Assessment and Treatment of Muscle Tension Dysphonia: Not Just about Relaxing!

Muscle Tension Dysphonia is a voice disorder caused by dysregulated activity of the paralaryngeal muscles (Roy et al., 2019).

Primary MTD occurs in the absence of structural or neurologic abnormalities.
Secondary MTD occurs as a compensatory response to a laryngeal pathology.

A comprehensive evaluation is necessary in order to differentiate symptoms from other voice disorders, identify anatomic/structural changes, and obtain an accurate diagnosis. It should include:

- Case history
- Patient Reported Outcome Measures
- Perceptual Measures
- Laryngeal Palpation
- Videostroboscopy
- Acoustic and Aerodynamic Measures

Therapeutic Intervention should include both indirect and direct therapy approaches, with the goal of generalization of voice techniques into daily life. Exercises should be selected based on stimulability testing, the patient's goals, and their diagnosis.

Indirect: Education related to changing the behaviors and environment around voicing, "vocal hygiene." It may include discussion related to reduction of phonotraumatic behaviors, understanding vocal load/demands, diet and lifestyle changes (smoking, reflux management), and increases in hydration/humidification.

Direct: Modifying vocal production in order to rebalance the subsystems of vocal production: airflow, phonation/muscular tension, and resonance.

- **Semi-Occluded Vocal Tract Exercises:**
  - **WHAT:** Any vocalization that results in partial closure of the end of the vocal tract (cup/straw bubbles, straw only phonation, lip or tongue trills, /v/, /z/, /u/, and ð)
  - **WHY:** Creates back pressure (supraglottic pressure) which disperses impact stress on the vocal folds and aids in opening and relaxing the muscles of the larynx, additionally builds awareness of breath and tension patterns (Titze, 2006)
- **Resonant Voice Therapy**
  - **WHAT**: Producing voice with "forward focus," targeting oral vibratory sensations and consistent airflow. Uses "mmm" sound as a basic training gesture.
  - **WHY**: Rebalance muscle tension and airflow, maximize vocal output while minimizing stress/input on the vocal folds (Verdolini et al., 2012)
- **Flow Therapy**
  - **WHAT**: Voice production with increased and consistent airflow. Uses breathy /u/ as a basic training gesture.
  - **WHY**: Increased airflow reduces impact stress on the vocal folds (Watts et al., 2015)
- **Laryngeal Massage**
  - **WHAT**: Massage of the thyrohyoid space, floor of mouth, and muscles in the neck surrounding the larynx
  - **WHY:** Decreases baseline muscle tension, increases awareness of tension patterns (Barsties v. Latoszek et al., 2023)
- **Conversation Training Therapy**
  - **WHAT**: Conversation-based voice therapy technique with six tenants that focus on the patient's vocal awareness and production during conversation
  - **WHY**: Uses principles of motor learning to increase awareness and improve generalization of voice therapy techniques (Gillespie et al., 2019)

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