

Computerized Dynamic Posturography (CDP) Informational Handout

Computerized Dynamic Posturography (CDP) is well documented in the clinical and scientific literature as an objective method of differentiating sensory, motor, and central adaptive functional impairments of balance. Because balance is the functional expression of a highly adaptive system of multiple interacting components, the functional impairment information provided by CDP is complementary to the traditional diagnostic approaches to balance disordered patients (ENG, rotary chair, MRI, etc.) that focus on individual, isolated anatomical components.

In an estimated 50% of patients with chronic balance disorders, especially those who are older, there is no single localized cause, and the traditional diagnostic tests are inconclusive. In these complex patients, the specific impairment information provided by CDP reduces ambiguity and is the only objective information for selecting treatment pathways leading to improved outcomes.

CDP comprises three functional test protocols. The Sensory Organization Test (SOT) is designed to examine how well the patient uses information from the vestibular, visual, and proprioceptive systems to control balance. The Motor Control Test (MCT) evaluates the effectiveness of the patient's motor automatic reflex responses to restore balance following sudden, unexpected forward and backward perturbations of the support surface. The Adaptation Test (ADT) uses 'toes up' and 'toes down' rotations of the support surface to evaluate the patient's ability to adapt to unexpected support surface irregularities. The results of each test protocol are summarized in easily interpreted graphs in which the patient's scores are compared to age-corrected normative values. Because of potential interactions among sensory, automatic motor, and central adaptive impairments, both the sensory and motor test protocols must be performed to accurately differentiate among the various impairments to balance.



CDP impairment information is used in conjunction with the results and findings from the patient's history, physical examination, and other diagnostic tests to prioritize for treatment, the specific impairments having the greatest adverse impact on function and most likely to respond to treatment. When the history, physical, and other test results are inconclusive, treatment decisions can be driven by the CDP information alone. Importantly, when clinical results and findings are inconsistent with the clinical presentation or history, CDP can alert the clinician to problems including otherwise unsuspected pathologies and/or the patient's unconscious or deliberate attempt to exaggerate symptoms.