

# Motor Speech Disorders

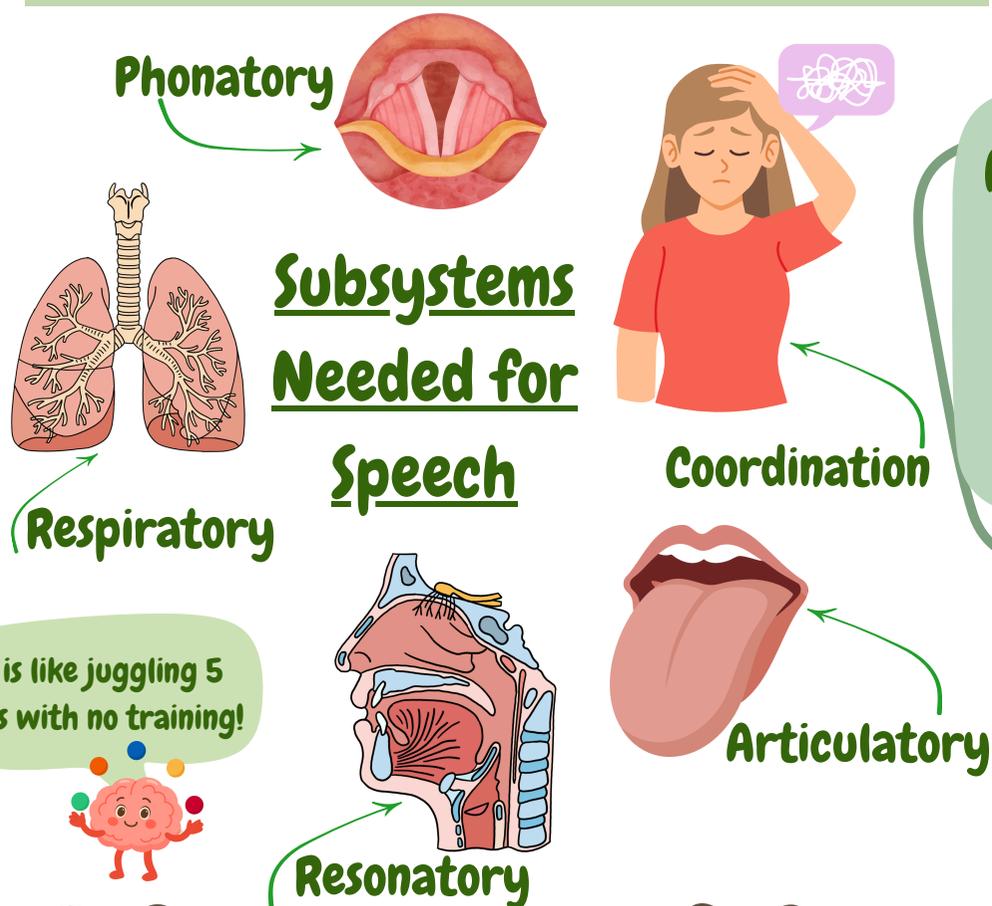
When the brain has trouble planning or controlling the movements needed for speech.

## Apraxia of Speech (AOS)

A disorder of planning or programming sensorimotor commands necessary for directing movements of speech muscles. NOT weakness.

## You might notice

- Inconsistent sound errors
- Difficulty sequencing sounds
- Groping movements
- Better automatic speech than imitation



Motor Speech Disorders can occur both childhood or acquired later after a neurological change.

- Stroke
- Brain Injury
- Cerebral Palsy
- Huntington's
- ALS
- Parkinson's

## Types of Dysarthria

- Hypokinetic
- Hyperkinetic
- Unilateral UMN
- Flaccid
- Spastic
- Ataxic
- Mixed

## Dysarthria

A disorder of sensorimotor speech production, with abnormalities in:

- Tone
- Steadiness
- Accuracy & Coordination
- Strength
- Speed
- Range

## You might notice

- Weak or breathy voice
- Limited tongue/lip strength
- Reduced loudness
- altered prosody
- Slurred speech
- Slow rate



# Motor Speech Disorders

Motor speech disorders can affect how someone is perceived or understood, but it does NOT affect intelligence

## Apraxia of Speech (AOS)

Often caused by impairments in the LEFT lobe and brainstem

- Planning problem- difficulty forming strategies for speech goal
- Programming problem- difficulty executing the steps for speech
- Mostly affects speech & prosody

- Inconsistent errors
- Errors can include not only change in sounds, but change in syllables
- More complex speech = more errors
- Prosody issues
- Groping behaviors
- Repetitions of sounds are common

### Examples

“Cup”

Attempts to say “cup” results in different errors (“tup, pup,, coobah”)

“Help me please”

The mouth is visibly struggling, opening and closing to determine where to start

“I see a bird”

Repetition of “I”, emphasis on “a” and “bidem” for bird- “I, I, I see A bidem”

\*AOS is NOT a muscle weakness. The brain struggles to plan, coordinate and execute movements

## Dysarthria

Can be caused by impairments in any part of the brain

- A muscle control problem that affects ALL systems- breathing, voice, and speech clarity.
- Very different presentations seen

- Consistent errors
- Muscle weakness
- Increased or decreased muscle tone
- Hypernasal or Hyponasal resonance
- Speech can be rapid or slow
- Voice changes

### Examples

“Cup”

Nasal and breathy voice with weak consonants

“Help me please”

Spoken very fast with monotone voice and decreased articulatory precision

“I see a bird”

Slow rate with long pauses and distorted vowel for “bird”

\*Dysarthria is when muscles receive weak or poorly coordinated signals from the brain to the muscles.

