

1 ☐ Dysarthria Treatment

- SLP has dedicated more time and energy to defining and describing the dysarthrias than on developing treatments for them (Rosenbek & LaPointe, 1985)
- Nonetheless, most clinicians today believe that persons with MSD can benefit from Speech Rx

2 ☐ Primary Goal

- maximize the effectiveness, efficiency and naturalness of communication
- keys to above: restore, compensate and adjust

3 ☐ Restore

- focus on impairment level
- success related to etiology and course, type and severity
- I.e., UUMN dysarthria--excellent prognosis
- Duffy, 1995--*full restoration of normal speech is not a realistic treatment goal in most cases...some degree of improvement is.*

4 ☐ Compensate

- promote use of residual function
 - modify rate and prosody
 - use prosthetic devices
 - modify physical environment
 - use contextual aids
 - AAC

5 ☐ Adjust

- reduce the need for lost function
- temporary or permanent
- reorganize life activities..change in social life-style

6 ☐ Treatment Design

- focus on maximizing benefit--speech component with greatest influence on speech rx'd first
- duration--as long as necessary to achieve goal
- approaches
 - medical intervention: pharmacologic and surgical
 - prosthetic management: temporary or permanent
 - behavioral management

7 ☐ Principles/Guidelines

- management should start early
- medical and speech DX contribute to Rx decisions
- restoring physiological support often initial focus
- compensation requires “awareness” and conscious effort
- improvement requires practice--speaking/drill
- feedback is essential

8 ☐ Treatment Efficacy (1996 article)

- Treatment Efficacy (1996 article)
 - review of literature
- various approaches, clinical populations, various treatment outcome measures
 - strongest evidence: LSVT: evidencing improvement in Parkinson's patients

9 ☐ RX Approach

- speaker-impairment orientation
- directed toward each speech process
- general and specific

10 ☐ Respiration

- usually does not require attention
- abnormal respiratory functions does not mean inadequacy for speech
- *if patient has adequate loudness and capacity for flexible breath pattern during speech, does not require RX*
- *If rx'd, types of tasks*
 - 1. producing consistent subglottic air pressure
 - blowing into manometer--goal: sustain 5 cm pf pressure for 5 seconds

11 ☐ Respiration continued

- maximum vowel prolongation--goal: steady vocal output for 5 seconds
- increasing length of phrases/sentences on single breath
- pushing, pulling etc

12 ☐ Respiration continued

- Postural adjustments
 - 1. Adjustable beds, wheelchairs, etc
 - 2. Positioning--supine or sitting (pts with greater expiratory than inspiratory difficulty may be better in supine)
- Prosthetic assistance
 - 1. Abdominal binders or corsets (poor posture, weak stomach..i.e., spinal cord injury)
- Behavioral compensation -practice inhale/exhale

13 ☐ Phonation-Medical Rx

- laryngoplasty--phonosurgery for persons with VF paralysis
- recurrent laryngeal nerve resection--spasmodic dysphonia--rx for adductor (note: 15-65% of procedures "fail" by 3 years post-op)
- botulinum toxin injection--unilateral or bilateral for neurogenic spasmodic dysphonia or ideopathic spasmodic dysphonia when behavioral rx failed.

14 ☐ Botulinum toxin injection

- toxin blocks ACHT: inject thyroarytenoid or posterior cricoarytenoid muscles or both - denervates some of thyroarytenoid muscles fibers
- some not all permits vf's to approximate but not hyperadduct
- effect in 24-72 hours post injection lasts 3 months-new nerve sprouts develop and reinnervate muscle

- bilateral injection preferred.
- Side effects: transient breathiness, mild dysphagia

15 ☐ Phonation-prosthetic

- vocal intensity controller--loudness monitoring device
- portable amplification system
- artificial larynx
- all of above only good with persons who have good artic

16 ☐ Phonation-behavioral

- goal--to increase utterance length per breath group and/or to get appropriate loudness levels
- for vf weakness/paralysis-- effort closure techniques--grunting, pushing, lifting, pulling
- often not done cuz so difficult to modify, doesn't improve intelligibility

17 ☐ Resonance

- surgical--pharyngeal flap (note: in literature, prosthesis preferred).
- Palatal lift prosthesis
 - *Yorkston, Beukelman & Bell (1988)--more reports of successful management of VP function than any other aspect of dysarthria.* used reported for all types of dysarthria--results variable
- goal: increased intelligibility, decreased hypernasality and improved articulation.

18 ☐ Appliance Candidates

- fundamental clinical question: will patient's intelligibility significantly improve with device
- significant VP weakness that's stable, not progress
- supporting dentition
- do not have significant spasticity or hyperactive gag reflex
- motivated/tolerant and able to manage device

19 ☐ Resonance- Behavioral

- not advocated
- neither stimulation or strengthening exercises help VP function
- no justification for blowing, icing, brushing, stroking, electrical stimulation
- some compensatory speaking behaviors: increase oral opening during speech, increase loudness, reduce demands for intraoral pressure

20 ☐ Articulation-Medical

- neural anastomosis--occasionally used to restore a nerve (i.e., branch of XII to restore VII)
- botox injection as Rx for hemifacial spasm, spasmodic torticollis and oral mandibular dystonia--to decrease hyperkinetic dysarthria
- antispasticity med (Librium, valium, dantrium and lioresal) used to decrease limb spasticity but

effects on articulation

21 ☐ Articulation-Prosthesis

- aids to articulation limited
- bite block--small piece of acrylic held between lateral upper and lower teeth (use with pts with poor jaw control)

22 ☐ Artic-Behavioral

- nonspeech strength training - controversial, work on neuromuscular basis; -- absence of data
- relaxation-to improve muscle tone (i.e., chewing to increase relaxation and decrease hypertonus in jaw or tongue muscles)
- stretching -foundation for managing spasticity in limbs, applied to jaw, tongue, lip

23 ☐ Biofeedback

- training to reduce excessive muscle activity
- EMG to reduce hemifacial spasm, lip movement

24 ☐ Traditional approaches

- traditional methods of articulation Rx
 - integral stimulation (watch and listen)
 - phonetic placement
 - phonetic derivation (using intact nonspeech gesture to establish a target..blow to get /u/)
 - emphasis on exaggerated articulation
 - compensated articulation
 - intelligibility drills

25 ☐ Rate

- the most powerful single, behaviorally modifiable variable for improving intelligibility
- rate modification--all dysarthria types:
 - facilitates articulation precision and intelligibility by allowing time for full range of movement, increased time for coordination and improved linguistic phrasing.
- Easier to achieve than other goals

26 ☐ Rate Modification Techniques

- DAF--delay slows rate
- pacing devices: pacing board, alphabet board supplementation (first letter approach, hand/finger tapping, visual feedback, rhythmic cueing)
- monitor prosodic "naturalness"

27 ☐ Prosody and Naturalness

- naturalness--"a perceptually derived, overall description of prosodic adequacy" Y, B & B, 1988)
- pitch, loudness, durational characteristics
- strategies: work at level of breath group--prosodic pattern during single exhalation; chunk utterances into natural syntactic units, contrastive stress tasks

- 28 ☐ **Communication Oriented Rx**
- what can be done to enhance communication
 - focus on interactions between listeners and speakers and environments
 - independent of dysarthria type
- 29 ☐ **Speaker Strategies**
- use contextual cues
 - modify content and length
 - monitor listener comprehension
 - alphabet board supplements
- 30 ☐ **Listener Strategies**
- modify physical environment
 - maximize listener hearing and visual acuity
 - learn active listening
- 31 ☐ **Interaction strategies**
- maintain eye contact
 - establish methods of feedback 9soemtimes it helps to be more explicit
 - establish what works best when