Summer 2025: Volume 7, Issue 2
Editorial

Occupational Therapy Impact in Assessment and Treatment of Acute Vestibular Dysfunction

Author: Brendan Evans, MOT, PP-OTD, OTR/L

Occupational therapy (OT) can be an integral part of the rehabilitation process for vestibular related conditions and symptoms that impact function. There are opportunities within the acute care setting to evaluate and treat vestibular dysfunction to improve functional independence and reduce symptoms within the acute stage of the diagnosis. More specifically, occupational therapy can have a unique role in providing this type of service within emergency departments, with roles and responsibilities that include, triage and prioritization of patients as well as support reduction in potential hospital length of stay for populations having acute vestibular dysfunction.

Research to Support Position

The American Journal of Occupational Therapy's (AJOT) position paper on the impact of vestibular impairments (VI) highlights occupational therapy role and preparation efforts to serve patients with VI using remediation, compensatory, and modification approaches.In response to the position paper, there is a wide range of methods that accredited occupational therapy programs can consider regarding evaluation and treatment of vestibular dysfunction. There are several valid and reliable outcome tools that support vestibular rehabilitation (VR) such as Vestibular Disorders

Activities of Daily Living Scale, Vestibular Activities and Participation Measure, and the Clinical Test of Sensory Integration on Balance.

According to McQuire (2022), the response to this position was to assess practice guidelines and effectiveness regarding VR as it relates to patients with traumatic brain injury (TBI). Two different models were presented to assess how therapists can perform such tasks in the setting of occupational performance. The multisensory integration model represents the ever evolving and constantly changing aspects of sensory systems that play a role in this patient population. Balance and fall risk of patients, specifically with TBI patients such as cognition, sensation, vision, and perception should be assessed in great detail. Dr. Warren's hierarchical model builds upon itself and requires basic foundations to be established to move forward with the assessment of the vestibular system. In conclusion, more research should be completed regarding neurological patients and testing models to determine the best practice for vestibular treatments (McQuire, 2022).

Furthermore, with neurological patients and benefiting from vestibular therapy, Meng et. al (2023) performed a meta-analysis of benefits of vestibular rehab with stroke patients, particularly on balance and gait performances. The evidence strongly supports the use of vestibular rehab within the first three to six months of onset of stroke to increase gait speed and decrease risk for falls during functional tasks. Further evidence suggests that more frequent, high intensity VR training would increase overall performance in these factors with notable P values to suggest significant correlation.

Involvement in Emergency Department

Despite limited evidence with VI and acute care settings, there is promising research about the value of OT in the emergency department (ED). Trenholm et.al (2021) identified the value of OT and the reduction of unscheduled return visits to the emergency department with an established OT program involved with frail patients. Implementing OT services into patients with low to moderate frailty were able to benefit from OT and reduce their percentages of returning to the emergency department. The study utilized the Clinical Frailty Scale (CFS) to demonstrate progression of outcomes and reduce reentry into the emergency department. Studies such as this one can be something our profession can use to help support our position to not only help patients but to help fellow healthcare professionals provide quality care to a variety of populations seen in the emergency department.

New emergency medicine guidelines for acute vestibular syndrome (AVS) suggest that providers should complete peripheral vestibular dysfunction assessments on patients who do not present clinically with central nervous system concerns (Edlow et al., 2023). Clinical assessment is recommended prior to imaging orders being placed to ensure resources are allocated appropriately. Research suggests that providers completing vestibular dysfunction assessments, such as Head Impulse, Nystagmus and Test of Skew (HINTS) are predominantly inaccurate due to the lack of training provided to determine peripheral involvement. Within the guidelines, it suggests that if no physician is available for vestibular testing a physical therapist with advanced clinical knowledge should be consulted. Our profession continues to be left out in these scenarios and needs to be at the table when discussing AVS and safe discharge plans

for this high-risk population. Our unique experience to assess vestibular symptoms and occupation simultaneously should be highly considered with these patients.

This creates an opportunity for therapists to be the driving force in educational training for providers. Something as simple as an in-service to ED providers on proper techniques and assessment tools can increase the value of therapy in the acute care setting. Another exciting venture would be implementing OT as an integral part of the emergency medicine team for helping diagnose acute vestibular syndrome (AVS). This gap in care would be a unique opportunity for OT to be involved in the emergency department as well as providing critical assessment information to emergency providers when providing care. Having personal experience of being an OT with vestibular knowledge in the emergency department, there is opportunity to improve patient safety and outcomes in this non-traditional space.

Assessment and Intervention

The development of occupation based vestibular assessment and intervention is a unique position occupational therapy is placed in when it comes to VI. One of the four main components of VR that can be incorporated into OT interventions would be promotion of gaze stabilization (eyes fixed on item) during functional tasks involving head movements such as unloading a dishwasher or getting dressed. Secondly, the habituation of vestibular symptoms during daily tasks, such as functional mobility with item retrieval for self-care, will help decrease negative reactions towards the symptoms associated with vestibular impairment such as oscillopsia and acute dizziness commonly found in presbyvestibulopathy (PVP), commonly known as age related vestibular dysfunction. Including Vestibular Ocular Reflex (VOR) exercises for

habituation is a common intervention strategy within VR that can be taught shortly after onset of AVS.

Combining these two interventions with a high number of repetitions can help decrease symptoms and increase occupational performance (Hill et al., 2024). Other items such as functional balance and endurance training complete a four-step intervention program that can improve daily function and decrease further risks associated with VI. such as falls with injury. The combination of VR principles with OT foundations can increase quality of life after a vestibular impairment and increase strategies to address functional concerns after diagnosis (Hill et al., 2024).

Summary of Research

Overall, the research states that there needs to be more focus on interventions and clinical opportunities that OT can focus on to increase overall awareness of our profession. Increasing our depth and breadth of our practice to better help individuals in our communities is something that should be a focus when creating a future vision for OT. Our abilities are unmatched in the rehabilitation workforce, yet we do not have enough research and objective data to support our value in areas such as vestibular rehab. We can begin to grow our support of the medical community by utilizing a 4-pillar approach by 1) increasing our availability to clinical knowledge for current practitioners such as continuing education courses, 2) increase our research efforts to support our position, 3) engage key stakeholders to support OT in non-traditional settings such as the emergency department and 4) develop educational opportunities in higher education to prepare our students to become well-rounded entry-level practitioners.

References

Edlow, J. A., Carpenter, C., Akhter, M., Danya Khoujah, Marcolini, E., Meurer, W. J., Morrill, D. M., Naples, J. G., Ohle, R., Omron, R., Sharif, S., Siket, M., Suneel Upadhye, Oliveira, L., Sundberg, E., Tartt, K., Vanni, S., Newman-Toker, D. E., & M. Fernanda Bellolio. (2023). Guidelines for reasonable and appropriate care in the emergency department 3 (GRACE -3) Acute dizziness and vertigo in the emergency department. *Academic Emergency Medicine*. *30*(5), 442–486. https://doi.org/10.1111/acem.14728

Hill, J., Hudgins, E., & Leonard, S. (2024). The role of occupational therapy in the recognition, assessment, and treatment of presbyvestibulopathy. *The Open Journal of Occupational Therapy*, *12*(2), 1–9. https://doi.org/10.15453/2168-6408.2163

McGuire, M. J. (2022). Practice guidelines: Addressing vestibular and visual problems in the neurologically impaired adult. *The Open Journal of Occupational Therapy*, *10*(2), 1–16. https://doi.org/10.15453/2168-6408.1893

Meng, L., Liang, Q., Yuan, J., Li, S., Ge, Y., Yang, J., Tsang, R. C. C., & Wei, Q. (2023). Vestibular rehabilitation therapy on balance and gait in patients after stroke: a systematic review and meta-analysis. *BMC Medicine*, *21*(1). https://doi.org/10.1186/s12916-023-03029-9

Trenholm, J. R., Warner, G., & Eagles, D. (2021). Occupational therapy in the emergency department: patient frailty and unscheduled return visits. *Canadian*

Journal of Occupational Therapy, *88*(4),

395–406. https://doi.org/10.1177/00084174211051165

Vestibular impairment, vestibular rehabilitation, and occupational performance. (2017).

American Journal of Occupational Therapy, *71*(2),

7112410055p1-7112410055p13. https://doi.org/10.5014/ajot.2017.716s09

Author Biography

Brendan is an acute care practitioner with experience working in the emergency department, evaluating and treating acute cases of vertigo and dizziness. He has helped create an embedded therapy model within the emergency department at Charlotte Hungerford Hospital in Torrington, CT.

Contact Information: bevans1251@gmail.com