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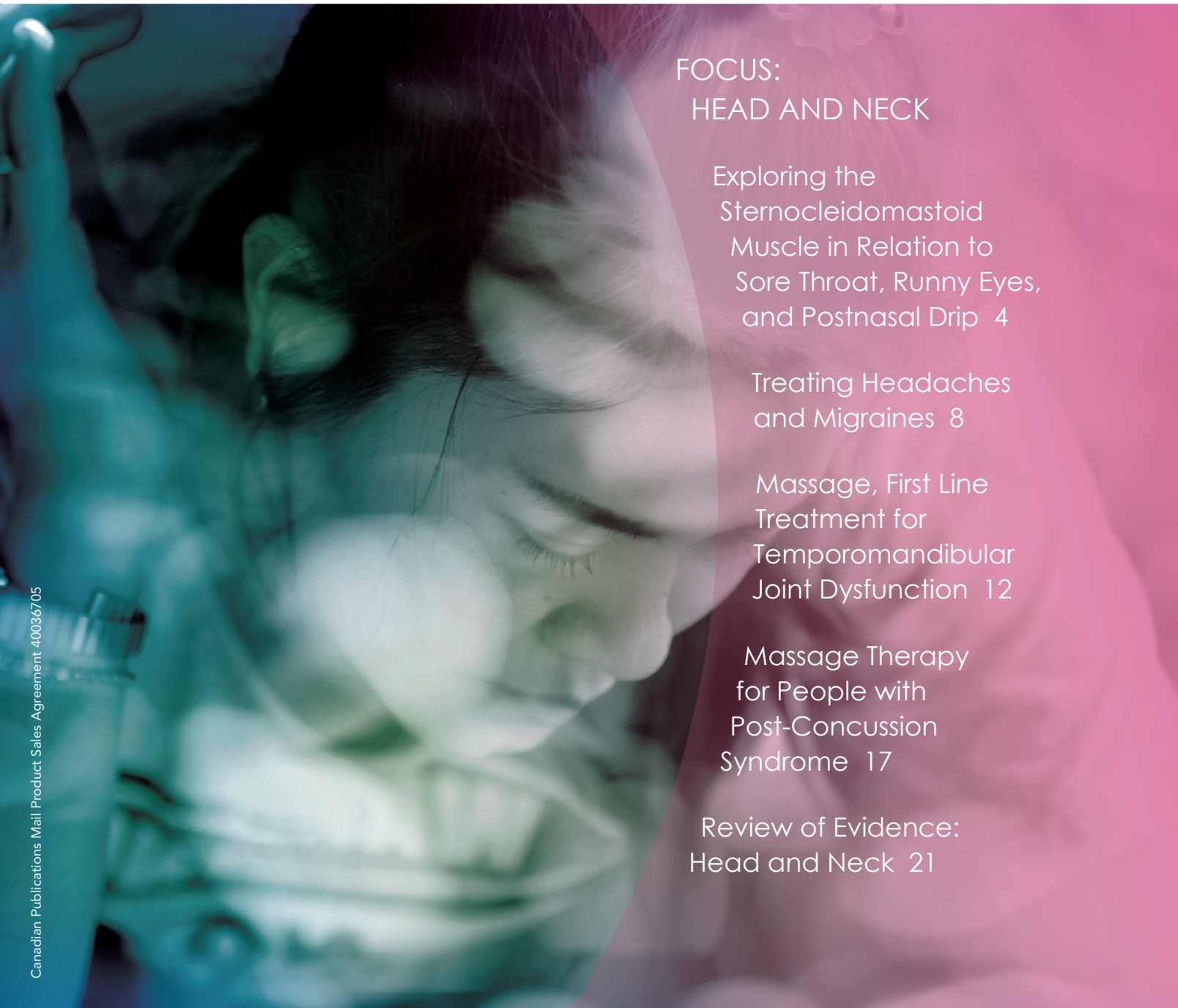

FOCUS:
HEAD AND NECK

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Jules Poulin, RMT, is a clinic owner and director, educator, entrepreneur. An RMT since 2000, Jules Poulin has dedicated her career to rehabilitation. In 2018, Jules opened From the Neck Up, North America's first and only RMT clinic focused on rehabilitation of the head, neck, voice, jaw, ears, and tongue. Her From the Neck Up course series is set to launch in 2024.

Review of Evidence: Head and Neck

In the massage therapy profession, we commonly treat what patients describe as head and/or neck tension or pain. While this area is relevant for many people, it is important to further understand the symptomatic implications of dysfunction in the head and/or neck.

Whether it be stomatognathic, auricular, neurological, laryngeal, glossal, or neuromuscular, the massage therapist as an evidence-informed care provider can significantly aid in assisting these patients by providing effective rehabilitative care through manual therapy. In this review of evidence, you will find research pertinent to conditions of the head and neck that may benefit tremendously from RMT assessment and treatment, in order to provide an increase in quality of life for patients with these conditions.

Features and impact of dysphagia, dysphonia and laryngeal hypersensitivity in whiplash associated disorder – a qualitative study

Danielle B. Stone, Trudy Rebbeck, Elizabeth C. Ward, James E. Elliott. *(2023) Disability and Rehabilitation. doi:/10.1080/09638288.2022.2098395*

Most manual therapists will encounter patients who have had a whiplash injury in their clinical practice. This type of injury can present itself in myriad ways, which is why it is important for manual therapists to look beyond the standard presentations of this injury type.

This study aimed to explore the role of whiplash in dysphagia, dysphonia, and laryngeal hypersensitivity.

A qualitative interpretive description design was used to study 11 participants with chronic whiplash-associated disorders and self-reported swallowing, voice, and/or throat-related problems. They completed a baseline symptom questionnaire and were invited to participate in a videofluoroscopic swallow study to investigate baseline swallowing biomechanics. Further, the patients gave semi-structured interviews to explore features of swallowing and voice/laryngeal sensory complaints; their responses were analyzed using thematic analysis.

The study identified the following in patients with whiplash-associated disorder:

- High baseline levels of self-reported neck pain, throat-related disability, and psychological stress
- A range of features of dysphagia (i.e., swallowing difficulties) and dysphonia (i.e., vocal difficulties)
- Changes in swallowing and participation in voice activities
- Psychological and emotional impacts
- Co-existing features of laryngeal hypersensitivity
- Barriers to management

As an integral part of rehabilitation for whiplash-associated disorders, RMTs should include questions about voice and swallowing symptoms in their assessments, assess and treat the musculature of the anterior neck (if comfortable and when applicable), and direct the patient to their primary care provider to request a referral to an ear, nose and throat (ENT) specialist and speech language pathologist (SLP). As this is a vulnerable area for treatment, RMTs should focus on communicating with patients during the application of massage to ensure they feel safe and comfortable.

Suboccipital muscles, forward head posture, and cervicogenic dizziness

Yun-Hee Sung *(2022) Medicina (Kaunas, Lithuania). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9786116/*

Dysfunction of the vestibular or non-vestibular systems can cause dizziness or vertigo. However, dizziness caused by dysfunction

of the non-vestibular system, especially cervicogenic dizziness, is not commonly known. This research looks at the suboccipital muscles, which act as stabilizers and controllers of the head, and how structural and functional changes to these muscles can induce dizziness.

While there are various reasons for non-vestibular dizziness, this review of more than 100 articles focused on cervicogenic dizziness (CGD), which is caused by trauma, inflammation, degeneration, or mechanical dysfunction of the cervical spine. It is characterized by unsteadiness, neck pain, stiffness, headache, dysphagia, nausea, visual disturbances, ear fullness, tinnitus, temporomandibular dysfunction, joint pain, and other psychological problems.

Several contributing factors to the relationship between the suboccipital muscles, forward head posture, and CGD have been noted in this research:

- Abnormal somatosensory input
- Changes in the function and structure of the suboccipital muscles
- Tension of the myodural bridges (the connections between the dura mater and suboccipital muscle fascia)
- Trigger points

The abnormal input to the suboccipital muscles caused by forward head posture in certain patients might cause CGD, as it can induce a change in alignment and an excessive load on the upper cervical spine. This causes structural and functional changes in the surrounding muscles, especially the suboccipitals. Further, unnecessary stimulation may persist because of ligamentous and facet joint instability. These alterations transmit abnormal proprioceptive inputs to the central nervous system, resulting in inconsistencies with vestibular and visual inputs, which can manifest as dizziness, pain, light-headedness, and headache.

When it comes to the treatment of dizziness from the perspective of the RMT, it is important to assess the patient using a tool like the head-neck differentiation test. The test is performed with the patient sitting on a swivel chair. Provocation of dizziness with trunk rotation under a head stabilized in space implicates the cervical spine, whereas dizziness with head and trunk rotation together indicates a vestibular component to the patient's symptoms. The former is indicative of a treatment plan with the RMT, while the latter would indicate a referral to an ENT and/or a vestibular physiotherapist.

Treatment of somatosensory tinnitus: a randomized controlled trial studying the effect of orofacial treatment as part of a multidisciplinary program

Annemarie van der Wal, Sarah Michiels, Paul Van de Heyning, Marc Braem, Corine M. Visscher, Vedat Topsakal, Annick Gilles, Laure Jacquemin, Vincent Van Rompaey, Willem De Hertogh. *(2020) Journal of Clinical Medicine. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7141361/*

It is not uncommon for patients with auricular issues to be assessed by an ENT and be informed that the potential causative factor for their symptoms is one or both temporomandibular joints. Tinnitus is by definition a perception of sound in the absence of overt acoustic stimulation, which can present as hissing, sizzling, or ringing in one or both ears.

The purpose of this study was to evaluate the effect of orofacial treatment on tinnitus in patients with temporomandibular somatosensory tinnitus (TST).

A total of 80 patients with TST participated in the study. They received information and advice about tinnitus, as well as conservative orofacial treatment (physical therapy and dental occlusal splints if bruxism was identified). The treatment effect on tinnitus severity was investigated using a tinnitus questionnaire and the Tinnitus Functional Index (TFI). All participants fit the established criteria for TMD.

A total of 18 orofacial treatments were provided by physical therapists trained in temporomandibular joint rehabilitation over a 9-week period. The physical therapy included massage of the masticatory muscles, stretching exercises, relaxation therapy, and cervical spine mobilizations and exercises.

The findings were that 34% of patients showed clinically relevant improvement on the tinnitus questionnaire immediately after treatment, and 41% showed clinically relevant improvement using the TFI. After the follow-up period, 46% and 61% of patients had clinically relevant improvement on the questionnaire and the TFI, respectively, compared to baseline.

The controlled trial demonstrated that a multidisciplinary, non-invasive orofacial treatment showed positive effects on tinnitus severity, and that this can be expected to help in patients with TST.

The role of the RMT in the treatment and management of TST, after an ENT has ruled out any pathol-

ogies, is to provide assessment, treatment, and a self-care program designed to address the muscles of mastication and mandibular function.

Temporomandibular disorders in burning mouth syndrome patients: an observational study
Massimo Corsalini, Daniela Di Venere, Francesco Pettini, Dorina Lauritano, Massimo Petruzzi. *(2013) International Journal of Medical Sciences.* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3837237/

The presentation of temporomandibular dysfunctions (TMDs) can vary greatly, from localized pain to headaches to auricular issues, and myriad other often-misunderstood symptoms. This observational study's purpose was to determine if there is a link between burning mouth syndrome (BMS), which is a chronic disease characterized by a burning pain in the tongue or oral mucous membranes associated with a feeling of dry mouth and/or taste alterations and symptoms of TMD without accompanying clinical and laboratory findings.

A total of 44 patients were enrolled in the study, which established BMS subtypes. An evaluation of the masticatory system was performed on all subjects. This resulted in determining that 65.9% of BMS patients showed signs and symptoms of TMD.

Further results demonstrated that:
- 45.5% of patients reported significant facial pain that was different from burning, most commonly in the masseter,
- 72.7% of patients showed parafunctional habits such as bruxism or biting of the lip and cheeks,
- 34.1% of patients presented with clicking in one or both temporomandibular joints, and
- 50% of patients experienced pain on palpation of the muscles of mastication.

Though the relationship between BMS and TMD requires further study, it is to note that the high prevalence of TMD within this patient demographic could benefit from assessment, treatment, and self-care programs related to the craniomandibular anatomical area from manual therapists.

Evidence - The intraoral palpability of the lateral pterygoid muscle - A prospective study
Wolfgang Stelzenmueller, Horst Umstadt, Dominic Weber, Volkan Goenner-Oezkan, Stefan Kopp, Jörg Lisson. *(2016) Annals of Anatomy. https://pubmed.ncbi.nlm.nih.gov/26706107/*

In the dental and manual therapy disciplines, it has widely been debated if the palpation of the lateral pterygoid is possible due to its topography. This study has shown that it is indeed possible to palpate the inferior caput of the lateral pterygoid muscle, which plays a significant role in TMD. The aim of this study was to answer the following questions:
- Is it possible to visualize, document, and objectively evaluate the intraoral palpability of the lateral pterygoid muscle?
- Can the effects of intraoral palpability of the lateral pterygoid muscle be evaluated by magnetic resonance imaging (MRI)?
- Can the effects of intraoral palpability of the lateral pterygoid muscle be evaluated by electromyography (EMG)?

The method used in this study was intraoral digital palpation of the infratemporal fossa, visualization of the lateral pterygoid muscle, and active ipsilateral laterotrusion in conjunction with mandibular depression and elevation on the side of palpation. The success of the palpation was confirmed by MRI and EMG, which concluded that the above method for palpation of the lateral pterygoid is feasible.

While this study has demonstrated that the lateral pterygoid muscle can be palpated with the aid of visualization and with the patient's active participation of specific mandibular movements, it is important that manual therapists take into consideration that even if direct palpation is possible, there may be some barriers to accessibility, like pain, patient apprehension, and specific anatomical structures. Considering how to influence this anatomical area should be more important than direct anatomical palpation.

Conclusion

The role of RMTs in rehabilitation of the head and neck can be one of tremendous value for patients who have been seeking guidance and relief for their symptoms. This review of research demonstrates that the core knowledge and training of RMTs can be applied to complex patient presentations through anatomical knowledge, assessment, techniques, and when necessary, referring out. Using therapeutic analytical skills, staying current on research, and providing evidence-informed care is beneficial for both patients and your practice as a health care provider. MT