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Structured warm-up exercises may prevent up to half of severe sports injuries

Research paper: A comprehensive warm-up programme to prevent injuries in female youth football— a cluster randomised controlled trial BMJ online

Editorial: Warm-up programmes in sport BMJ online

A warm-up programme that focuses on improving strength, balance, core stability and muscular awareness cuts injury in female footballers by a third and severe injuries by almost a half, according to research published on bmj.com today

In an accompanying editorial, John Brooks an injury expert for the Rugby Football Union, says that the wider sporting population at all levels should adopt this warm-up programme to reduce injury in all sports.

Sports teams regularly perform a warm-up routine to improve performance and to reduce the risk of injuries, but previous trials have shown little evidence of their effectiveness at reducing injuries.

Torbjørn Soligard and colleagues recruited 1,892 female footballers from Norway between the ages of 13 to 17 and randomised them to perform either traditional warm-up exercises (1,055) or the "11+" 20 minute warm-up intervention (837).

The "11+" 20 minute warm-up programme consists of slow and speed running, key exercises to improve strength and balance, movements that focus on core stability, hip control and knee alignment. The whole programme emphasises the importance of internal muscular awareness.

The researchers reported no significant difference in the number of lower leg injuries between the groups, but substantially less severe injuries, overuse injuries and overall injuries were found in the intervention group.

Compliance with the study was boosted by providing coaches and players with a DVD showing all the exercises, posters and exercise cards, and step by step cards.

The authors conclude by calling for the programme to be implemented as a key element of coach education and training in football.

In the editorial, Brooks points out that one of the most important findings of this study is that teams using the "11+" programme sustained a lower incidence of severe injuries—it is these injuries which cause the most absence from sport, interfere with people's lives and place a greater burden on scarce medical resources.

Not every participant in the study performed the "11+" throughout the season as recommended, so the programme may reduce the injury even more with regular use. Health professionals should encourage anyone involved in sport to participate in similar warm-up programmes, he concludes.

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