# Manual Therapy for Voice Disorders: Moving the Explanation Forward

Author

Walt Fritz, PT. Owner, Foundations in Manual Therapy Seminars

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# **Introduction**

Current outcome-based studies show manual therapy (MT) of various names helpful with muscle tension dysphonia (MTD) and related voice disorders, including normal voice. However, nearly all studies rely on a local tissue-based mechanism of action explanation of how MT impacts the patient and lack an updated narrative on the range of impacts MT creates. This study aims to establish a basic framework for future research on the various factors contributing to the gains seen because of MT by synthesizing perspectives from outside the voice realm.

## OBJECTIVE

 Examine and critique the current literature
 Explore literature from more far-reaching sources to synthesize a new framework for a multivariant mechanism of action for MT in voice rehabilitation

## METHODOLOGY

#### A preliminary literature review was done through a purposeful sampling of voice literature that pertained to the use of MT for MTD. First, those papers were examined whether the explanation for how MT impacts voice dysfunction (if any) was described beyond local impacts at the peripheral tissue level. Next, an integrative literature review from a purposeful sampling of papers from the general MT literature examined effects from neurocentric and behavioral perspectives. Finally, these factors were synthesized into a basic framework for explaining what a more global mechanism of action may look like in the MT/voice field.

### RESULTS

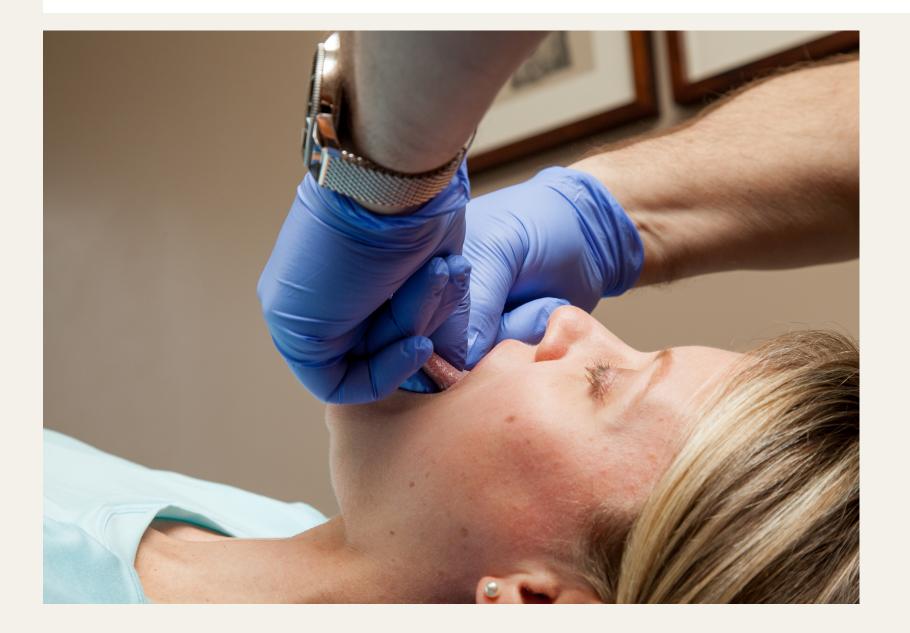
Most historical and current MT/voice literature rely on unvalidated historical peripheral tissue-based mechanisms of action while the general MT literature is evolving into neurocentric, biopsychosocial, and behavioral perspectives. Therefore, future research in the MT/voice field is recommended to look to these perspectives to allow a more comprehensive view of how MT influences MTD.

# <u>Analysis</u>

Excepting Roy (2017), little mention is made of the mechanism of action behind MT in the current voice literature. Exploring other sources reveals a rich mosaic of potential contributors, representing intertwining possibilities for explaining the process. Local tissue changes are downplayed, given the lack of a universally accepted biologically proven mechanism (Bialosky, 2018), and instead, those local tissues are seen as awareness signalers to spinal and supraspinal centers, allowing for nervous system modifications back to the periphery. Behavioral and contextual factors play a strong role in MT interactions, with clinician-state factoring in (Cerritelli, 2017).

## **Conceptual Framework**

- Neurodynamic concepts (Ateras, 2017; von Piekartz, 2002)
- Skin-based neurocentric concepts (Jacobs, 2016; Ateras, 2017)
- Autonomic factors (Schleip, 2003; Cardoso, 2017)
- Perceptual changes in sensation (Weppler, 2010)
- Analgesic impacts (Bishop, 2015)
- Reduction in inflammatory markers (Krisciunas, 2019)
- Peripheral tissues signaling to higher centers-spinal/supraspinal (Bialosky, 2009, 2018)
- Affective influences (Geri, 2019)
- Brain-based functional connectivity changes because of touch (Cerritelli, 2017)
- Behavioral factors (Roy, 2017; Spengler, 2017)
- Contextual factors (Bialosky, 2018; Testa, 2016; Thomson, 2021)



# **Conclusion**

Current voice literature lacks a thorough vetting of the mechanism of action of MT. From a larger body of evidence, a framework has been proposed to guide future research. With this will come a richer understanding of the complexities of touch-based interventions, furthering our ability to aide in the remediation of voice disorders. Based on the disparate perspectives and the uncertainty implicit in any injury or condition, and the variability in human interaction (patient/clinician), deeper models must allow for the ambiguity of multivariant effects.

"Clinicians should remember that manual techniques are not tools to fix the patient's body, rather they provide the opportunity to communicate with the patient's brain similar to words" (Geri, 2019)

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