




## Two Phases of Post-Operative Frenectomy Care:

### Active Wound Management & Neuromuscular Re-Education

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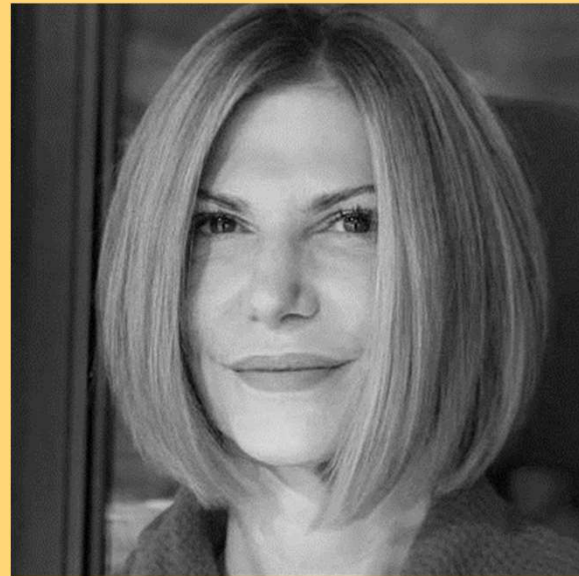
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TalkTools® Instructor , author and product developer.

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Employee of The Ridgefield Board of Education.

Faculty, The Breathe Institute, Ethics and Scope



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### *Learner Objectives*

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### *Why This Topic ?*

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Confusion

Scope of practice

Referrals

EBP

?

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## TOTs *Merkel-Walsh & Overland*

**TOTs is/are a congenital remnant(s) of tissue that may restrict movement and cause functional impact across the lifespan.**



Unusually short



Too thick



Too tight



Atypical location

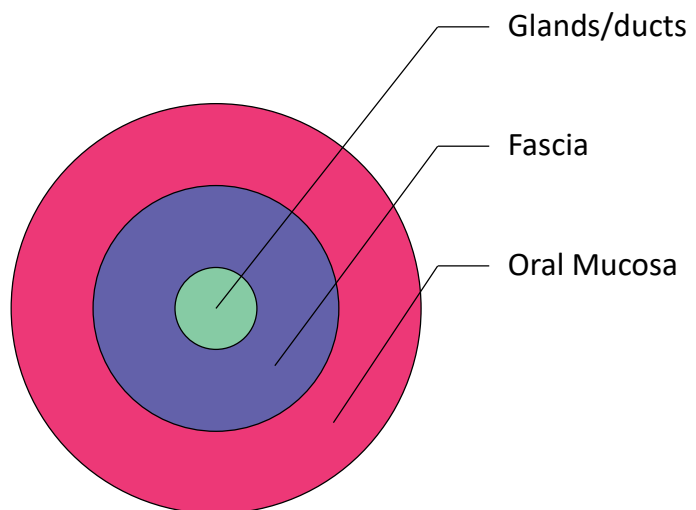
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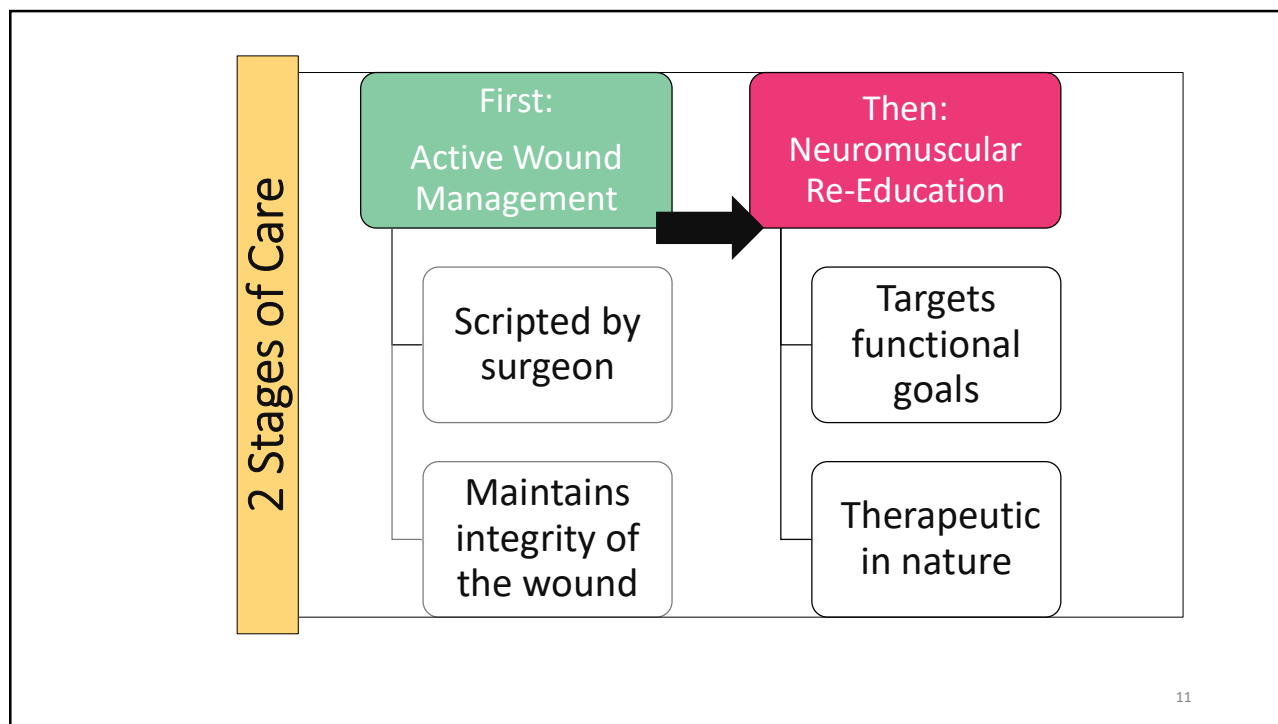
## Frena structure

The lingual frenulum is a dynamic structure, formed by a midline fold in a layer of fascia that inserts around the inner arc of the mandible, forming a diaphragm-like structure across the floor of mouth. This fascia is located immediately beneath the oral mucosa, fusing centrally with the connective tissue on the tongue's ventral surface. The sublingual glands and submandibular ducts are enveloped by the fascial layer and anterior genioglossus fibers are suspended beneath it. Lingual nerve branches are located superficially on the ventral surface of the tongue, immediately deep to the fascia. The lingual frenulum is not a discrete midline structure.

Mills, N., Pransky, S.M., Geddes, D.T. and Mirjalili, S.A. (2019), What is a tongue tie? Defining the anatomy of the in-situ lingual frenulum. Clin. Anat., 32: 749-761. <https://doi.org/10.1002/ca.23343>



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## What is Active Wound Management?

**Active wound care** is performed to remove devitalized and/or necrotic tissue to promote **healing** of a **wound** on the skin.

It is to avoid scarring and reattachment.

It is within specific scopes of practice of certain medical professionals.

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## Why do We Do Active Wound Management ?

- Frena contains fascial restrictions
- Deep fascia is connected to pain
- Fascial restriction can cause tightness in the area affected and the surrounding muscles
- Guided mobility avoids fibrosis

(Pavan, Stecco, Stern & Stecco, 2014).

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## Open or Closed Wound ?

First **intention**, also termed **primary healing**, is the **healing** that occurs when a clean laceration or a surgical incision is closed primarily with sutures, Steri-Strips, or skin adhesive. This is commonly seen with scissor releases, though some are left open.

Second **Intention Healing** – A **wound** that is open, has delayed healing and in which the edges cannot be brought together heals in this manner. This commonly seen with laser releases though stitches may be used in complex cases.

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## How does this impact aftercare?

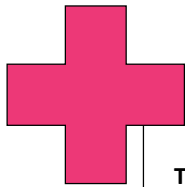
First intention, requires little to no wound management post op, but NMR applies and starts 3-7 days after the release.

Second Intention Healing – A wound that is open, requires AWM which begins immediately and is performed multiple times a day.

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## EBP Wound Management



The edges of the wound begin to migrate towards the center so that the edges can try and eventually zipper together with a mucous membrane covering

Migration is facilitated by a scaffolding that forms over the wound

Granulation tissue begins to fill the wound

Matrix of fibers  
(Larjava, 2012)

Improvement in breast feeding and recurrence after frenotomy were similar between massage and non-massage groups

This confirms the lack of any additional benefit of post frenotomy massage

But.....

\*Plan of care seemed aggressive

\* Admitted 43.5 % did not comply

(Bhandarkar, , Dar, Karia, & Upadhyaya, 2022)

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## Examples of Professionals with AWM in Scope of Practice



IBCLC

- No AWM according to IBCLC
- <https://ibclce.org/wp-content/uploads/2018/12/scope-of-practice-2018.pdf>



SLP

- No AWM according to ASHA
- <https://www.asha.org/siteassets/publications/sp2016-00343.pdf>



RDH

- AWM is listed according to the ADHA and many state licensure bylaws
- [https://www.adha.org/resources/docs/7614\\_Policy\\_Manual.pdf](https://www.adha.org/resources/docs/7614_Policy_Manual.pdf)



OT

- AWM is listed according to references to each state license but not specific to TOTs
- Some states exclude dental AWM
- <https://www.ota.org/practice/practice-essentials/scope-of-practice>



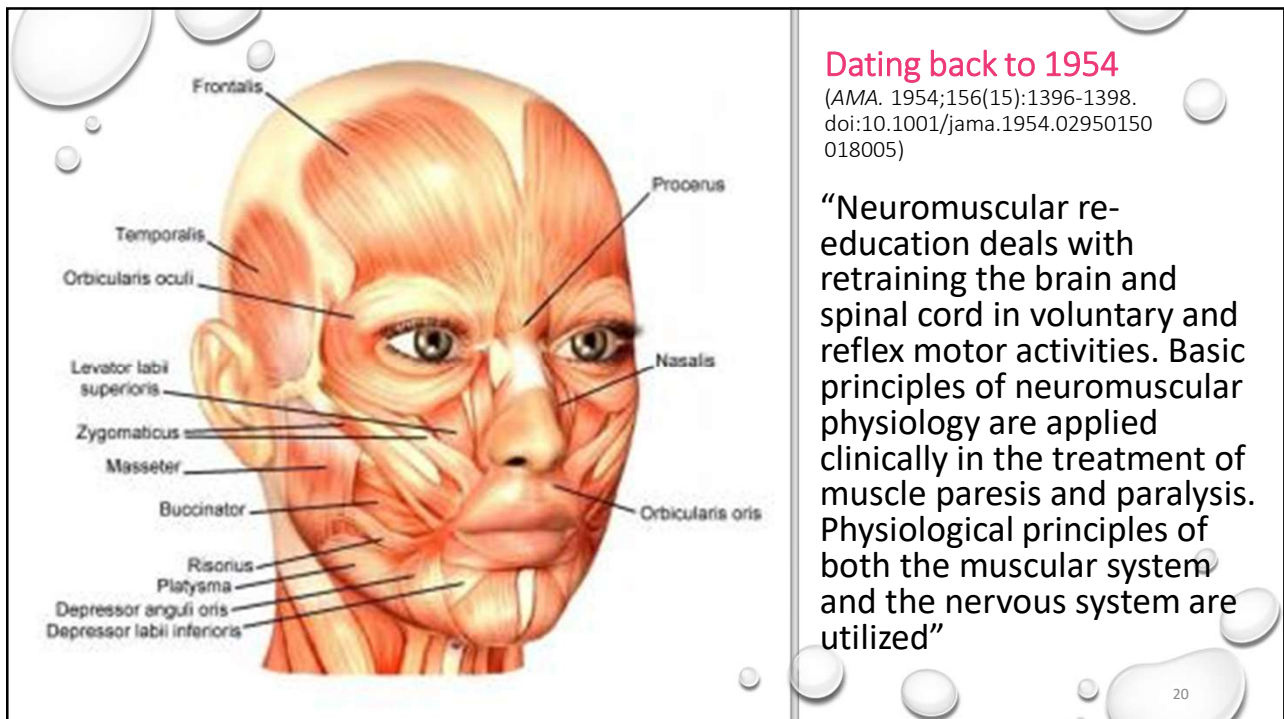
PT

- AWM is listed as scope according to APTA, but not specific to oral surgery
- <https://www.aptaprofessionals.org/contentassets/a400d547ca63438db1349c4a69bf7ead/position-pt-scope-practice.pdf>

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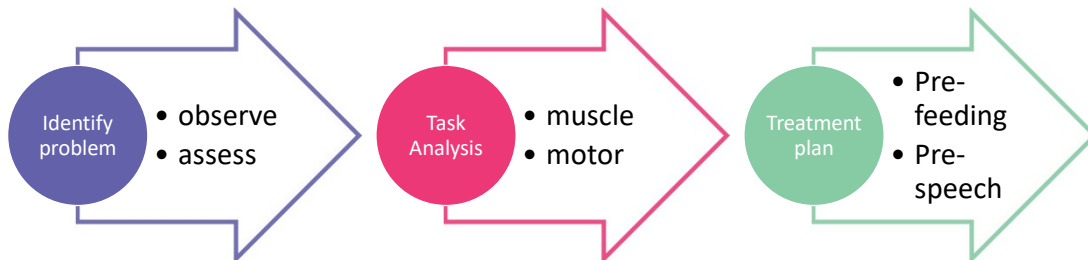


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## Neuromuscular Re-Education is Based on Function



Merkel-Walsh, R. & Overland, L. (2018). *Functional assessment and remediation of tethered oral tissue (TOTs)*. Charleston, SC: TalkTools.

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## Examples of NMR



### Beckman Oral Motor

- Assists movements to provide muscle contraction
- Facilitates movement against resistance to improve strength

### Myofascial Release

- Applies gentle sustained pressure into connective tissues
- Eliminates pain and restores motion

### Orofacial Myofunctional Therapy

- Incorporates strength and resistance training, motor planning and habituation principles to improve oral rest posture, feeding, speech, swallowing and sleep and supports optimal orofacial growth

### TalkTools®

- Provides the task analysis of pre-feeding, feeding, oral placements and speech
- Uses oral sensory motor tools to map sensory information to facilitate the target motor plan and facilitates muscle-memory

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## Why are we lifting the tongue ?

### Merkel-Walsh 4 MYO Domains

1	AIRWAY : lingual elevation is ideal for breathing which supports optimal growth and maintenance of the orofacial structures.
2	FEEDING : Tongue elevation is a pre-feeding skill required for development of the targeted mature swallow pattern.
3	STRUCTURE: retraining the muscles of the tongue pre- and post-frenectomy is necessary for optimal range of motion and subsequent balance of the dentition and palate.
4	SPEECH : Tongue tip elevation is required for lingual alveolar phonemes /t/, /d/, /n/, /l/, /s/ and /z/ and many vowels.



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## Examples of Professionals with NMR in Scope of Practice



IBCLC

- Mother and infant dyad supports
- Breast-feeding supports
- Food transition supports
- Oral Motor supports
- Prevention of OMDs with proper referrals



SLP

- Articulation therapy
- Feeding and swallowing therapies across lifespan
- OMT for > 4
- Oral motor therapy
- Habit Elimination
- Respiration and breathing supports



RDH

- Dental health intervention
- OMT for >4
- 0-3 oral health screenings and OMD preventative education
- OMT supports for appliances
- Habit elimination



OT

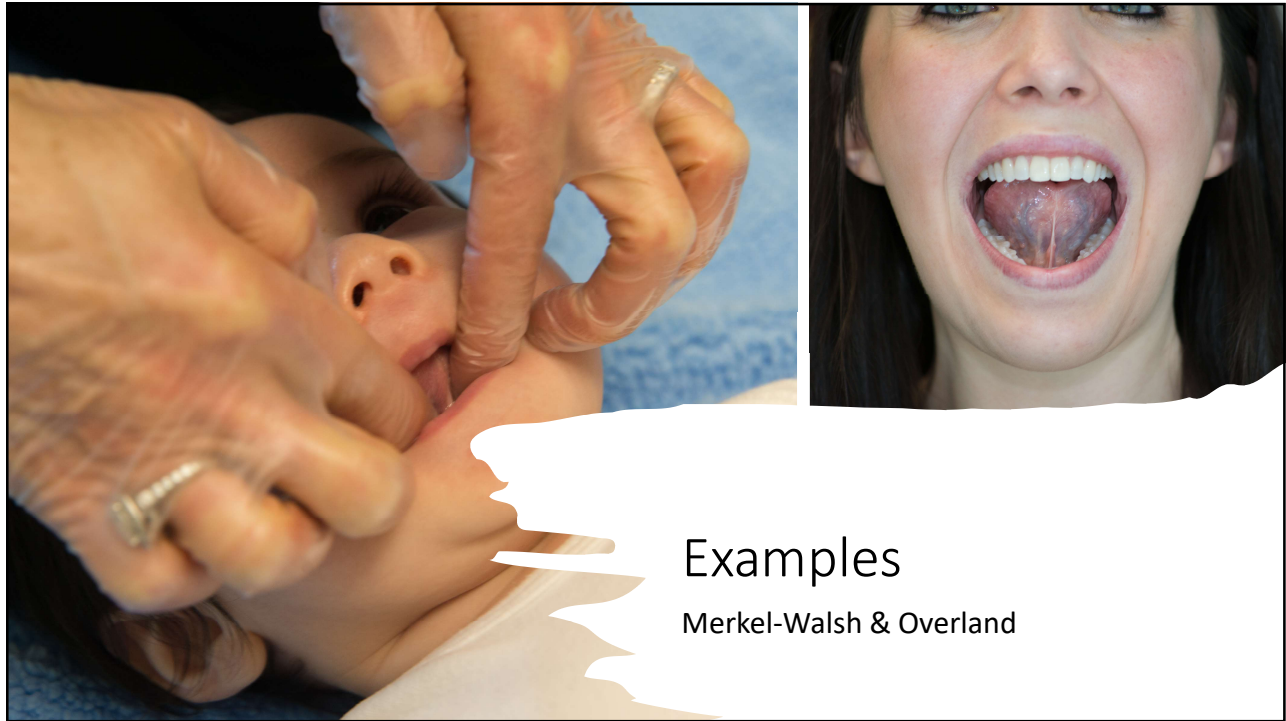
- Feeding therapy
- Treatment for torticollis
- Sensory integration supports
- Craniosacral therapy (CST)
- Neuro-Developmental Treatment (NDT)
- Myofascial release



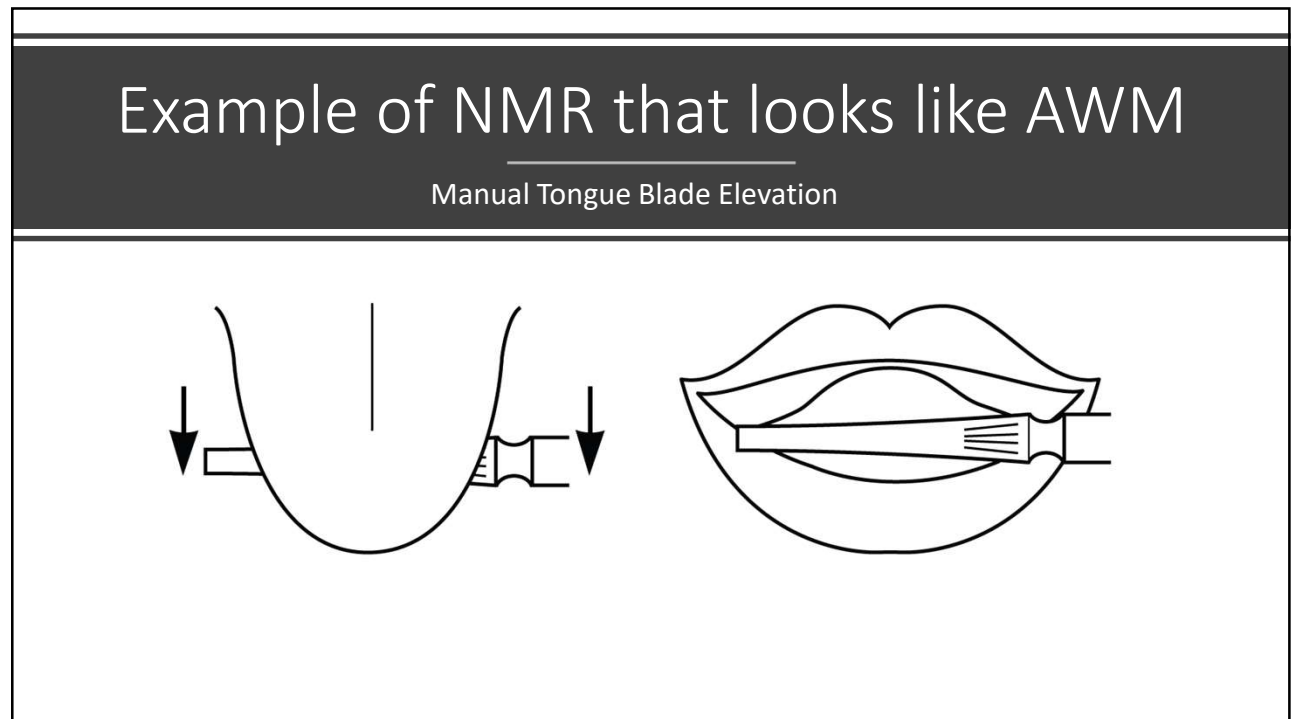
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- Posture and alignment techniques
- NDT
- CST
- TMJ therapy
- Respiration and breathing supports
- Myofascial release
- Core strengthening

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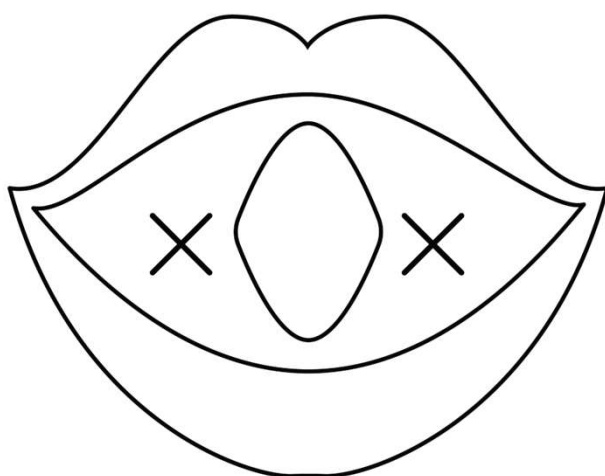
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Video  
Manual Tongue  
Elevation Infant

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V Stretch

Example of  
NMR that  
looks like  
AWM

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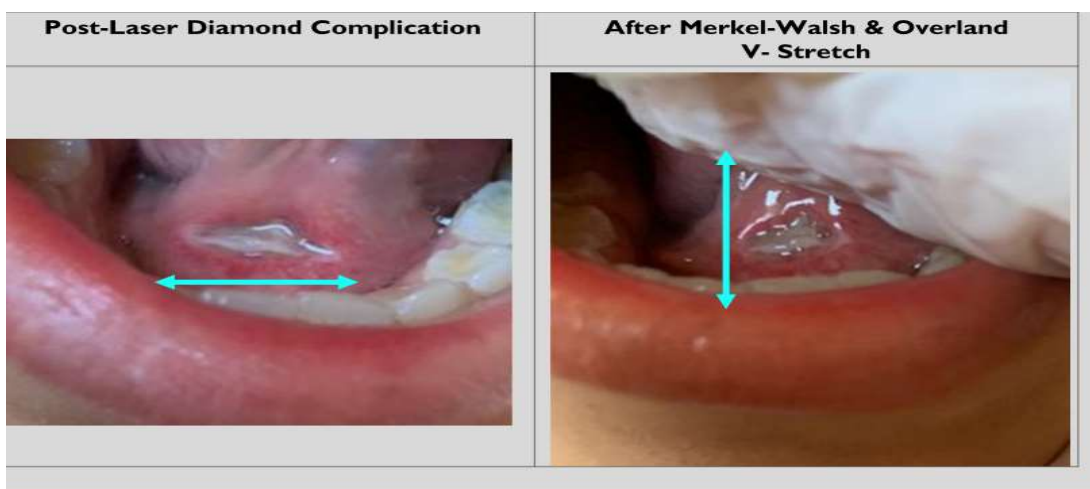
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Video  
Example  
V Stretch  
Teen



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*AWM or NMR ?*



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## Summary

Semantics matter

AWM is focused on wound healing

NMR is focused on function

If wound care was more goal directed patients could potentially make more progress

EBP is emergent and mostly based on the science of wound healing in general

Scope of practice is driven by national associations and state licensure

Age of patient will determine professional and therapy modality



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American Dental Hygienist Association (ADHA). (2021). Policy manual. Retrieved from:

[https://www.adha.org/resources-docs/7614\\_Policy\\_Manual.pdf](https://www.adha.org/resources-docs/7614_Policy_Manual.pdf)

American Speech-Language-Hearing Association (ASHA). (2016). *Scope of practice in speech-language pathology* [Scope of Practice]. Available from [www.asha.org/policy/](http://www.asha.org/policy/).

Bhandarkar, K.P., Dar, T., Karia, L. & Upadhyaya. M. (2022). Post Frenotomy Massage for Ankyloglossia in Infants—Does It Improve Breastfeeding and Reduce Recurrence? *Maternal and Child Health Journal*. 10.1007/s10995-022-03454-x.

Baxter, R. (2018). *Tongue Tied: How a tiny string under the tongue impacts nursing, speech, feeding, and more*. Alabama, GA: Alabama Tongue-Tie Center.

Baxter, R., Merkel-Walsh, R., Baxter, B. S., Lashley, A., & Rendell, N. R. (2020). Functional improvements of speech, feeding, and sleep after lingual frenectomy tongue-tie release: A prospective cohort study. *Clinical Pediatrics*, 000992282092805.

Brooks, L., Landry, A., Deshpande, A., Marchica, C., Cooley, A., & Raol, N. (2019). Posterior tongue, base of movement, and pharyngeal dysphagia: what is the connection? *Dysphagia*, 1-4.

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Buck, L. S., Frey, H., Davis, M., Robbins, M., Spankovich, C., Narisetty, V., & Carron, J. D. (2020). Characteristics and considerations for children with ankyloglossia undergoing frenulectomy for dysphagia and aspiration. *American Journal of Otolaryngology*, 102393. doi: 10.1016/j.amjoto.2020.102393

CMS (2011). Billing and coding guidelinesGSURG-051 Wound Care L28572. Retrieved from : [https://downloads.cms.gov/medicare-coverage-database/lcd\\_attachments/28572\\_20/l28572\\_gsurg051\\_cbg\\_010111.pdf](https://downloads.cms.gov/medicare-coverage-database/lcd_attachments/28572_20/l28572_gsurg051_cbg_010111.pdf).

de Castro Rodrigues, R.L., Marchesan, I.Q., Gusmao, R.J. de Castro Rodriguez, A. & Berretin-Felix, G. (2014). Characteristics of altered human frenulum. *International Journal of Pediatrics and Child Health Care*, 2, 5-9.

Hand, P., Olivi, G., Lajolo, C., Gioco, G., Marigo, L., Castagnola, R., & Cordaro, M. (2020). Short lingual frenum in infants, children and adolescents. Part 1: Breastfeeding and gastroesophageal reflux disease improvement after tethered oral tissues release. *European journal of paediatric dentistry*, 21(4), 309–317. <https://doi.org/10.23804/ejpd.2020.21.04.10>

Huddleston O.L. (1954). Principles of neuromuscular reeducation. *JAMA*. 1954;156(15):1396–1398. doi:10.1001/jama.1954.02950150018005

Kotlow, L. (2001). Infant reflux and aerophagia associated with maxillary lip-tie and ankyloglossia. *Clinical Lactation*, Vol. 2-4, 25-29.

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Larjava, H. (2012) *Oral wound healing: cell biology and clinical management*. Wiley-Blackwell: Vancouver BC, Canada.

Merkel-Walsh, R. & Overland, L. (2021a). Functional assessment of tethered oral tissues. Virtual presentation on January 26, 2021, TalkTools®. Charleston, SC.

Merkel-Walsh, R. & Overland, L. (2021b). Active Wound Management vs. Neuromuscular Re-education. Recorded presentation for the Annual Symposium of The American Laser Study Club, Breathe and Thrive.

Mills, N., Pransky, S. M., Geddes, D. T., & Mirjalili, S. A. (2019). What is a tongue tie? Defining the anatomy of the in-situ lingual frenulum. *Clinical anatomy (New York, N.Y.)*, 32(6), 749–761. <https://doi.org/10.1002/ca.23343>

Mills, N., Geddes, D.T., Amirapu, S. & Ali Mirjalil, S. (2020). Understanding the lingual frenulum: histological structure, tissue composition, and implications for tongue tie surgery. *International Journal of Otolaryngology* 2020(12):1-12.

Pavan, P.G., Stecco, A., Sern, R & Stecco, C. (2014). Painful; considerations: densification versus fibrosis of fascia. *Curr Pain Headache Rep*, 18:144.

Siegel, S.A., (2016). Aerophagia induced reflux in breastfeeding infants with ankyloglossia and shortened maxillary labial frenulum (Tongue and Lip Tie). *International Journal of Clinical Pediatrics*, 5(1):6-8.

Zaghi, S., Valcu-Pinkerton, S., Jabara, M., Norouz-Knutsen, L., Govardhan, C., Moeller, J., Sinkus, V., Thorsen, R. S., Downing, V., Camacho, M., Yoon, A., Hang, W. M., Hockel, B., Guilleminault, C., & Liu, S. Y. (2019). Lingual frenuloplasty with myofunctional therapy: Exploring safety and efficacy in 348 cases. *Laryngoscope investigative otolaryngology*, 4(5), 489–496. <https://doi.org/10.1002/lio2.297>.

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*Thank You*

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