

Inelastic and Elastic Taping in Plantar Pressure of Runners Pronators: Clinical Trial

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Abstract : The morphology of the foot defines its mode of operation and a biomechanical reform indispensable for a symmetrical distribution of plantar pressures in order not to overload some of its components in isolation. High plantar pressures at specific points in the foot may be a causal factor in several orthopedic disorders that affect the feet such as pain and stress fracture. With digital baro-podometry equipment one can observe an intensity of pressures along the entire foot and quantify some of the movements, such as a subtalar pronation present in the midfoot region. Although, they are involved in microtraumas. In clinical practice, excessive movement has been limited with the use of different taping techniques applied on the plantar arch. Thus, the objective of the present study was to analyze and compare the influence of the inelastic and elastic taping on the distribution of plantar pressure of runners pronators. This is a randomized clinical trial and blind-crossover. Twenty (20) male subjects, mean age 33 ± 7 years old, mean body mass of 71 ± 7 kg, mean height of 174 ± 6 cm, were included in the study. A data collection was carried out by a single research through barop-odometry equipment - Tekscan, model F-scan mobile. The tests were performed at three different times. In the first, an initial barop-odometric evaluation was performed, without a bandage application, with edges at a speed of 9.0 km/h. In the second and third moments, the inelastic or elastic taping was applied consecutively, according to the definition defined in the randomization. As results, it was observed that both as inelastic and elastic taping, provided significant reductions in contact pressure and peak pressure values when compared to the moment without a taping. However, an elastic taping was more effective in decreasing contact pressure (no bandage = 714 ± 201 , elastic taping = 690 ± 210 and inelastic taping = 716 ± 180) and no peak pressure in the midfoot region (no bandage = 1490 ± 42 , elastic taping = 1273 ± 323 and inelastic taping = 1487 ± 437). It is possible to conclude that it is an elastic taping provided by pressure in the middle region, thereby reducing the subtalar pronunciation event during the run.

Keywords : elastic taping, inelastic taping, running, subtalar pronation

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