

Sportmedizin

Walther M, Herold D, Sinderhauf A, Morrison R: Children sport shoes - A systematic review of current literature. *Foot and Ankle Surgery* (2008) 14:180-189

Summary:

Objective: The children's foot is clearly distinct from the adult foot in its functional anatomy and ability to cope with pressure. This requires special considerations in the development of a children's sport shoe.

Methods: Medical and sport science databases were thoroughly searched for studies pertaining to the anatomy and biomechanics of children's feet during their development. With the data found, a list of requirements for the children's shoe was compiled.

Results: Small children should have a sports shoe, which is as flexible as their own foot. The small impact forces during their sports activities make extra cushioning superfluous. During school age the connective tissue gains stability. The growing amount of sports activities, much of which is performed on hard indoor surfaces, enhances the need for cushioning. At the same time there is a growing necessity for adequate mechanical stimuli to help the muscles and bones develop. The strength of the connective tissue and the flexibility of the joints reach adult levels by the age of 15. In small shoes, the displacement of proportions can lead to improper positioning of the flex zone and thereby causing harmful stress on the foot. Cushioning elements are often oversized. Considering the wide range of anatomy in children's feet, it is advisable to produce children's shoes in different widths.

Conclusion: Children feet differ in anatomy and function from the feet of adults. Children sport shoes should meet the child specific requirement.

Keywords: children, sports, shoes, kids, foot