

Effects of the FIFA 11+ Warm Up on Injuries and Dynamic Strength in Adolescent Female Basketball Athletes

Researcher(s):

Jenna Sawdon-Bea, P.T., Ph.D., Associate Professor
Department of Physical Therapy, Fresno State

Abstract:

Purpose/Hypothesis: Female participation in high school sports has increased 900% over the past 30 years. Accordingly, sports-related injuries are rising, with adolescent girls experiencing the highest rates of lower extremity injuries. Basketball is one of the most popular team sports in the world, and due to the sport-specific actions of running, cutting, jumping, and changing directions, lower extremity injuries are common. There is a need for a program that prevents injuries in basketball athletes. The FIFA 11+ has been validated in soccer athletes for injury reduction. The purpose of this study was to determine the effectiveness of a coach-led dynamic warm up (FIFA 11+) on reducing lower extremity injuries and improving dynamic strength in female adolescent athletes.

Subjects: 14 high school (age range 13-16 years old) females participated.

Materials and Methods: Participants completed an injury intake form prior to having height and weight assessed. Measurements of dynamic strength included a single limb hop (SLH) test, T-test running drill, and the 30-second endurance jump test. Coaches were trained to implement a 15 minute dynamic warm-up (FIFA 11+). The warm up was to be used in full length form for all practices, and in a shortened version for game-day warm-ups. A lower extremity (knee/ankle) injury surveillance program was conducted for a 5-month season. At the conclusion of the season, post testing of dynamic strength measures was repeated.

Results: During the 5-month season, 2(14%) the 14 players sustained a lower extremity injury while playing basketball. Both injuries occurred during a game, with a lateral ankle sprain occurring during a collision with an opposing player, and a noncontact knee anterior cruciate ligament tear during dribbling. A paired samples t-test of participant's pre and post season dynamic strength tests revealed statistically significant improvements with dominant leg hop test ($p < .001$) only. Coaches used the FIFA 11+ warm up in 90% of practices Conclusion: A coach-led dynamic warm up resulted in only 2 lower extremity injuries over the course of a 5-month high school season. Additionally, the dynamic warm up resulted in significant improvements in dominant leg single limb hop scores.