

## Dysarthria Quick Reference Guide

	Hypokinetic	Hyperkinetic	Spastic	Flaccid	Ataxic	UUMN	Mixed Dysarthria	AOS
<b>What is the A&amp;P of this disorder?</b>	-BGCC (substantia nigra) -Reduction of dopamine -Most often patients with PD	-BGCC -Excessive amounts of dopamine or an imbalance between dopamine and acetylcholine	-Bilateral lesion in UMN system -Includes direct/indirect pathways and pyramidal/extrapyramidal systems	-Lesion to LMN	-Lesion in cerebellum or cerebellar control circuit -Bilateral, affecting both hemispheres	-Lesion in UMN -Unilateral		-Lesion in Broca's area in left hemisphere
<b>What areas of speech are most affected or compromised by the disorder?</b>	-Voice -Articulation -Prosody -Swallowing	-Prosody (chorea movement) -Articulation (dystonia movement) -Possibly respiration and voice -Swallowing	-Phonation -Prosody	-Resonance -Phonation	-Articulation -Prosody -impaired coordination of speech muscles	-Articulation: imprecise consonants and vowel prolongations -Causes weakness and reduced range of motion -Minimal effects on speech production	-Any component of speech may be affected – it depends on what is predominate.	-Articulation

<b>What does the speech of a patient affected by the disorder sound like?</b> <b>How is it perceived?</b>	-Articulation -Prosody: breathy, weak, thin, monoloudness, monotone -Voice: labored -Slow	-Monotone -Monoloudness -Harsh/strained -Distorted phonemes	-Phonation: strained, harsh, rough, coarse, effortful, may show fatigue  -Prosody: monotone and monoloudness -Labored	-Resonance: hypernasality  -Phonation: weak, thin, breathy OR strained, harsh, coarse  -Phonation depends on unilateral or bilateral vocal fold paralysis	-Speech errors are inconsistent  -monotone and monoloudness  -drunken, slurred speech  -errors worsen as sentence increases in length	-Speech will sound slurred, thick, or slow  -Dysphagia is common	monotone, monoloudness, hypernasal, weak/thin/breathy, harsh, strained, and respiratory control	-Speech errors are inconsistent -Can range from mild to severe -Labored, haltered speech -Articulatory groping, inconsistent artic errors -Difficulty at beginning of word & w/ multisyllabic words -Substitutions for sounds -Verbal AOS: difficulty sequencing sound
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1. Respiration: slow, restricted, weak, or uncoordinated muscles activity used in breathing for speech.
2. Phonation: producing sound in the larynx. (strained, harsh, breathy, etc.)
3. Resonance: Selectively amplifying sound by changing the size, shape, and number of cavities through which it must pass. (hypernasal)
4. Articulation: is considered the movement of speech structures employed in producing the sounds of speech.
5. Prosody: varying intonation, stress, and rhythm during speech. (pitch, loudness)

## **Dysarthrias:**

### **Hypokinetic dysarthria**

- Since it involves BGCC, motor control is affected
- Problems in respiratory control
- PD is the condition most often associated with this type of dysarthria.

### **Hyperkinetic dysarthria**

- Also caused by lesion in BGCC, so this also affects motor control
  - Choreatic and dystonic movements
  - Dystonia:
    - Slow involuntary movements
    - Sustained, slow, and repetitive
    - Wax/wane (extended)
    - Focal (1 body part), segmental (1 section of body), generalized
  - Chorea:
    - Dance-like involuntary movements
    - Random, rapid
    - Constant movement
    - Face, trunk, neck, extremities may be affected

### **Spastic dysarthria**

- Occurs upon lesion to UMN system, which fine-tunes muscle movement. Paralysis and Paresis often occur.
- Has effects seen in all patients who have it, which is uncommon with other types

- Drooling, emotional liability, and dysphagia
- Common with cerebral palsy, CVA, MS, and ALS

### **Flaccid dysarthria**

- Occurs due to lesion in LMN system which leads to movement of skeletal muscles (speech production)
- Can result in paresis and paralysis
- LMN lesions also weaken muscles which leads to atrophy as well as fasciculations and tremors
- Paresis is more profound as a result of LMN damage
- Often seen in genetic condition called myasthenia gravis

### **Ataxic dysarthria**

- NOT due to muscle weakness
- Slow and inaccurate movements (may misjudge distance, etc.)
- Ataxic gait: staggering, unsteady, inaccurate, slow movements with their body
- Nystagmus (rapid, involuntary movement of the eyes)

### **Unilateral upper motor neuron (UUMN) dysarthria**

- Dysphagia is the biggest deficit
- Can occur following CVA (stroke) or TIA (mini stroke)

### **Mixed dysarthria**

- Combo of 1 or more of the “pure dysarthrias”
- Common with ALS, MS, TBI, or CTE.

### **Parkinson's**

- Loss of dopamine in the substantia nigra in BCGG is associated with this
- Hypokinetic dysarthria
- *Bradykinesia or slowness of movement*
- *Festinating gait and speech*
- *Postural disturbances*
- *Dysphagia\*\**
- *Mask-like facial expression*
- *Tremors in the extremities*
- *Pill rolling behavior*
- *Freezing*
- *Difficulty initiating/stopping movements*

### **Alzheimer's**

- ACh has been implicated in senile dementia of the Alzheimer's type

### **Myasthenia Gravis**

- Can give rise to MSD
- Can be involved with flaccid dysarthria
  - Autoimmune disease affecting the nervous system
  - Voice and speech-related symptoms include:
    - Hoarseness
    - Vocal fatigue

- Difficulty with prosody
- Hypernasal voice
- Mildly slurred speech
- Swallowing difficulty

### **Huntington's Disease**

- Can give rise to MSD
  - Dysphagia is common
- Can also have hyperkinetic dysarthria with choreatic movements
- Genetic disorder

<https://www.youtube.com/watch?v=JzAPh2v-SCQ&t=72s>