

**Critical Review:**  
**Are laryngeal manual therapies effective in improving voice outcomes of patients with muscle tension dysphonia?**

María López  
M.Cl.Sc (SLP) Candidate  
University of Western Ontario: School of Communication Sciences and Disorders

This critical review examined the effects of laryngeal manual therapies on the voice outcomes of patients with muscle tension dysphonia in four studies. Study designs included: three single group pre

(functional dysphonia)). No limitations were placed on the search.

#### Selection Criteria

Studies selected for inclusion in this critical analysis were required to investigate voice outcome measures after LMT or MCT on adults with primary MTD or FD. Reviews were excluded.

#### Data Collection

Results of the literature search yielded four articles consistent with the aforementioned criteria: single group pre-posttest design (3) and within group repeated measures design (1).

sentences, and to conversation. The subjects were also encouraged to telephone a familiar partner to stabilize their voice.

Data were analyzed appropriately using *t*-tests. Results

### ***Results***

#### **Single group pre-posttest design**

Roy and Leeper (1993) examined the immediate and short-term perceptual and acoustic effects of one session

(1990) manual laryngeal musculoskeletal tension reduction technique, hereinafter referred to as MCT.

Seventeen consecutive patients (ages 20-70 years; mean age of 46.9 years) participated in the study. They all presented with FD which ranged in duration from 4 days to 3 years (mean duration of 8.3 months). Diagnosis of primary FD was made by one of two ENTs.

The management protocol comprised of one session that ranged in duration from 60 minutes to 3 hours. Outcome measures were taken before and immediately after the MCT session. These measures included a perceptual evaluation (using a severity measures scale) and an acoustic evaluation (jitter, shimmer, and signal-to-noise ratio (SNR)) of connected speech and sustained vowel /a/. The severity measures scale consisted of a 7-point equal-appearing interval scale completed by four speech-language pathologists (SLPs) experienced in voice disorders. Interobserver and intraobserver reliability measures were established at and above 90% for connected speech and sustained vowel samples. A telephone interview 1 week post-treatment was also included to assess short-term maintenance of any changes after treatment (i.e., status of the voice, recurrence of vocal symptoms).

Treatment included one session of MCT, as described by Aronson (1990), and was administered by the same clinician. Indicators of a reduction in tension were a clearer voice quality and a reduction in pain and laryngeal elevation. Once an improved voice was established, it was shaped from vowels, to words, to



post-treatment for dryness ( $p=.016$ ), tickling ( $p=.003$ ), soreness ( $p=.001$ ), and irritableness ( $p=.013$ ). For symptom severity, there were significant changes for tightness ( $p=.003$ ), dryness ( $p=.023$ ), aching ( $p=.026$ ), and soreness ( $p<.001$ )

Given the limited research in the area of LMTs, it is suggested that future research consider the following variables:

An objective measure of the evaluation of muscle tension should be developed.

LMTs should be compared to other treatment approaches using different experimental groups or a control group.

The length of time of application of LMT should be examined, given that the abovementioned studies varied from 5 minutes to 3 hours in treatment time.

Future studies could examine the effects of more than one session of LMT, which could lead to better long-term outcomes.

### **Conclusion**

At present, there is suggestive evidence regarding the effectiveness of LMTs as a treatment approach for MTD, due to the limited research directed at this question. However, given the positive short-term outcomes in the abovementioned studies, it is thought that LMTs are worth integrating into the treatment protocol early in the intervention of MTD.

### **Clinical Implications**

The positive effects of LMTs on the voice outcomes of MTD have the following implications for clinical practice:

LMTs can be considered early in the treatment of MTD in order to provide rapid relief of symptoms.

Graduate SLP students may need further training in order to appropriately administer LMTs.

### **References**

- Aronson, A. E. (1990). *Clinical voice disorders: An interdisciplinary approach*. New York: Thieme.
- Gallena, S. K. (2007). *Voice and laryngeal disorders: A problem-based clinical guide with voice samples*. St. Louis, MO: Mosby Elsevier.
- Mathieson, L. (2011). The evidence for laryngeal manual therapies in the treatment of muscle tension dysphonia. *Current Opinion in Otolaryngology & Head and Neck Surgery*, 19(3), 171-176.
- Mathieson, L., Hirani, S. P., Epstein, R., Baken, J., Wood, G., & Rubin, J. S. (2009). Laryngeal manual therapy: A preliminary study to examine its effects in the management of muscle tension dysphonia. *Journal of Voice*, 23(3), 353-366.
- Roy, N. (2008). Assessment and treatment of musculoskeletal tension in hyperfunctional voice disorders. *International Journal of Speech-Language Pathology*, 10(4), 195-209.
- Roy, N., Bless, D. M., Heisey, D., & Ford, C. N. (1997). Manual circumlaryngeal therapy for functional dysphonia: An evaluation of short- and long-term treatment outcomes. *Journal of Voice*, 11(3), 321-331.
- Roy, N., & Leeper, H. A. (1993). Effects of the manual laryngeal musculoskeletal tension reduction technique as a treatment for functional voice disorders: Perceptual and acoustic measures. *Journal of Voice*, 7(3), 242-249.
- Silverman, F. H. (1977). *Research design in speech pathology and audiology*. Englewood Cliffs, NJ: Prentice-Hall.
- Stemple, J.C., Glaze, L., & Klaben, B. (2010). *Clinical voice pathology: Theory and management*. San Diego, CA: Plural Publishing Inc.
- Van Houtte, E., Van Lierde, K., & Claeys, S. (2011). Pathophysiology and treatment of muscle tension dysphonia: A review of the current knowledge. *Journal of Voice*, 25(2), 202-207.
- Van Lierde, K. M., De Bodt, M., Dhaeseleer, E., Wuyts, F., & Claeys, S. (2010). The treatment of muscle tension dysphonia: A comparison of two treatment techniques by means of an obeatment tvTJET EMC /P <</MC9 TJ82(ea3(.)-2( )JTJETBT/F4