Overview

Here is the Frenchay philosophy about dysarthrias: This should start to look familiar! Realize that there this test does not include hyperkinesias.

Table 1.1 Features of Dysarthria Types

<table>
<thead>
<tr>
<th>Dysarthria Type</th>
<th>Features (Enderby, 1983)</th>
<th>Features (Aaronson, 1993)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flaccid dysarthria</td>
<td>Normal respiration and rate</td>
<td>e.g., recurrent laryngeal nerve → breathy, hoarse, reduced loudness, short phrases, stridor, dysphonia (normal resonance and articulation)</td>
</tr>
<tr>
<td>Spastic dysarthria</td>
<td>Difficulty with swallowing, drooling than in other groups</td>
<td>Strained hoarseness, Hypernasality, Slow, imprecise articulation</td>
</tr>
<tr>
<td>Cerebellar (ataxic)</td>
<td>Good performance on laryngeal tasks except for intonation</td>
<td>Unsteady, Excess loudness, Tremor, Normal resonance, Irregular articulatory breakdowns</td>
</tr>
<tr>
<td>Mixed dysarthria</td>
<td>Larynx and tongue movements poorest</td>
<td>Strained, wet, hoarse voice with rapid tremor, Hypoventilation, Slow, imprecise articulation</td>
</tr>
<tr>
<td>Extrapyramidal</td>
<td>Scores higher for speech than non-speech tasks on the FDA</td>
<td>Hyperkinetic</td>
</tr>
</tbody>
</table>

The test itself

- Allows using single subtest or entire protocol
- Is normed on people with dysarthria
- Does not include hyperkinesias
- May be used with all ages
  - Norms = 15 to 97 years
- Takes 30 minutes to administer
- Utilizes a rating scale with good metrics
  - Note: you only assign score on second attempt, not first
**Frenchay Protocol**

Notice that the protocol is mostly the graph and some notes. It’s pretty brief, by design.

<table>
<thead>
<tr>
<th>Partially Completed and Completed form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Now see how you fill in the graph for displaying signs and symptoms.</td>
</tr>
</tbody>
</table>

**What you will need**

- Manual
Now let’s look at each section!

**Reflexes: cough**
- Note poor score indicates need for dysphagia assessment
- Ask questions
- Rate response

**Reflexes: swallow**
- Swallow
- Observe drinking ½ cup water and then eating cookie
- Score based on time for swallow
- Dribble/drool
- Ask questions

**Respiration**

**At rest: observe and rate**
- …or ask
- Take a deep breath and let out breath audibly and slowly
- Demonstrate
- Rate
- In speech
- Count to 20 as quickly as possible on 1 breath
- Don’t pay attention to articulation
Hold nose if necessary (or nose clip)

**Lips**
- At rest:
- Rate
- Spread
- Rate second attempt

Blow air into cheeks and hold 15 sec (nose clamp)
- Say /p/ /p/ /p/ repeatedly
- Note second attempt
Lips:
- alternate
- /u/-/i/ 10 times
- Note second attempt
- In speech
- “mary brought me a piece of maple syrup pie.”

Palate
- Fluids:
- Observe nasal regurgitation
- Maintenance:
- Say /a/ /a/ /a/ 5 times
- Rate second attempt
**Palate in speech**
- Note nasal resonance and emission
- Say “may pay”
- Say “nay bay”
- Flutter test

**Laryngeal**
- Time
- Say /a/
- Rate second task (stopwatch)
- Note “husky” rating as well
- Pitch
- Sing a scale of at least 6 notes
- Rate Second attempt
Larynx, cont'd

- Volume
- Count to 5, increasing vocal intensity with each number
- Whisper to loud voice
- In speech (intonation)
- Conversational speech
- Rate for clear phonation and appropriate vocal intensity and fundamental frequency
Tongue
- At rest
- Open mouth and observe 1 minute
- Look for fasciculations, asymmetries, atrophy
- Protrusion
- Out and back 5 times in 4 seconds
- Note rate, difficulty

Tongue, cont’d
- Elevation
- Point tongue to nose, then chin X 5 in 6 seconds
- Demonstrate
- Rate second try
- Lateral
- Protrude tongue and move L & R X 5 in 4 sec
- Demonstrate
- Rate second try
Tongue, Cont’d

- Alternate
- Say “ka-la” X 10 in 5 sec
- Demonstrate
- Use second attempt
- Speech
- Conversation or “Kenneth’s dog took 10 tiny ducks today.”

Intelligibility

- Make sure you audio record
- Use their words
- Select 12 cards at random and don’t look at them
- First two cards are practice
- Hold up, ask to read
- You write what you hear
Intelligibility (Sentences)

- Same as word cards
- Draw 12, 2 for practice
- Write words that you hear
- All words in sentence must be correct
- Articulation doesn’t need to be correct… you’re judging information transmitted (intelligibility)

Influencing factors

- Need consider the following as well
  - Hearing: ask if problems
  - Sight: ask if problems; note glasses
  - Teeth: examine teeth/dentures, gums; ask how often they are worn
  - Language: note perception of language issues
  - Mood: cooperative, motivated, emotional state
  - Posture: symmetry of chest and head, tense or slumped, head control
  - Rate: rate of speech (esp spastic vs hypokinetic)
  - Sensation: use calipers for 2-point discrimination of upper lip, tongue tip

Group results (from norms)

Upper motor neuron

- N = 30
- More problems with swallow and drool
- Non-speech is superior to speech
- Low rate
- Low intelligibility
- All areas are problem except appearance at rest

**Mixed UMN/LMN**
- N = 13
- ALS generally
- Palatal movement in swallow is highest
- Lowest is laryngeal and tongue

**Extrapyramidal (hypokinesia)**
- N = 18
- Similar to group UMN
- Higher than UMN for nonspeech than speech
Cerebellar (ataxia)

- N = 14
- Higher scores on laryngeal, except intonation
- So can modulate f0 and intensity but don’t in conversation
- Difficulty in coordination of tongue for AMR
- Resp, tongue and lips are fine at rest
- Intelligibility is reduced but better than other groups

Lower Motor Neuron lesions

- N = 10
- High for respiration and intelligibility
- None had VPI in drinking
- None reported nasal regurg in eating
- Variable lesions (e.g., right facial; right hypoglossal nerve; no polyneuropathy;
- You can’t really take these norms to the bank!

Norms:

- N = 46 total with neurogenic disorders
  - 23 – 64 years
- N = 148 non-involved
  - N = 11 15 to 59 years
  - N = 37 60 to 97 years