Child's foot morphology

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Abstract

The study describes the foot morphology as a basal element of supporting-movement system. Foot morphology was observed in 263 boys and 248 girls of pre-school and primary school age. Longitudinal foot vault was evaluated by Plantographic method by index method and processed by "Foot" software; the big toe and little toe axis in the sense of valgozity and varozity, the size of foot angle. Statistically significant differences were evaluated by means of Wilcoxon, Mann-Whitney tests, Scheffe test and chí-quadrate test (Statistica, vers. 6). The state of longitudinal foot vault appeared as relatively satisfactory. The normal foot of I. and II. degree was determined with highest frequency. The occurrence of flat foot and high foot did not signify any principal problem in these age categories. The deformation of big toe and little toe occurred in high frequency in both genders and in all age categories. In boys the valgoze angle reached the range 2.6–7.9°, in girls 4.3–8.1°. The average values of big toe varozity were higher. Little toe angle (valgozity) in the group of boys reached the range of values 15.4° to 20.4°, in girls 14.4° to 18.6°. At the end we can evaluate the longitudinal foot vault in child's age categories as corresponding with the ontogenesis phase. The analysis of morphological parameters in the area of anterior part of foot proved the deformations in medial and lateral foot rays in high frequency. The foot angle in posterior part of the foot responds the reference values of established age categories.

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