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A CASE STUDY HIGHLIGHTING AN INFANT'S ABILITY TO LATCH ONTO A PACIFIER AFTER FACIAL MASSAGE THERAPY

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Introduction: Neonates in neonatal intensive care units (NICUs) commonly experience challenges with calming and self-regulation. Pacifiers may be used to soothe infants during procedures, between feedings, and to facilitate sleep by engaging the parasympathetic nervous system. This may not be an option for some infants as neonates are at high risk of sucking and feeding difficulties due to intubation, non-invasive mechanical ventilation, and tube feeding. Massage of the buccinators, masseter, and orbicularis oris may be helpful when an infant lacks coordination and ability to suck on a pacifier. While stimulation of the facial muscles has been shown to improve sucking, swallowing, respiration, and coordination, no examples of massage therapists utilizing these techniques have been highlighted in existing literature.

Objective: To demonstrate the effectiveness of a massage therapist providing facial massage for an infant to improve coordination, regulation, and the ability to latch onto a pacifier.

Case Presentation/Methods: A preterm infant 6 months of age (3 months corrected) diagnosed with bronchopulmonary dysplasia was admitted to the NICU, requiring non-invasive ventilation. The infant was disorganized and restless with tongue thrusting, spitting, and inability to manage oral secretions. Swedish effleurage strokes were applied to the legs, with lotion, in a downward and circular motion by the massage therapist. The infant continued to be restless; so a pacifier was offered to initiate self-regulation. The infant was unable to latch onto the pacifier. The massage therapist began one-fingered small circular movements over the patient's buccinator, masseter, and orbicularis oris muscles one side at a time. Massage therapy (MT) techniques were applied for 2 minutes on each side of the face for 4 minutes. Swedish strokes were applied to the body for the remainder of the session, which totaled 38 minutes.

Results: Immediately following the facial massage, the infant closed her mouth and began sucking normally and vigorously. The infant could continue to suck for only a few seconds if the massage therapist let go of the pacifier. However, the infant could resume normal sucking even when the massage therapist only touched the cheek over the buccinator muscle. The patient appeared more comfortable with less body movement and no head turning. Oral secretions were also managed while sucking on the pacifier.

Conclusion: This case study illustrates the ability of an infant to organize, regulate, and calm through a massage therapist working over the muscles of the cheeks. The quick response and the ability to latch onto the pacifier after massage have broad implications within the NICU and beyond. Due to the high risk of sucking and feeding difficulties that infants in the NICU experience, using MT to facilitate these outcomes should be further examined. Research studies to explore the timing and frequency of massages are paramount. The impact of MT on length of stay, the ability of the patient to transition to bottle or breastfeeding, and weight gain should also be considered.

MYOFASCIAL RELEASE TO THE PECTORAL FASCIA IMMEDIATELY REDUCES FORWARD SHOULDER POSTURE, BUT DOES NOT IMPACT RANGE OF MOTION OR MUSCLE EXCITATION

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Introduction: Shoulder pain is prevalent in both general and athletic populations.

Forward shoulder posture (FSP) is a common postural deviation characterized by protraction, anterior tilt, and upward rotation of the scapulae. This position alters soft-tissue resting length and is purported to alter the level of muscle excitation of the scapular protractor and retractors; specifically, the protractors (i.e., pectorals) are shortened and hyperactive, while the retractors (i.e., trapezius) are hypothesized to be lengthened and inhibited. FSP is considered a potential risk factor for the development of shoulder pathology. A common approach for reducing FSP is lengthening shortened pectoral soft tissue. Manual therapists often use myofascial release (MFR) to elongate restricted pectoral fascia; however, the effects of MFR on the pectorals on FSP, range of motion, and muscle excitation are currently unknown.

Objective: To determine the acute effects of 4 minutes of MFR, compared to a soft-touch control (CON) to the pectoral fascia in individuals with FSP on: 1) FSP, 2) shoulder horizontal abduction range of motion (HA-ROM), and 3) muscle excitation of the trapezius (upper, middle, lower [UT, MT, LT]) and pectoralis major (PEC).

Methods: Fifty-six right-handed participants (27 ± 9 years, 30 female) with FSP, but otherwise asymptomatic shoulders, were recruited to participate in this crossover design study. Participants attended two experimental sessions in a research laboratory where they received one of two interventions in random order: one MFR and one CON to the right pectoral fascia. Each intervention was administered by one Registered Massage Therapist (RMT) with over 18 years of experience for 4 minutes. The RMT applied a cross-hand technique for both interventions, where one hand was placed on the right sternal edge (over ribs 3–6) and the other was placed over the anterior aspect of the humerus at the insertion of the PEC. For the MFR intervention, a moderate posterior-lateral pressure was applied to take up the slack within the fascial tissue, and for the CON intervention, no pressure was applied. These were held statically for 4 minutes before releasing slowly. FSP, HA-ROM, and muscle excitation of the UT, MT, LT, and PEC during a reaching task were measured before (PRE) and after (POST) each treatment. A paired-sample t-test was conducted on PRE-POST difference scores between MFR and CON. Data were considered statistically significant if $p < 0.05$.

Results: There was a statistically significant decrease in FSP in response to the MFR intervention (M: −5 mm, SD: 5) compared to CON (M: −2 mm, SD: 5), $p = 0.03$. There were no significant differences in HA-ROM or the UT, MT, LT, or PEC excitation during the reaching task.

Conclusion: A 4-minute MFR to the pectoral fascia effectively reduced FSP. Future research should investigate the impact of repeated MFR treatments on FSP, HA-ROM, and muscle excitation, and determine if acute reductions in FSP reduce shoulder injury risk.

MASSAGE THERAPY POST SELECTIVE DORSAL RHIZOTOMY IN CHILDREN

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Introduction: Children with spastic diplegic cerebral palsy often experience pain and functional limitations caused by hypertonia in both lower extremities. One surgical option for spasticity management is a selective dorsal rhizotomy (SDR). During an SDR, a neurosurgeon creates an incision in the patient's lumbar spine, removes the spinous processes, and accesses the nerves that innervate the lower body. The nerve roots responsible for the most spasticity are then transected. Intense rehabilitation is needed post-operatively, and patients are admitted to the hospital for approximately 3 weeks after surgery. Massage therapy (MT) may be beneficial during this acute-postoperative period by relieving pain and anxiety.

Objective: To illustrate the feasibility of implementation of MT for patients post-SDR.

Case Presentation: A post-SDR MT protocol was created to standardize techniques used by massage therapists during admissions from post-op day 0 until discharge. Pain, numbness, tingling, new sensations, anxiety, and spasticity are considered during each treatment session. The massage therapist's care plan varies to address muscle tension pain and promote relaxation based on the child's needs. If the patient indicates pain, the massage therapist considers the type of pain:

Nerve pain: apply containment holds, stroking, and Swedish techniques to the area indicated. The pressure is light to light-medium.

New sensation: apply containment holds, stroking, and Swedish techniques to the area indicated. The pressure is light to light-medium.

Pain near the surgical site: MT is avoided directly on the surgical site; however, Swedish techniques may be used on the surrounding tissue. Scar massage may be applied for tissue mobility once the surgical scar is fully healed.

Musculoskeletal pain: apply containment holds and Swedish techniques to areas affected by surgery position or bed rest. Light to medium pressure.

Other considerations when providing massage techniques include adaptations to treatment due to constipation, edema, anxiety, pruritus, and skin reactions to IV or bandages.

Results: Early results illustrate that MT is feasible without complications or adverse effects post-SDR while adhering to a protocol that provides standardization of care while ensuring flexibility to meet the individual children's needs. Therapists had to modify the sessions to successfully implement MT due to back pain (surgical site), contractures, underlying weakness, increased anxiety, reduced safety awareness, and impulsive behavior. Family barriers include education, hesitancy to handle the child post-op, and coping with the child's level of weakness being beyond the parents' expectations. However, with appropriately skilled mitigation of these modifications, implementation of MT has been successful in all patients post-SDR.

Conclusion: When performed in conjunction with a protocol, MT was implemented safely and without adverse effects for patients post-SDR. Further research is needed to assess the direct impact of MT in addressing pain, anxiety, neuropathy, and nerve stimulation for children post-SDR.

MASSAGE THERAPY SKILLS TRAINING IN THE VETERANS HEALTH ADMINISTRATION

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Introduction: The Veterans Health Administration (VHA) Office of Patient-Centered Care and Cultural Transformation (OPCC&CT) administers complementary integrative health (CIH) approaches in a Whole Health model, including massage therapy. The VHA Integrative Health Coordinating Center (IHCC) has developed skills training for CIH approaches to increase access to CIH services. Massage therapy skills training has included two acupressure training which are available for VHA staff who have a professional scope of practice to deliver soft-tissue manipulation (e.g., physicians, chiropractors, physical and occupational therapists, nurses) but who may lack specific training in acupressure or who may desire a refresher skills training course. VHA is hiring massage therapists to deliver massage therapy on station and referring to community massage therapy. However, needs were identified for 1) acupressure skills training for other VHA health-care professionals and 2) an ability to teach veterans acupressure self-management skills as an adjunctive to their treatment. In VHA, acupressure delivered as treatment is tracked via several methods that specify when acupressure is used versus other types of massage therapy and soft-tissue manipulation.

Methods: 1) Description of two training programs, 2) course metrics including number of participants and course completions, and 3) administrative data from the VHA Corporate Data Warehouse on acupressure utilization.

Results: Acupressure Basic Training and Battlefield Auricular Acupressure (BAA) are the two primary acupressure skills training programs. Acupressure Basic Training includes didactic material, basic acupressure techniques, and treatment routines for common conditions based on medical evidence (back pain, neck pain, headache, sleep). The treatment modules are available publicly on YouTube. Battlefield Acupuncture (BFA) is a skills training program that teaches health-care professionals to use acupuncture needles in the BFA protocol; it also teaches and permits the use of acupressure stimulation in place of needle insertions (BAA). The number of health-care professionals who have completed Acupressure Basic Training between its launch in May 2022 through March 31, 2023 is 183. The number of health-care professionals trained in BAA from its inception in 2019 through March 31, 2023 is 262.

There have been hundreds of thousands of YouTube views of publicly available acupressure routines (as of March 31, 2023) for low back pain (122,000), neck pain (171,000), headache (47,000), and sleep (87,000).

Acupressure treatment encounters that have taken place nationally in VHA are as follows: 2020 (47), 2021 (3,149), 2022 (8,446). Unique numbers of veterans served during this time include 2020 (44), 2021 (1,184), and 2022 (3,058).

Conclusion: Acupressure utilization is growing in VA with the anticipated need for increasing access. The use of acupressure as treatment has likely been influenced by the availability of training courses developed by the IHCC. There is a growing demand for veteran-facing and publicly available content for self-care acupressure routines.

MISCONCEPTIONS OF TERMINOLOGY AND DEFINITIONS IN DEEP TISSUE AND MYOFASCIAL RELEASE TECHNIQUES

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Introduction: In massage therapy, requirements for education and training among massage therapists (MTs) vary by state in the United States. Due to the variance in initial education, 500–1,000 hours, techniques such as deep tissue (DT) and myofascial release (MFR) may have different meanings or are employed differently among practitioners. As a result, there is scarce information regarding techniques found in primary and secondary resources. This study examines and clarifies terminology and definitions of DT and MFR techniques by surveying practicing MT.

Methods: A Qualtrics Survey was distributed among MTs in the MassageNet *Practice-based Research Network (PBRN)*, asking questions about massage terminology and clinical application. Demographics: Age: 47.25 ± 11.292. Gender: female: n = 46, male: n = 11, non-binary: n = 3, no response: n = 6. Setting: clinic/medical office: n = 35, private/home: n = 15, spa: n = 6, travel/outcall: n = 4, no response: n = 6. Years in Practice: 14.35 ± 8.579. Clients Seen per Week: 15 ± 8.747. Upon completion of the survey, a Zoom follow-up interview was optional to the participants. Descriptive data were analyzed for trends.

Results: Survey: n = 66. MTs were asked to quantify, numerical scale: 0–100, anticipated client pressure during a specific technique: DT Pressure: 58.36 ± 11.481 (Min: 20, Max: 80) and MFR Pressure: 41.81 ± 18.679 (Min: 4, Max: 82). MTs were also asked if any pain or injury has been experienced during execution of these techniques: Injury incidence among MTs: n = 23, while n = 6 experienced pain.

Implications: Data and information collected from this study may aid in updating terminology and definitions regarding DT and MFR techniques in secondary resources. If an MT is experiencing pain or injury, this study may identify a need to review these techniques once more. Further research may result in establishing techniques in a primary source for MTs to reference for clinical application and guidance.

IMPLEMENTATION OF MASSAGE THERAPY IN THE VETERAN'S HEALTH ADMINISTRATION

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Introduction: The Veterans Health Administration (VHA) is responsible for the health and well-being of over 9 million veterans. It is the most extensive training institution in the United States for health-care professionals of all types. The VHA Office of Patient-Centered Care and Cultural Transformation (OPCC&CT) administers complementary integrative health (CIH) in a Whole Health model. Massage therapy is one of the eight required CIH approaches covered under the Veterans' Standard Medical Benefits Package per VHA Directive 1137: Provision of Complementary and Integrative Health.

Policy in VHA has made massage therapy a part of interdisciplinary treatment plans particularly for pain diagnoses, and massage therapy is promoted in the context of the VA Whole Health model. Emerging data suggest massage therapy as part of comprehensive CIH clinical care may contribute to reduction of the use of high-risk medications, enhancing veteran safety.

Methods: 1) Massage therapy utilization data collected through the VHA Corporate Data Warehouse, and 2) description of the policy implementation timeline.

Results: Summary data representing the growth of massage therapy utilization include care delivered in VA facilities (Encounters: 2019 – 69,605; 2020 – 51,796; 2021 – 71,608; 2022 – 94,155) and referrals to community care (Referrals: 2019 – 822; 2020 – 2,079; 2021 – 2,144; 2022 – 2,330).

Massage therapy services are growing in VHA, with an increase in the number of qualified professional massage therapists delivering these services. The profession grew from 0 massage therapists hired under the new qualification standard in 2019 to 41 professionals as of March 2023. The years 2020 and 2021 were challenging to hire massage therapists due to the COVID-19 pandemic.

Policy timeline for massage therapy in VHA: Directive 1137 – Provision of Complementary and Integrative Health (first published 2017, recertified 12/2022), making massage therapy a part of the Veterans' Standard Medical Benefits Package; Qualification Standards published (2019) outlining knowledge, skills, and abilities (professional qualifications) of massage therapists, enabling VHA medical facilities to hire massage therapists to perform this work; Standard Episodes of Care (2019) was released that define a typical episode of care for acute and chronic pain conditions based on medical evidence when community massage therapists provide care.

Conclusions: The delivery of massage therapy by qualified massage therapists is expected to continue to improve health outcomes for veterans. VHA is positioned as an employer of choice for massage therapists who may aspire to work with veterans in an interdisciplinary medical setting. Massage therapists are encouraged to pursue opportunities to collaborate with VHA to provide veteran care in the community.