036

CLINICAL PRELIMINARY STUDY OF NEW VESTIBULAR FUNCTION DETECTION, CORRECTION AND TRAINING EQUIPMENT

ÉTUDE PRELIMINAIRE CLINIQUE DE UN NOUVEAU ÉQUIPEMENT POUR LA DETECTION, CORRECTION ET DE L' ENTRAÎNEMENT DU NERF VESTIBULAIRE

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Introduction: To explore the effectiveness of new vestibular function detection, correction and training equipment for the pilots' vestibular function.

Methods: 35 healthy Chinese pilots were stimulated by rotation with the spindle rotating 1570° while the auxiliary axis rotating 1565° of the 3D rotation stimulus in the equipment. The difference was compared between the residual angle of gravity, the residual angle of the horizontal plane and the time of the third active adjustment after three rotations and to monitor the change of blood pressure before and after rotation.

Results: There was no significant difference the residual angle of gravity (6.04±10.70°, 3.57±3.97°, 3.41±2.93°, P=0.199), active adjustment time (190.114±87.328s, 178.014±110.811s, 173.743±87.332s, P=0.760) and blood pressure before and after the three times rotations. However, the residual angle of the horizontal plane is statistically significant (94.930±58.826°, 66.736±45.989°, 65.494±47.989°, P=0.028).

Conclusions: The three-dimensional rotating equipment that can detect the function of the three pairs of semicircular canal and two pairs of otolith organ can be useful of the vestibular rehabilitation training and also detect blood pressure, EEG, ECG and other physiological signals. The results of this study found that adaptive training of the saccule is effective. Therefore, the research group will further explore the function of this equipment in the next clinical study.