Assessment of the Dysarthrias

- Can vary based upon the needs of the patient.
- Assessment tools
  - Case history
  - Oral Motor Evaluation
  - Subjective assessment
  - Objective assessment
### Assessment of the Dysarthrias

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**Functional Communication Measures (FCM)**

- Scale with 7 levels that are used to describe functional abilities.
- Select FCMs based on the goals of the patient’s treatment plan.
- Level 1 = nonfunctional
- Levels 2-4 = burden of care on the communication partner.
- Level 5 = transition to functionality.
- Levels 6 and 7 = near independence to independence.


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**Assigning FCMs**

- **Patient #1**
  - 67 yoF with a dx of PD s/p bilateral DBS in 2011.
  - Hypokinetic dysarthria
  - Distinguishing characteristics include:
    - monoloud, monopitch, reduced volume, loudness decay, short rushes of speech, breathiness, increased rate
  - NOMS FCM Level 4:
    - "In simple structured conversation with familiar communication partners, the individual can produce simple words and phrases intelligibly. The individual usually requires moderate cueing in order to produce simple sentences intelligibly, although accuracy may vary."
    - 40-59% impaired, limited or restricted

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**Assigning FCMs**

- **Patient #2**
  - 67 yom with dx of HD since 1999
  - Hyperkinetic dysarthria
  - Distinguishing characteristics include:
    - audible inspiration, short phrases, harshness, irregular articulatory breakdowns, irregular AMRs, excess loud variation, variable rate, forced inspiration/expiration, voice arrests, deterioration with increased rate, inappropriate vocal noises, intermittent strained vocal quality
  - NOMS FCM Level 3
    - "The communication partner must assume primary responsibility for interpreting the communication exchange, however; the individual is able to produce short consonant-vowel combinations or automatic words intelligibly. With consistent and moderate cueing, the individual can produce simple words and phrases intelligibly, although accuracy may vary."
    - 60-79% impaired, limited or restricted
Assigning FCMs

- **Patient #3**
  - 64 yom with a recent dx of ALS.
  - Mixed spastic-flaccid dysarthria
  - Distinguishing characteristics include:
    - Flaccid-hypernasality, breathiness, nasal emission, audible inspiration, rapid deterioration and recovery with rest, monopitch, monoloud
    - Spastic-strained vocal quality, slow rate, slow and regular AMRs, intermittent breathiness, short phrases
  - NOMS FCM Level 5
    - "The individual is able to speak intelligibly using simple sentences in daily routine activities with both familiar and unfamiliar communication partners. The individual occasionally requires minimal cueing to produce more complex sentences/messages in routine activities, although accuracy may vary and the individual may occasionally use compensatory strategies.
    - 20-39% impaired, limited or restricted

Assigning FCMs

- **Patient #4**
  - 29 yom s/p TBI in 2013
  - Mixed flaccid-ataxic dysarthria
  - Distinguishing characteristics include:
    - Flaccid-hypernasality, breathiness, nasal emission, audible inspiration, rapid deterioration and recovery with rest, monopitch, monoloud
    - Ataxic-distorted vowels, excess loudness variation, telescoping of syllables, excess and equal stress
  - NOMS FCM Level 2:
    - "The individual attempts to speak. The communication partner must assume responsibility for interpreting the message, and with consistent and maximal cues, the patient can produce short consonant-vowel combinations or automatic words that are rarely intelligible in context."
    - 80-99% impaired, limited or restricted

Management of the Dysarthrias

- **Respiration**
  - Inspiratory checking
    - Netsell R: Inspiratory checking in therapy for individuals with speech breathing dysfunction, Presentation at American Speech-Language-Hearing Association Annual Convention San Antonio, TX, 1992
  - Postural adjustments, Speaking past respiratory support, Increasing phrase length
  - Biofeedback
  - Manometry
    - Hixon, TJ, Hawley, JL, and Wilson, KJ: An around the house device for the clinical determination of respiratory driving pressures: a note on making the simple even simpler, *Journal of Speech and Hearing Disorders* 47:9-13, 1982
### Management of the Dysarthrias

#### Phonation
- **Pushing**

  - High phonatory effort

- **Postural adjustments**
  - Vocal function exercises
  - **Surgical**
    - Medialization laryngoplasty
    - Vocal Cord Injections

#### Articulation
- **Oral motor strengthening (OMS)**
- **Integral stimulation, phonetic placement, exaggeration of consonants**
  - Intelligibility drills
  - **Prosthetic management**
- **Stretching**

#### Resonance
- **General overview**
- **Prosthetic management**
  - **Exercise**
Management of the Dysarthrias

- Prosody/Rate

- Supplemental Techniques & Communication Oriented Strategies
  - Develop attention and maintain eye contact
  - Alphabet board (Beukelman and Yorkston, 1977)
  - Identify the context and/or topic before communicating (Garcia and Dagenais, 1998)
  - Communication of key information (Yorkston and Beukelman, 1978)
  - Gestures (Garcia and Cobb, 2000)
  - Monitor listener comprehension
  - Modify the environment
  - Yorkston et al., 1996

Management of the Dysarthrias

- Treatment for patient #1
- Hypokinetic dysarthria
  - LSVT (Ramig et al., 2001)
Management of the Dysarthrias

- **Treatment for patient #2**
  - Hyperkinetic dysarthria
    - Over exaggeration of consonants (Rosenbek and LaPointe, 1985)
    - Slow rate (Palmer and Enderby, 2007)
    - Supplemental techniques and communication oriented strategies.
      - (Yorkston et al., 1996)
      - (Garcia and Dagenais, 1998)
      - (Garcia and Cobb, 2000)
    - Low tech AAC (Beukelman et al., 2007)

- **Treatment for patient #3**
  - Flaccid-spastic dysarthria
    - Multidisciplinary ALS clinic to evaluate PT/OT/ST/RT/MD (Van den Berg et al., 2005)
    - Conservation of strength
    - AAC options including low and high tech (Beukelman et al., 2007)
    - Voice Banking (Costello, 2009)
    - Contraindications
      - LSVT (Watts and Vanryckeghem, 2001)
      - Oral motor exercises (Dworkin and Hartman, 1979)
      - Consideration of Plowman (2015)

- **Treatment for patient #4**
  - Flaccid-ataxic dysarthria
    - Not speaking past breath support, postural adjustments, using breath groups and attempting to increase breath group (Yorkston et al., 2010)
    - Integral stimulation and phonetic placement (Rosenbek and LaPointe, 1985)
    - Supplemental techniques and communication oriented strategies.
      - (Yorkston et al., 1996)
      - (Garcia and Dagenais, 1998)
      - (Garcia and Cobb, 2000)
    - AAC options including low and high tech (Beukelman et al., 2007)
    - Palatal lift (Yorkston et al., 2001)
    - LSVT (Ramig et al., 2001)
References

References


