REVIEW OF RESEARCH THAT LINKS POSTURE DEFECTS TO THE INCIDENCE OF SPORTS INJURIES

Watson, A. W. S.
University of Limerick, Ireland

The hypothesis that posture defects are a risk factor for running injuries is frequently advanced. Surprisingly, there is little direct evidence of such a relationship in runners at present: there is better evidence in team-games. Shambaugh et al (1991) took nine different structural measures on basketball players prior to the start of the season and found that in individuals who suffered lower-extremity injuries the following were more than one standard deviation above the mean for non-injured players: bilateral weight difference, quadriceps girth, Q-angle, rear-foot valgus, and leg length measures. A logistic regression equation developed from the data was able to correctly predict the injury status of 91.5% of the players. The equation contained the variables: Weight difference, left Q angle, right Q angle. In a study on top-level hurlers (Hennessy and Watson 1993) found that lumbar lordosis was a predictor of hamstring strain and Powers et al 1995 report that rear-foot posture is related to the incidence of patello-femoral pain. In a two-year prospective study Watson (1996) examined the relationship of 15 posture variables to the incidence of sports injury in a group of 52 footballers. He found that four types of injuries - strains, back injuries, ankle injuries and knee injuries were each associated with particular posture defects, the most important of which were defects of: ankle mechanics, lumbar lordosis, back and shoulder symmetry and knee interspace. Cowan et al 1996 have reported similar results in army cadets. Taken together, the above studies suggest that precise measurements - including photographic analysis of posture -are necessary in order to identify athletes at risk of injury.

REFERENCES

Cowan DN, Jones BH, Frykman PN, Polly DW, Harman EA, Rosenstein RM, Rosenstein MT: Lower limb morphology and risk of overuse injury among male infantry trainees. American Journal of Sports Medicine 24: 945-52, 1996.

Hennessy L, Watson AWS: Flexibility and posture assessment in relation to hamstring injury. British Journal of Sports Medicine 27: 243-6, 1993.

Shambaugh JP, Klein A, Herbert JH: Structural measures as predictors of injury in basketball players. Medicine and Science in Sports and Exercise 23: 522-27, 1991.

Watson AWS: Sports injuries in footballers related to defects of posture and body mechanics. Journal of Sports Medicine and Physical Fitness 35: 289-94, 1995.