Screening Tools

Prototype Tests for Screening Vestibular Function

The Vertical Alignment Nulling (VAN) and Torsional Alignment Nulling (TAN) tests are non-invasive, behavioral measures of ocular alignment using a computer tablet, colored lenses, and touch screen software (*Beaton, Schubert, and Shelhamer 2017, Beaton et al. 2017, Schubert et al. 2017*). VAN and TAN are similar to the clinical Lancaster red-green test but are quick to perform and can be self-administered. Researchers from Johns Hopkins University (Baltimore, Maryland) and War Related Illness and Injury Study Center at the Study Center at the Veterans Affairs New Jersey Health Care System (East Orange, New Jersey) conducted a study to determine if VAN and TAN differentiate healthy controls from patients with vestibular disorders, 14 healthy controls and eight patients with known vestibular disorders were tested. Patients had significantly worse scores than controls on TAN (mean 2.2 versus 0.75, $p \leq 0.01$), and no differences for scores compared to controls on VAN (mean 0.4 versus 0.8, $p \leq 0.07$). These results suggest that TAN, and possibly VAN, have potential for identifying misalignments in ocular position.

The hand-held, portable nature and rapid self-assessment capabilities make VAN and TAN ideal for evaluating ocular misalignment in operational settings with minimal resources (e.g., time, equipment, or personnel), such as military or sport operations.

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