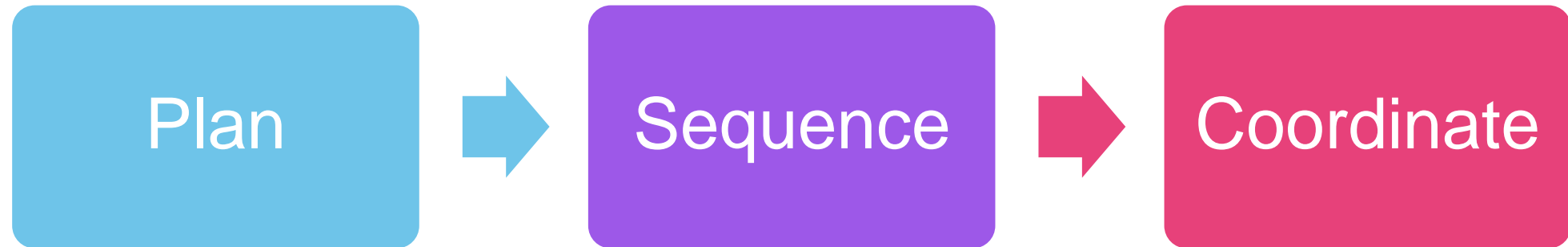
Language Based Resources



Motor-Speech Based

- Childhood Apraxia of Speech (CAS)
- It is not due to muscle weakness
- Brain has difficulty planning the movements of the muscles that create speech
- Other signs of CAS include:
 - Limited consonant and vowels
 - An appearance of ‘groping’ movements
 - Inconsistent sound errors that are not the result of immaturity or other speech disorder

Motor-Speech: Treatment



On CAS in Down Syndrome

“...the speech disorders reported here are not wholly accounted for by phonological delays/disorders or hypotonicity and the children do present with difficulties in motor planning and programming...”

[Cleland et al., 2010](#)



Motor-Speech: Treatment



- Oral exercises aimed at strengthening muscles are ineffective for CAS treatment
- Frequent practice of speech transitions: moving from syllables to specific word structures or combinations
- Multi-modality: auditory, visual, & tactile cues helpful



Fluency Disorders: Diagnosis

- Disruptions of speech sounds or disfluencies
- Most people produce brief disfluencies from time to time
- Number and types of speech disfluencies produced in various situations
- Information analyzed to determine whether a fluency disorder exists



Fluency Disorders: Treatment

- Create goals centered on increasing spontaneity and joy of communication, decreasing physical and mental speaking effort, or promoting self-advocacy.
- Develop goals that are speaker focused.
- Teach and model empowering ways of talking about stuttering with caregivers and the child.

Adapted from "[The Informed SLP](#)"

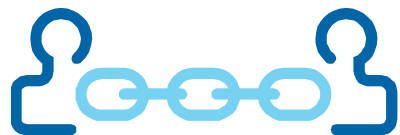
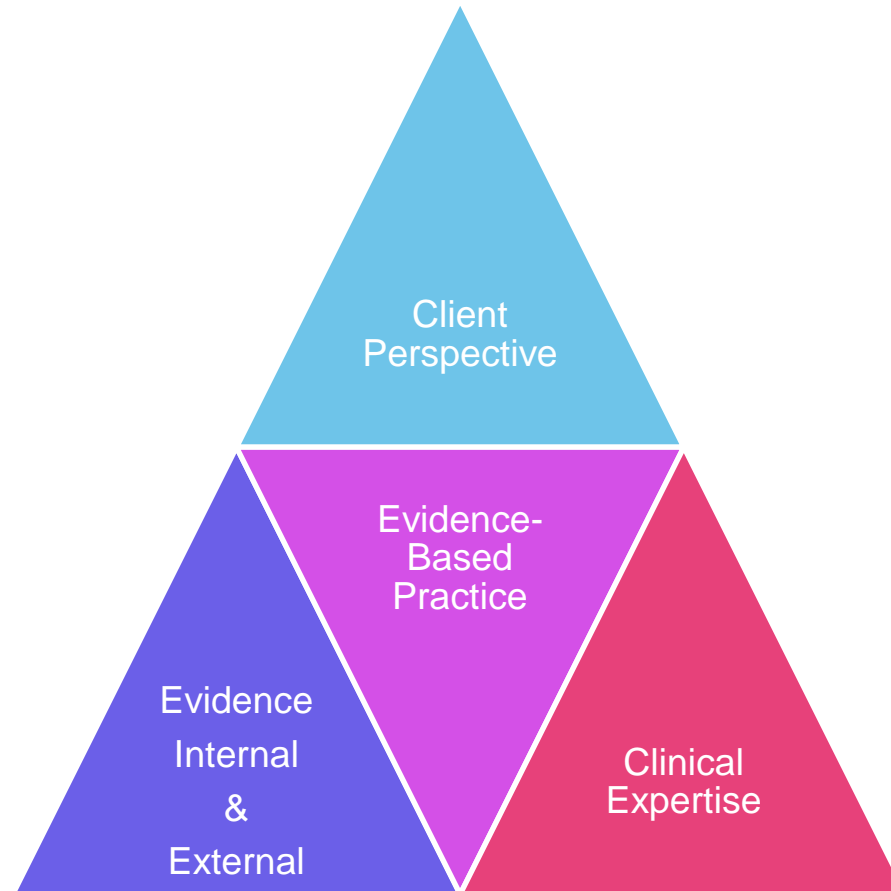
How old is too old for therapy?



Considerations:

- Hearing status
- **Motivation**
- **Motivation**
- Ability to work on communication strategies
- **Motivation**
- Family support
- Frequency and duration of therapy

Reviewing Evidence-Based Practice



How to Choose Therapies

“...There has to be as solid a scientific basis as possible, based on well-grounded theory and good quality research, for any approach, technique or "tool" to be used in therapy.”

» [Caroline Bowen, PhD](#)



“In our quest to help ... we are always looking for the newest and best treatments... Although many of these treatments are valid and have potential use, many others advertised may not live up to their promised result.”

» [ASHA Leader, July 5, 2011](#)

Augmentative & Alternative Communication (AAC)

- Augmentative: To add to someone's speech
- Alternative: To use instead of speech
- Low-tech/no tech options
- Mid-tech
- High-tech



AAC Questions and Concerns



- Will AAC **prevent** speech from developing?
- Benefits of AAC or other forms of assistive technology (AT)

Sign Language



- Dual modality users (sign and speech) with Down syndrome showed increased recognition of vocabulary words ([Raining Bird, 2000](#))
- Sign is an unaided system and involves direct communication with turn taking and eye contact ([Clibbens, 2001](#))

AAC Examples



Oral Motor and DS

Common Questions:

- What can it hurt?
- Aren't I waking up muscles needed to talk?
- What if I use oral motor along with more traditional therapies?



Oral Motor Update

- Continued use despite evidence showing its ineffectiveness
- Easy, step-by-step, “doing something”
- [Cochrane Review on Non-Speech Oral Motor Treatment](#)
- [Parent Friendly Information about Non-Speech Oral Motor Exercises](#)
- [Spotlight on Pseudoscience: Nonspeech Oral Motor Exercises](#)

Resources for Home

- Practical ideas for speech home programming
 - Car time & other daily routines
 - Game time
 - Containers
 - Facetime, Alexa, etc.
 - [Echo Microphone](#)





Additional References & Resources



- “Listening Tips,” [The Stuttering Association for the Young](#)
- “New to Apraxia,” [Apraxia Kids](#)
- “Phonological Processes,” [Mommy Speech Therapy](#)
- “Speech Sound Disorders,” [American Speech-Language Hearing Association](#)

Questions & Discussion

