

The Use of the P-300 Wave as an Outcome Assessment Related to Vertebral Subluxation

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Abstract

The P300 (P3) wave is a reproducible, event related potential (ERP) elicited by infrequent, task-relevant stimuli. It is an endogenous potential as it's occurrence links to a person's reaction to a stimulus. The P300 reflects processes involved in stimulus evaluation or categorization. It is recorded by electroencephalography and surfaces as a positive deflection in voltage with a latency of roughly 300 to 600 ms. The P 300 signal is measured most strongly by electrodes covering the parietal lobe. The presence, magnitude, topography and timing of the P 300 wave are often used as a measure of cognitive function related to the process of decision making and may represent the transfer of information to consciousness.

The P300 evoked response potential (ERP) brain wave has been shown to be present in subjects with a variety of psychological and substance-use disorders. Given the relationship between vertebral subluxation and the Brain Reward Cascade the use of the P-300 wave is being investigated as a potential outcome measure for subluxation centered chiropractic care.

This presentation will review the literature on the P 300 Wave and discuss its potential application as an outcome assessment in vertebral subluxation based care. A proposal for a clinical study utilizing the P-300 Wave as an outcome assessment in a population of substance addicted individuals undergoing subluxation centered chiropractic care will be presented.

Keywords: *P300, P3, ERP, chiropractic, vertebral subluxation, alcoholism, addiction, substance abuse, psychological disorders, attention deficit disorder, addiction treatment programs*