

**The Relationship of Medial Arch Height with Speed Dynamic Balance and Distance in Sports Training Individuals**, H. Bayram Temur, et al., *International Journal of Early Childhood Special Education*, Volume 14, Issue 05, 2022

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**Level of Evidence:** 4

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The goal of this study is to determine if the height of the medial longitudinal arch of the foot affects performance for individuals who are in sports training. This study was conducted by assessing 45 volunteer athletes who have backgrounds in skiing, basketball and taekwondo, the mean age was 12.53. First, the medial longitudinal arch was measured (via comparing the distance between the highest height of the arch/navicular region and floor when non-weightbearing) and then the participants were asked to do a variety of exercises including standing long jumps, vertical jumps, 20-meter sprints, and Y-balance tests.

Generally, an increase in arch height is associated with a more supinated position and increased speed. As the physical and structural components of foot biomechanics can lead to better performance in physical activities. For this study the arch of the foot is defined as the area on the bottom of the foot between the metatarsal heads and the heels.

The results showed there was no statistically significant difference between the medial arch height and the speed of 20-meter running time, the height of the standing long jump or vertical jump distances, or the balance scores of fore balances bilaterally. However, there was a statistically significant difference in the level of the Y-Balance tests involving crossing feet bilaterally, meaning that higher arch heights are correlated with better balance. Additionally, there is a non-statistically significant correlation of higher arch height and faster running speeds during a 20-meter sprint.

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