VESTIBULESOMATICS REACTION IN CHILDREN WITH HEARING IMPAIRMENT

Zhukova N. V., Syshko D. V., Bogovarov E. S.

V.I. Vernadsky Crimean Federal University, Simferopol, Crimea, Russia
E-mail: syshko@list.ru

The obtained characteristics of stability of the body in children with hearing impairment before and after vestibular irritations. We investigated the stability of the body in orthograde position before and after vestibular irritations from 10 boys with hearing impairment at the age of 13–14 years. The stabilogram indices in children with hearing impairment after vestibular irritations vary depending on the plane of the irritation of the semicircular canals, which leads to a reduction in the length of oscillations of the center of pressure in frontal ($p \leq 0,05$), and to reduce, in the end, square statokinesigram (at $p \leq 0.05$). Vestibular stimulation lead to an improvement in the biomechanical parameters of static stability in children with hearing impairment. Adequate vestibular stimulation of the semicircular canals in the frontal plane in children with hearing impairment leads to an improvement of the static stability of the body due to an additional increase in the cost of energy associated with regulation of the position of the body(at $p \leq 0.05$).

***Keywords*:** hearing, body balance, stabilography, vestibular stimulation, the center of mass of the body

References

1. Lychihin L. A., Ganichkina I. Y., Doronina O. M. Kriterii prognozirovaniay effektivnosti vestibule-adaptacionoi terapii u bolnyh s rasstroistvom ravnovesiay, *Vestnik otorinolaringologii*, **6**, 32 (2004).
2. Syshko D. V. Vliayniay vestibulayrnyh razdrazhenii na pokazateli centralnoi kardiogemodinamiki u sportsmenov s narusheniem sluha, *Nayka v olimpiiskom sporte*, **1**, 82 (2006).
3. Kubrayk O. V. *Staticheskie dvigatelno-kognitivnye testy s biologicheskoy obratnoy svayzu po oprnoy reakciey*, 88 (Prakticheskay stabilometriay. Moskva, 2012).
4. Skvorcov D. V. Stabolometriay – funkcionalnay diagnostika funkcii ravnovesiay, oporno-dvigatelnoi sistemy I sensornyh sistem, *Funkcionalnay diagnostika*, **3**, 78 (2004).
5. Kubrayk O. V., Kovaleva A. V.Vozmozhnyi marker smeny funkcionalnogo sostoayniay dobrovolcev posle vypolneniay dvigatelnoi zadachi s bioupravleniem, *Fiziologiy cheloveca*, **42, 2**, 121 (2016).
6. Grohovskiy S. S., Kurayk O. B. Metrologicheskoe obespechenie izmereniy v isledovanii funkcii ravnovesiy cheloveka, *Mir Izmereniay*, **11**, 37 (2011).
7. Danilova R. I., Sobolev S. V. Vertikalnay ystoychivost deteiy 7-9 let s narusheniem sluha v usloviayh snizheniay proprioceptivnoy chuvstvitelnosti, *Vestnik Severnogo federalnogo universiteta. Seriay: Estestvenye nauki*, **11**, 68 (2014).