**Characteristics of Service Members with Concussion Referred to Physical Therapy Who Seek to Return to Active Military Duty**

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**Introduction:** Individuals who sustain concussion in military service primarily receive acute treatment with primary care providers, typically only seeking additional levels of care if symptoms are persistent. Concussion complaints have been described in clusters of signs and symptoms, yet specific clinical presentations seen for physical therapy in military treatment facilities are not well studied.

**Purpose/Objective:** The purpose of this abstract is to describe the characteristics of individuals referred for physical therapy intending to return to full active duty, who were participating in an observational study of a performance-based test of tactical agility.

**Methods:** As a part of a larger study, we collected demographic data for the recruited participants who were receiving post-concussion care at military treatment facilities.

**Results:** Participants (n=23) were all male, an average of 28.6 years old (SD 6.9), with an average of 7.8 years (SD 6.1) of military service and 3.4 (SD 2.4) deployments. Self-reported number of prior concussions ranged from 1-40 (median 3). Referral to therapy occurred on average 5.1 months post-injury (range 1-15 months), with all participants reporting multiple symptoms and complaints. Self-reported Neurobehavioral Symptom Inventory scores were 35.2 (SD 14.9), with stress related responses on the PCL-5 averaging 21.3 (SD 18.1) and 21.7% of the sample reporting scores above the 33 red flag level. Self-reported pain on the Defense and Veterans Pain Rating Scale was 4.2/10 on average (SD 2.2). A high level of headache complaint was reported with the Headache Impact Test-6, with an average of 58.9 (SD 7.8). All of the participants reported a level of sleep dysfunction on the Pittsburgh Quality Sleep Index that was indicative of poor sleep quality (average 14.1, SD 3.1), reference value >5 as target for referral. Connor-Davidson Resilience Scale scores averaged 76.2 (SD 17.7), consistent with prior studies of primary care patients. Dizziness Handicap Inventory subscale scores were on average as follows: a-function: 9.5/28 (SD 8.1), b-physical: 9.4/28 (SD 5.0), c-emotion: 7.9/36 (SD 6.0). Dynamic visual acuity testing demonstrated an average of 3 lines lost during head movement (range 1-7 lines). Sensory Organization Test (SOT) composite scores were on average 72.5 (SD 11.3). The Head Shake SOT was performed to challenge balance to a greater degree, but 45% of participants could not tolerate this test because of dizziness.

**Conclusions:** This group of military service members demonstrated multiple somatic, vestibular and balance related complaints that may respond to physical therapy. The chronicity of service member complaints, on average more than 5 months, was notable. It is possible intervention sooner after injury could reduce problems that were prevalent including chronic pain, sleep dysfunction, and lack of ability to return to duty. Service members may manage their symptoms without seeking additional care as a result of military cultural norms and an expectation of resilience.