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Service (sector) Electrophysiology - Clinical Electrophysiology Lab

**Pattern-Reversal Visually Evoked Potentials (VEP) IN healthy adults P. Y. Sacai, S. R. Salomão, J. M. Pereira, A. Berezovsky, Clinical Electrophysiology of Vision Lab, Dept. of Ophthalmology, Federal Univ of São Paulo, São Paulo, Brazil.**

**Purpose.** Pattern-reversal visually evoked potential (PRVEP) is widely used as an objective tool to assess the integrity of the maculo-occipital pathway and it is very useful in the diagnosis and monitoring of optic nerve diseases. Standardization of PRVEP measurement and reporting is critical to the goal of having comparable data worldwide. The purpose of this study is to determine normative data for pattern-reversal visually evoked potentials (PRVEP) in a group of healthy adult volunteers, according to the standard protocol recommended by the International Society for Clinical Electrophysiology of Vision - ISCEV. **Methods.** Transient PRVEP (reversal rate = 2Hz; checkerboard stimuli 15' and 60'; 100% contrast) was obtained under binocular and monocular stimulation from 42 healthy volunteers (24 females and 18 males), aging from 19 to 30 years (mean=22.4±2.86). The recording followed ISCEV clinical protocol, with one active electrode positioned at Oz, one reference electrode positioned at Fpz and a ground electrode at Cz. All participants had best corrected visual acuity of 20/20 in each eye, normal fundus and negative history for neurological and/or ophthalmological disorders. They were divided into three groups: **Group I** – aged from 19 to 20 yrs (16 subjects); **Group II** – aged from 21 to 24 yrs (19 subjects) and **Group III** – aged from 25 to 30 yrs (7 subjects). Latency and peak-to-peak amplitude for P100 component was determined for both stimulus sizes. **Results:** Mean P100 latency under binocular and monocular conditions and for both stimulus sizes was around 107 ms and mean amplitude was around 15 mV for all three age groups. Lower normal limits were determined by percentile 97.5% and they were respectively 117 ms for P100 latency and 4.9 mV. Interocular maximal P100 latency and amplitude differences were respectively 3.5 ms and 3.5 mV. There were no statistical differences for latency and amplitude among the three age groups as well as between males and females. **Conclusions:** The current results provide normative parameters of pattern-reversal visually evoked potentials in clinical settings for young adults. These parameters are crucial for the precise diagnosis of normal functioning of the maculo-occipital pathway and are in line with previous normative reports. Further age groups need to be tested to confirm and extend these findings.