What are Manual Circumlaryngeal Techniques?

- Guesses?
- When are they used?
- How are they employed?
- What diagnoses can benefit from their use?

Swallowing Management Indications

- Odynophagia
- Dysphagia complaints in the absence of significant oropharyngeal findings
- Food “sticking”
- Complaints of effortful swallowing
- With or without presence of dysphonia

Voice Management Indications

- Painful voicing/singing
- Complaints of throat soreness/pain
- Tight throat musculature
- Strangled sensation
- Throat “knots”/lumps
- Muscle Tension Dysphonia

What is Muscle Tension Dysphonia? (MTD)

- Laryngeal or Extralaryngeal hyperfunction
- Excess or dysregulated/imbalanced activity of the intrinsic and extrinsic laryngeal muscles is the primary cause of the voice disturbance.
- A voice disorder in the absence of visible structural or neurological laryngeal pathology (or where the vocal fold pathology is insufficient to explain the degree of the dysphonia).
Sources of excessive/dysregulated laryngeal muscle activity...
- Psychological &/or personality factors induce laryngeal tension.
- Technical misuses of the vocal mechanism.
- Learned adaptations following upper respiratory infection.
- Extreme compensation for underlying vocal fold pathology.
- Increased laryngeal tone secondary to LPR.

MTD: Broad Conceptualization
- Key feature is laryngeal and paralaryngeal hypertonicity
- No particular voice quality or glottic configuration is uniquely identified with MTD.
- Extrinsic and intrinsic laryngeal muscle dysregulation contributes to the abnormal voice.
- Muscle tension pulls larynx out of “natural” position.
- Larynx is suspended high in the neck & the entire hyoid-laryngeal sling is stiff.

Symptoms of Excess Laryngeal Muscle Tension
- Laryngeal tenderness, soreness, pain, tightness which intensifies with extended voice use (especially with palpation)
- Unilateral symptoms are more common
- Pain radiates to one or both ears/fullness of the ears
- Vocal fatigue, increased effort, “swellings” in the tongue base/neck regions
- Dynamic range restricted (decreased loudness/pitch)
- May be seen/witnessed in our voice and or dysphagic patients

Arnold Aronson (1990)
“All patients with voice disorders, regardless of the etiology should be tested for excess musculoskeletal tension, either as a primary or secondary cause of the dysphonia”
- Dr. Roy expanded on Aronson’s writings and developed this “family” of manual circumlaryngeal techniques.

Examples of Muscle Tension Dysphonia (Voice samples)
- Pre-Treatment Samples (Rainbow Passage)
- Notice the varying degrees of severity and the disparity of vocal symptoms
Why so many Examples?
- Full range of different voices in connected speech
  - Severity and quality
- Perceptual Clusters?
- Not isolated Cases, often misdiagnosed as ADDSD or ABSD
- Age range/No age boundaries
- As much as 40% of voice tx caseloads are MTD.

Muscle Tension Voice Disorders
- Manual Circumlaryngeal Techniques serve as powerful diagnostic and treatment tools…
  - Focal Palpation
  - Manual Laryngeal Reposturing Maneuvers***
  - Circumlaryngeal Massage
- Determining the contribution of excessive or dysregulated laryngeal muscle activity is critical to proper diagnosis and the selection of appropriate treatments.
- Avoid unnecessary medical or surgical management

Focal Palpation: Signs of Excess Musculoskeletal Tension
- Focal Palpation to determine:
  - Tenderness &/or Pain
  - Mobility of the Larynx
  - Presence of muscle tenderness or taut muscle bands
  - Extent of laryngeal Elevation
- “Jump” Sign

Focal Palpation of the Laryngeal Area
- Pressure is directed over the:
  - Major horns of the hyoid
  - Superior border of the thyroid cartilage
  - Anterior border of SCM
  - Suprahyoid musculature
- Determine size of the thyrohyoid space

Assess the Voice Effect of Laryngeal Reposturing/Repositioning
- Brief manual displacement, sustained pressure &/or downward traction applied to the larynx can reveal valuable information re: potential for improved voice (i.e., voice stimulability testing).
- While the patient vocalizes, reposturing or stabilizing the larynx can interfere with habituated patterns of muscle misuse.
- Brief “moments” of voice improvement can be identified, shaped and reinforced with digital cueing.
- Digital Cues faded, patient relies on vibrotactile, kinesthetic, and auditory feedback to maintain improved voice, muscle balance and laryngeal positioning.

Assess the Voice Effect of Laryngeal Reposturing/Repositioning (Cont)
- Want to keep the patient’s neck in a neutral position with no extension. Usually support the occiput of the head to keep patient from moving back.
- May see patient’s who suspend/elevate their larynx even at rest, may appear as if they’re holding their breath; however, it’s actually a “holding” pattern of the suprahyoid muscles.
Observe the Voice Effect of Three Laryngeal Reposturing Maneuvers

1. Digital compression in posterior direction within region of the hyoid bone.
   - Hyoid "Push-back technique".
   - Vary height and pressure, i.e., suprahyoid (BOT), hyoid, infrahyoid, T-H space, thyroid notch, and thyroid prominence.

"Push-Back" Maneuver (#1)

Observe Voice Effect of Laryngeal Reposturing (#2)

2. Impede laryngeal elevation by applying downward traction over the superior border of the thyroid cartilage.

"Pull-Down" Maneuver (#2)

Observe Voice Effect of Laryngeal Reposturing (#3)

3. Medial Compression and downward traction with most pressure directed over posterior aspect of thyroid cartilage (a within the thyrohyoid space).
   - Non-adducted hypertension.

Group Practice with these three Reposturing Techniques
Indications of Improvement (Single Session)

- Voice quality (should improve)
- Pain reduction/relief
- Normalized laryngeal height & mobility (Roy & Ferguson, 2001)
- Reduced muscle nodularity
- May consider use of Myofascial Release with patients as well.

Circumlaryngeal Massage

- If patient does not respond to repositioning, can use massage techniques
- Circular motion over the tips of the hyoid bone
- Thyroid space
- Posterior border of the thyroid cartilage
- Medial and lateral suprathyroid musculature

Voice Samples of Muscle Tension Dysphonia before and after Manual Circumlaryngeal Techniques

- Pre- and Post-Treatment Speaking Samples (Rainbow Passage)
Case Illustrations: MTD

Case Number 1
- 37 year old female
- Sudden onset of dysphonia following URI
- Unable to work during this time
- Treated with 3 voice therapy sessions between 5/25/11 to 6/10/11
- Patient did not feel well from work because she felt back to "herself"

Patient resurfaced in October 2013 with recurrence of MTD following stressful time and sinus infection with URI
- Presentation not as severe as prior in 2011
- Treated for 6 voice therapy sessions between 10/21/13 to 1/22/14

Case Number 2
- 22 year old male
- Extensive medical history
- Sudden onset of dysphonia with left unilateral vocal fold paralysis following a left acoustic neuroma surgery
- Had CSF leak following surgery, Radiesse injection in the vocal fold, and was NPO. Candidate for permanent thyroplasty
- Dysphagia received DOP dysphagia therapy, resumed PO diet
- Unable to work during this time
- Treated with 2 voice therapy sessions between 5/21/12 to 6/4/12
- D/C'd self for return to work and school

Case Number 3
- 32 year old female
- Evaluated by another SLP with videostroboscopy and sent to Voice Center for therapy
- Dx: Moderate MTD
- First two samples on initial therapy date before and after Manual CLM
- Treated with 6 voice therapy sessions between 5/14/12 to 10/10/12

Case Number 4
- 70 year old female
- Sudden onset of dysphonia following cardiac ablation
- Traumatic intubation; patient with TMJ history
- Treated with 5 voice therapy sessions between 10/13/10 to 11/15/10
Manual Circumlaryngeal Techniques (including Larynx Reposturing probes)

- Determine the contribution of laryngeal and extralaryngeal muscle dysregulation to the dysphonia and/or dysphagia symptoms.
- "Unloading" the larynx provides a distilled version of the dysphonia.
- Assures proper diagnosis and management.

Using Manual Circumlaryngeal Techniques in Cases of Benign Mucosal Disease

- "All voice patients should be tested for excess tension, regardless of the presumed etiology. The degree of voice improvement should be proportional to the reduction of muscle tension." (Aronson, 1990).
Response to Treatment (Severity Ratings)
Roy et al., JOV, 1997, n=25.

- Improvement (post 1 tx session- at least 1 scale value less severe than pre-treatment rating) = 96%
- Improvement (post 1- at least 2 scale values less severe than pre-treatment rating) = 80%
- Normal or mildly dysphonic following treatment (post 1- c or = 2 on severity rating scale) = 64%
- Relapse (post 2 or post 3 months- at least 1 scale value more severe than post 1- rating) = 25%
- Further improvement following discharge (post 2 or post 3 months- at least 1 scale value less severe than post 1) = 17%

RELAPSE? – Interview Results

- Long-term follow-up, 68% report some evidence of recurrence of dysphonic symptoms.
- Recurrence is partial, rather than complete
- Occurs within 2 mos. following treatment
- Less than 4 days in duration; self-limiting (i.e., resolves spontaneously)

References


